

Enterprise Advanced SONiC: Supermicro Distribution

CLI REFERENCE GUIDE

Revision 1.0

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Chapter 1:

Commands A to B

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aaa authentication failthrough

This command configures AAA authentication failthrough.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
aaa authentication failthrough {{enable}}
```

Parameters

Name	Description	Type
enable	enable or disable	Select [enable(enable) disable(disable)]

Examples

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

aaa authentication login console

This command configures AAA login authentication for the console.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
aaa authentication login console local
no aaa authentication login console local
```

aaa authentication login default

This command configures the AAA login authentication default list to authentication-first with TACACS+ and, if none respond (or failthrough is configured), with local-next.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
aaa authentication login default { { [ group { { [ ldap [ local ] ] } | { [ radius [
local ] ] } | { [ tacacs+ [ local ] ] } | { [ cac-piv [ local ] ] } } ] } | { [ local {
[ group { [ ldap ] | [ radius ] | [ tacacs+ ] } ] } ] } }
no aaa authentication login default
```

Examples

```
sonic(config)# aaa authentication login default group tacacs+ local
```

aaa authentication login mfa

This command enables multi-factor authentication (MFA).

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
aaa authentication login mfa rsa-securid [ console-enable ]
no aaa authentication login mfa { [ rsa-securid console-enable ] } ]
```

Examples

```
sonic(config)# aaa authentication login mfa rsa-securid
sonic(config)# aaa authentication login mfa rsa-securid console-enable
```

aaa authorization commands default

This command configures the AAA commands authorization default list to use TACACS+.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
aaa authorization commands default { { group { tacacs+ [ local ] } } | local }
no aaa authorization commands default
```

Examples

```
sonic(config)# aaa authorization commands default group tacacs+ local
sonic(config)# aaa authorization commands default group tacacs+
sonic(config)# aaa authorization commands default local
```

aaa authorization login default

This command configures the AAA login authorization default list to use LDAP.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
aaa authorization login default { { [ group ldap ] } | [ local ] }
no aaa authorization login default
```

Examples

```
sonic(config)# aaa authorization login default group ldap
```

aaa cac-piv cert-user

This command configures the SSH user certificate field for matching with the SSH login username.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
aaa cac-piv cert-user { common-name | common-name-or-user-principal-name | user-prin-
cipal-name }
no aaa cac-piv cert-user
```

Examples

```
sonic(config)# aaa cac-piv cert-user common-name
```

aaa cac-piv cert-user-match

This command configures the SSH user certificate field for matching with the SSH login username.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
aaa cac-piv cert-user-match { 10digit-username | first-name | username-as-is | user-
name-without-domain }
no aaa cac-piv cert-user-match
```

Examples

```
sonic(config)# aaa cac-piv cert-user-match 10digit-username
```

aaa cac-piv security-profile

This command configures the security profile for SSH access with CAC-PIV.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
aaa cac-piv security-profile {{cacpiv-profile-name}}
no aaa cac-piv security-profile
```

Parameters

Name	Description	Type
cacpiv-profile-name	String	String

Examples

```
sonic(config)# aaa cac-piv security-profile profile-name
```

aaa name-service group

This command configures the AAA group name-service to use LDAP.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
aaa name-service group { { [ group ldap ] } | [ local ] | [ login ] }
no aaa name-service group
```

Examples

```
sonic(config)# aaa name-service group group ldap
```

aaa name-service netgroup

This command configures the AAA netgroup name-service to use LDAP.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
aaa name-service netgroup { { [ group ldap ] } | [ local ] }
no aaa name-service netgroup
```

Examples

```
sonic(config)# aaa name-service netgroup group ldap
```

aaa name-service passwd

This command configures the AAA name-service password to use LDAP.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
aaa name-service passwd { { [ group ldap ] } | [ local ] | [ login ] }
no aaa name-service passwd
```

Examples

```
sonic(config)# aaa name-service passwd group ldap
```

aaa name-service shadow

This command configures the AAA shadow name-service to use LDAP.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
aaa name-service shadow { { [ group ldap ] } | [ local ] | [ login ] }
no aaa name-service shadow
```

Examples

```
sonic(config)# aaa name-service shadow group ldap
```

aaa name-service sudoers

This command configures the AAA sudoers name-service to use LDAP.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
aaa name-service sudoers { { [ group ldap ] } | [ local ] }
no aaa name-service sudoers
```

Examples

```
sonic(config)# aaa name-service sudoers group ldap
```

aaa server radius dynamic-author

This command enables DAS functionality and enters dynamic authorization local server configuration mode.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
aaa server radius dynamic-author
no aaa server radius dynamic-author
```

Examples

```
sonic-cli# configure terminal
sonic-cli(config)# aaa server radius dynamic-author
sonic-cli(config-radius-da)#
```

abort (Session)

This command terminates the current configuration session by discarding all the cached configuration changes made in the session, and then prompts for confirmation.

Parent Commands (Modes)

```
configure session
```

Syntax

```
abort [ no-prompt ]
```

Examples

Abort a session

```
sonic# configure session
% Resumed session
sonic(config-s)# abort
WARNING: this operation will discard all changes done in this configuration session
Do you want to continue? [Y/N] y
% Aborted session
sonic#
```

abort (MST Configuration)

This command aborts all pending configurations that are not yet activated under the MST configuration mode.

Parent Commands (Modes)

```
spanning-tree mst configuration
```

Syntax

```
abort
```

Examples

```
sonic-cli(config)# spanning-tree mst configuration
sonic-cli(config-mst)# abort
```

Features this CLI belongs to

- Multiple Spanning Tree Protocol

access-list

This command configures ACL parameters.

Parent Commands (Modes)

```
hardware
```

Syntax

```
access-list
```

activate (BGP Protocol)

This command activates/enables an address-family for a BGP neighbor or BGP peer-group. This command can be executed multiple times to enable multiple address families for a BGP neighbor or BGP peer-group.

Parent Commands (Modes)

```
address-family ipv4 unicast

address-family ipv6 unicast

address-family l2vpn evpn
```

Syntax

```
activate
no activate
```

Examples

Enable IPv4 unicast address family for BGP neighbor 20.20.20.2

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 20.20.20.2
sonic(config-router-bgp-neighbor)# remote-as 300
sonic(config-router-bgp-neighbor)# address-family ipv4 unicast
sonic(config-router-bgp-neighbor-af)# activate
```

Enable IPv4 unicast address family for BGP peer-group PG_External

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# remote-as 300
sonic(config-router-bgp-pg)# address-family ipv4 unicast
sonic(config-router-bgp-pg-af)# activate
```

Enable L2VPN EVPN address family for BGP neighbor 20.20.20.2

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 20.20.20.2
sonic(config-router-bgp-neighbor)# remote-as 300
sonic(config-router-bgp-neighbor)# address-family l2vpn evpn
sonic(config-router-bgp-neighbor-af)# activate
```

Enable L2VPN EVPN address family for BGP peer-group PG_External

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# remote-as 300
sonic(config-router-bgp-pg)# address-family l2vpn evpn
sonic(config-router-bgp-pg-af)# activate
```

activate (MST Protocol)

This command activates the configuration changes under the MST configuration mode.

Parent Commands (Modes)

```
spanning-tree mst configuration
```

Syntax

```
activate
```

Examples

```
sonic-cli(config)# spanning-tree mst configuration
sonic-cli(config-mst)# activate
```

Features this CLI belongs to

- Multiple Spanning Tree Protocol

add-reason

This command adds the dropcounter reason.

Parent Commands (Modes)

```
dropcounters {{counter-name}}
```

Syntax

```
add-reason {{reason}}
```

Parameters

Name	Description	Type
reason	Drop reason list	String

addpath-tx-all-backup-paths

This command configures the BGP add path feature. This command allows the best and backup paths, along with ECMP paths, to be advertised to a neighbor or to neighbors in a peer-group.

Parent Commands (Modes)

```
address-family ipv4 unicast

address-family ipv6 unicast
```

Syntax

```
addpath-tx-all-backup-paths
no addpath-tx-all-backup-paths
```

Examples

Configure BGP to advertise the best, backup, and ECMP paths to a neighbor

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 20.20.20.2
sonic(config-router-bgp-neighbor)# remote-as 300
sonic(config-router-bgp-neighbor)# address-family ipv4 unicast
sonic(config-router-bgp-neighbor-af)# addpath-tx-all-backup-paths
```

Configure BGP to advertise all paths to neighbors in a peer-group

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# address-family ipv4 unicast
sonic(config-router-bgp-pg-af)# addpath-tx-all-backup-paths
```

addpath-tx-all-paths

This command configures the BGP add path feature. This command allows all BGP paths to be advertised to a neighbor or to neighbors in a peer-group.

Parent Commands (Modes)

```
address-family ipv4 unicast

address-family-ipv6 unicast
```

Syntax

```
addpath-tx-all-paths
no addpath-tx-all-paths
```

Examples

Configure BGP to advertise all paths to a neighbor

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 20.20.20.2
sonic(config-router-bgp-neighbor)# remote-as 300
sonic(config-router-bgp-neighbor)# address-family ipv4 unicast
sonic(config-router-bgp-neighbor-af)# addpath-tx-all-paths
```

Configure BGP to advertise all paths to neighbors in a peer-group

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# address-family ipv4 unicast
sonic(config-router-bgp-pg-af)# addpath-tx-all-paths
```

addpath-tx-best-backup-paths

This command configures the BGP add path feature. This command allows the best and backup BGP paths to be advertised to a neighbor or to neighbors in a peer-group.

Parent Commands (Modes)

```
address-family ipv4 unicast

address-family ipv6 unicast
```

Syntax

```
addpath-tx-best-backup-paths
```

```
no addpath-tx-best-backup-paths
```

Examples

Configure BGP to advertise the best and backup paths to a neighbor

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 20.20.20.2
sonic(config-router-bgp-neighbor)# remote-as 300
sonic(config-router-bgp-neighbor)# address-family ipv4 unicast
sonic(config-router-bgp-neighbor-af)# addpath-tx-best-backup-paths
```

Configure BGP to advertise the best path to neighbors in a peer-group

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# address-family ipv4 unicast
sonic(config-router-bgp-pg-af)# addpath-tx-best-backup-paths
```

addpath-tx-bestpath-per-as

This command configures the BGP add path feature. This command allows the best BGP path to be advertised to a neighbor or to neighbors in a peer-group.

Parent Commands (Modes)

```
address-family ipv4 unicast

address-family ipv6 unicast
```

Syntax

```
addpath-tx-bestpath-per-as
no addpath-tx-bestpath-per-as
```

Examples

Configure BGP to advertise the best path to a neighbor

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 20.20.20.2
sonic(config-router-bgp-neighbor)# remote-as 300
sonic(config-router-bgp-neighbor)# address-family ipv4 unicast
sonic(config-router-bgp-neighbor-af)# addpath-tx-bestpath-per-as
```

Configure BGP to advertise the best path to neighbors in a peer-group

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# address-family ipv4 unicast
sonic(config-router-bgp-pg-af)# addpath-tx-bestpath-per-as
```

address-family ipv4

This command enters into the IPv4 Unicast address-family CLI context (or the context of a BGP neighbor or BGP peer-group) to configure parameters specific to this address family.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }

neighbor { {{ip}} | { interface { ethernet | portchannel | vlan } } }

peer-group {{template-str}}
```

Syntax

```
address-family ipv4 unicast
no address-family ipv4 unicast
```

Examples

Switch the CLI context to IPv4 Unicast address family

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# address-family ipv4 unicast
sonic(config-router-bgp-af)#
```

Switch the CLI context to IPv4 Unicast address family for neighbor 30.30.30.3

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# neighbor 30.30.30.3
sonic(config-router-bgp-neighbor)# address-family ipv4 unicast
sonic(config-router-bgp-neighbor-af)#
```

Switch the CLI context to IPv4 Unicast address family for peer-group PG_Ext

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# address-family ipv4 unicast
sonic(config-router-bgp-pg-af)#
```

address-family ipv6

This command enters into the IPv6 Unicast address-family CLI context (or the context of a BGP neighbor or BGP peer-group) to configure parameters specific to this address family.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }

neighbor { {{ip}} | { interface { ethernet | portchannel | vlan } } }

peer-group {{template-str}}
```

Syntax

```
address-family ipv6 unicast
no address-family ipv6 unicast
```

Examples

Switch the CLI context to IPv6 Unicast address family

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# address-family ipv6 unicast
sonic(config-router-bgp-af)#
```

Switch the CLI context to IPv6 Unicast address family for neighbor 30.30.30.3

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# neighbor 30.30.30.3
sonic(config-router-bgp-neighbor)# address-family ipv6 unicast
sonic(config-router-bgp-neighbor-af)#
```

Switch the CLI context to IPv6 Unicast address family for peer-group PG_Ext

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# address-family ipv6 unicast
sonic(config-router-bgp-pg-af)#
```

address-family l2vpn

This command enters into the L2VPN EVPN address-family CLI context (or the context of a BGP neighbor or BGP peer-group) to configure parameters specific to this address family.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }

neighbor { {{ip}} | { interface { ethernet | portchannel | vlan } } }

peer-group {{template-str}}
```

Syntax

```
address-family l2vpn evpn
no address-family l2vpn evpn
```

Examples

Switch the CLI context to L2VPN EVPN address family

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# address-family l2vpn evpn
sonic(config-router-bgp-af)#
```

Switch the CLI context to L2VPN EVPN address family for neighbor 30.30.30.3

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# neighbor 30.30.30.3
sonic(config-router-bgp-neighbor)# address-family l2vpn evpn
sonic(config-router-bgp-neighbor-af)#
```

Switch the CLI context to L2VPN EVPN address family for peer-group PG_Ext

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# address-family l2vpn evpn
sonic(config-router-bgp-pg-af)#
```

advertise ipv4 unicast

This command enables tenant VRFs to announce IPv4 prefixes as EVPN type-5 routes.

Parent Commands (Modes)

```
address-family l2vpn evpn
```

Syntax

```
advertise ipv4 unicast [ route-map {{route-map-name}} ]
no advertise ipv4 unicast [ route-map {{route-map-name}} ]
```

Parameters

Name	Description	Type
route-map-name	WORD	String

Examples

Enable VRF Vrf1 to announce IPv4 prefixes

```
sonic# configure terminal
sonic(config)# router bgp 100 vrf Vrf1
sonic(config-router-bgp)# address-family l2vpn evpn
sonic(config-router-bgp-af)# advertise ipv4 unicast
```

advertise ipv6 unicast

This command enables tenant VRFs to announce IPv6 prefixes as EVPN type-5 routes.

Parent Commands (Modes)

```
address-family l2vpn evpn
```

Syntax

```
advertise ipv6 unicast [ route-map {{route-map-name}} ]
no advertise ipv6 unicast [ route-map {{route-map-name}} ]
```

Parameters

Name	Description	Type
route-map-name	WORD	String

Examples

Enable VRF Vrf1 to announce IPv6 prefixes

```
sonic# configure terminal
sonic(config)# router bgp 100 vrf Vrf1
sonic(config-router-bgp)# address-family l2vpn evpn
sonic(config-router-bgp-af)# advertise ipv6 unicast
```

advertise-all-vni

This command enables the BGP control plane for all locally-configured VNIs.

Parent Commands (Modes)

```
address-family l2vpn evpn
```

Syntax

```
advertise-all-vni
no advertise-all-vni
```

Examples

Enable BGP control plane for all VNIs

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# address-family l2vpn evpn
sonic(config-router-bgp-af)# advertise-all-vni
```

advertise-default-gw

This command enables gateway VTEPs to advertise their IP/MAC addresses, or enables gateway advertisement for a particular VNI.

Parent Commands (Modes)

```
address-family l2vpn evpn

vni {{vninum}}
```

Syntax

```
advertise-default-gw
no advertise-default-gw
```

Examples

Enable gateway VTEPs to advertise their IP/MAC addresses

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# address-family l2vpn evpn
sonic(config-router-bgp-af)# advertise-default-gw
```

Enable the VNI 100 gateway to advertise its IP/MAC addresses

```
sonic# configure terminal
sonic(config)# router bgp 100
```

```
sonic(config-router-bgp)# address-family l2vpn evpn
sonic(config-router-bgp-af)# vni 100
sonic(config-router-bgp-af-vni)# advertise-default-gw
```

advertise-pip

This command configures PIP parameters.

Parent Commands (Modes)

```
address-family l2vpn evpn
```

Syntax

```
advertise-pip { { [ ip { {{advertise-pip-ip}} { { [ peer-ip {{advertise-pip-peer-ip}} ]
} ] } } ] } | { [ peer-ip {{advertise-pip-peer-ip}} ] } } ]
no advertise-pip { { [ ip { [ peer-ip ] ] } ] } | [ peer-ip ] } ]
```

Parameters

Name	Description	Type
advertise-pip-ip	A.B.C.D	String
advertise-pip-peer-ip	A.B.C.D	String

Examples

Configure to advertise PIP and its parameters

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# address-family l2vpn evpn
sonic(config-router-bgp-af)# advertise-pip
sonic(config-router-bgp-af)# advertise-pip ip 1.1.1.1
sonic(config-router-bgp-af)# advertise-pip ip 1.1.1.1 peer-ip 2.2.2.2
```

advertise-svi-ip

This command enables SVI MACIP route advertisement into EVPN, in general or for a particular VNI.

Parent Commands (Modes)

```
address-family l2vpn evpn

vni {{vninum}}
```

Syntax

```
advertise-svi-ip
no advertise-svi-ip
```

Examples

Enable advertising SVI MACIP routes in EVPN

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# address-family l2vpn evpn
sonic(config-router-bgp-af)# advertise-svi-ip
```

Enable the VNI 100 gateway to advertise SVI MACIP routes in EVPN

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# address-family l2vpn evpn
sonic(config-router-bgp-af)# vni 100
sonic(config-router-bgp-af-vni)# advertise-svi-ip
```

advertisement-interval (BGP Protocol)

This command sets the minimum interval (in seconds) between sending BGP routing updates to a neighbor or to neighbors in a peer-group.

Parent Commands (Modes)

```
neighbor { {{ip}} | { interface { ethernet | portchannel | vlan } } }

peer-group {{template-str}}
```

Syntax

```
advertisement-interval {{tval}}
no advertisement-interval
```

Parameters

Name	Description	Type
tval		Integer

Examples

Set the minimum advertisement interval to "10sec" for neighbor 30.30.30.3

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 30.30.30.3
sonic(config-router-bgp-neighbor)# advertisement-interval 10
```

Set the minimum advertisement interval to "10sec" for peer-group PG_Ext

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# advertisement-interval 10
```

advertisement-interval (VRRP Protocol)

This command configures the advertisement-interval for an IPv4 or IPv6 VRRP instance.

Parent Commands (Modes)

```
vrrp ipv4

vrrp ipv6
```

Syntax

```
advertisement-interval {{adv_interval}}
no advertisement-interval
```

Parameters

Name	Description	Type
adv_interval		Integer

Examples

Configure the advertisement-interval for IPv4 VRRP instance

```
sonic(config)# interface Ethernet4
sonic(conf-if-Ethernet4)#
sonic(conf-if-Ethernet4)# vrrp 1 address-family ipv4
sonic(conf-if-Ethernet4-vrrp-ipv4-1)#advertisement-interval 5
```

Configure the advertisement-interval for IPv6 VRRP instance

```
sonic(config)# interface Ethernet4
sonic(conf-if-Ethernet4)#
sonic(conf-if-Ethernet4)# vrrp 1 address-family ipv6
sonic(conf-if-Ethernet4-vrrp-ipv6-1)#advertisement-interval 2
```

aggregate-address

This command configures an aggregate address and enables the aggregation of routes that fall under the aggregate address subnet.

Use this command to turn on the aggregation of BGP routes:

- The "summary-only" option filters out all the aggregates routes; only the aggregate address will be advertised by BGP.
- The "as-set" option ensures that the AS-paths of individual aggregated routes are also included in the resulting aggregate route.
- The "route-map" option gives the user finer control over the route's attributes.

Parent Commands (Modes)

```
address-family ipv4 unicast

address-family ipv6 unicast
```

Syntax

```
aggregate-address {{prefix}} { [ as-set ] [ summary-only ] { [ route-map {{rtemap}} ] }
}
no aggregate-address {{prefix}} { [ as-set ] [ summary-only ] { [ route-map {{rtemap}}
] } }
```

Parameters

Name	Description	Type
prefix	A.B.C.D/mask	String
rtemap	WORD	String

Examples

Set up the aggregate-address under IPv4 address-family

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# address-family ipv4 unicast
sonic(config-router-bgp-af)# aggregate-address 17.35.0.0/16
```

aging-interval

This command configures the aging interval in seconds. If the Drop Monitor feature doesn't notice packet drops for this duration, it considers packet drops to have stopped.

Parent Commands (Modes)

```
drop-monitor
```

Syntax

```
aging-interval {{aging_interval}}
no aging-interval
```

Parameters

Name	Description	Type
aging_interval	Aging interval	Integer

Examples

Configure the aging interval

```
sonic# configure terminal
sonic(config)# tam
sonic(config-tam)# drop-monitor
sonic(config-tam-dm)# aging-interval 10
sonic(config-tam-dm)# end
sonic# show tam drop-monitor
Status               : Inactive
Switch ID            : 9876
Number of sessions   : 3
Number of collectors : 2
Aging Interval       : 10
sonic#
```

alarm acknowledge

This command acknowledges an active alarm.

Syntax

```
alarm acknowledge {{id}}
```

Parameters

Name	Description	Type
id	String	String

alarm unacknowledge

This command unacknowledges an active alarm.

Syntax

```
alarm unacknowledge {{id}}
```

Parameters

Name	Description	Type
id	String	String

algorithm

This command configures the algorithm value for ARS.

Parent Commands (Modes)

```
ars profile {{name}}
```

Syntax

```
algorithm EWMA
no algorithm
```

Examples

Configure the algorithm value

```
sonic-cli(config-ars-profile)# algorithm EWMA
```

Features this CLI belongs to

- ARS

alias

This command adds a dropcounter alias.

Parent Commands (Modes)

```
dropcounters {{counter-name}}
```

Syntax

```
alias {{alias-str}}
no alias
```

Parameters

Name	Description	Type
alias-str	String (Max: 24 characters)	String

allowas-in (BGP Protocol)

This command allows a BGP neighbor (or neighbors in a BGP peer-group) to accept an AS-path with its own AS number present in it.

Accepting a neighbor's own AS in an AS-path usually results in an AS loop. However, sometimes users add the AS number to influence the BGP route selection process. This

command enables the user to control when a route with an AS-path containing its own AS number should be accepted or not. The command also provides flexibility in terms of maximum number of occurrences of the AS number in an AS-path.

Parent Commands (Modes)

```
address-family ipv4 unicast

address-family ipv6 unicast

address-family l2vpn evpn
```

Syntax

```
allowas-in { [ {{value}} ] | [ origin ] } ]
no allowas-in { [ {{value}} ] | [ origin ] } ]
```

Parameters

Name	Description	Type
value		Integer

Examples

Enable a BGP neighbor to accept an AS-path with its own AS number repeated 5 or fewer times

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 20.20.20.2
sonic(config-router-bgp-neighbor)# remote-as 300
sonic(config-router-bgp-neighbor)# address-family ipv4 unicast
sonic(config-router-bgp-neighbor-af)# allowas-in 5
```

Configure allowas-in for BGP peer-group PG_External

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# remote-as 300
sonic(config-router-bgp-pg)# address-family ipv4 unicast
```

```
sonic(config-router-bgp-pg-af)# allowas-in
```

Enable a BGP neighbor to accept an AS-path with its own AS number repeated five or fewer times

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 20.20.20.2
sonic(config-router-bgp-neighbor)# remote-as 300
sonic(config-router-bgp-neighbor)# address-family l2vpn evpn
sonic(config-router-bgp-neighbor-af)# allowas-in 5
```

Configure allowas-in for BGP peer-group PG_External

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# remote-as 300
sonic(config-router-bgp-pg)# address-family l2vpn evpn
sonic(config-router-bgp-pg-af)# allowas-in
```

always-compare-med

This command instructs BGP to always compare MED values for routes even if they are from different ASes. This makes the order of route preference more defined, and should eliminate MED-induced oscillations. Always compare the MED on routes, even if they were received from different neighboring ASes.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }
```

Syntax

```
always-compare-med
no always-compare-med
```

Examples

Enable the always-compare-med parameter

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# always-compare-med
```

area (OSPFv2 Protocol)

This command configures area-related parameters within an OSPFv2 router. The below command options can be used:

- The following command configures an area within a router by specifying an area-id in positive-integer or dotted format.
  - area {{area-id}}
- The following command configures the area-level authentication mode. Authentication mode can be clear-text authentication or message-digest authentication.
  - area {{area-id}} authentication [message-digest]
- The following command configures NSSA or stub-area summary default cost.
  - area {{area-id}} default-cost {{cost-value}}
- The following command configures the prefix list for inter-area prefix filtering. Inter-area prefix propagation policies are configured using this command. The option "in" is used for filtering incoming prefixes from the area and "out" is used for filtering outgoing prefixes from the area.
  - area {{area-id}}}} filter-list prefix {{prefix-list-name}} in|out
- The following command configures address ranges for inter-area address propagation. Inter-area prefix propagation policies can also be configured using this command. This command enables configuring prefix advertising rules directly without using any prefix list. The cost of an advertised prefix can be modified using this command. Similarly, an advertised prefix can be substituted with another prefix.
  - area {{area-id}} range {{ip-prefix}} [cost {{cost-value}} | not-advertise | substitute {{ip-prefix}}]
- The following command configures the area to be a stub area with stub options.
  - area {{area-id}} stub [no-summary]

- The following command configures area shortcut options.
  - area {{area-id}} shortcut enable|disable|default
- The following commands configure a virtual link and its parameters in an area. Virtual link configurations are allowed on non-backbone areas. Virtual links can have clear-text passwords, message-digest based passwords, or no password configured. When clear-text and message-digest password is configured, the corresponding authentication-key or message-digest-key parameters must be configured. Timer parameters can also be configured for any virtual links. The authentication key or password will be saved in encrypted form in the configuration. The user must always provide the actual password while configuring authentication keys. It is not recommended to use the encrypted option for authentication keys.
  - area {{area-id}} virtual-link {{remote-router-id}}
  - area {{area-id}} virtual-link {{remote-router-id}} authentication [null | message-digest]
  - area {{area-id}} virtual-link {{remote-router-id}} authentication-key {{key}} [encrypted]
  - area {{area-id}} virtual-link {{remote-router-id}} message-digest-key {{key-id}} md5 {{key}} [encrypted]
  - area {{area-id}} virtual-link {{remote-router-id}} dead-interval {{time-value}}
  - area {{area-id}} virtual-link {{remote-router-id}} hello-interval {{time-value}}
  - area {{area-id}} virtual-link {{remote-router-id}} retransmit-interval {{time-value}}
  - area {{area-id}} virtual-link {{remote-router-id}} transmit-delay {{time-value}}

Parent Commands (Modes)

```
router ospf [ vrf {{vrf-name}} ]
```

Syntax

```
area {{areaid}} { { [ authentication [ message-digest ] ] } | { [ default-cost
{{defaultcost}} ] } | { [ filter-list { prefix { {{prefixlistname}} { in | out } } } ]
} | { [ range { {{rangeprefix}} { { [ cost {{metriccost}} ] } | [ not-advertise ] | { [
substitute {{rangenetworkprefix}} ] } ] } } ] } | { [ stub [ no-summary ] ] } | { [ vir-
tual-link { {{vlinkip}} { { [ authentication { [ null ] | [ message-digest ] ] } ] } |
{ [ authentication-key { {{auth-key}} [ encrypted ] } ] } | { [ message-digest-key {
{{keyid}} { md5 { {{md5key}} [ encrypted ] } } } ] } | { [ dead-interval {{dead-
interval}} ] } | { [ hello-interval {{hellointerval}} ] } | { [ retransmit-interval
{{retransmitinterval}} ] } | { [ transmit-delay {{transmitinterval}} ] } ] } } ] } | {
[ shortcut { default | disable | enable } ] } } ]
no area {{areaid}} { { [ authentication [ message-digest ] ] } | [ default-cost ] | { [
filter-list { prefix { in | out } } ] } | { [ range { {{rangeprefix}} { [ cost ] | [
not-advertise ] | [ substitute ] ] } } ] } | { [ stub [ no-summary ] ] } | { [ virtual-
link { {{vlinkip}} { { [ authentication { [ null ] | [ message-digest ] ] } ] } | { [
message-digest-key { {{keyid}} md5 } ] } | [ authentication-key ] | [ dead-interval ] |
[ hello-interval ] | [ retransmit-interval ] | [ transmit-delay ] ] } } ] } | [ short-
cut ] } ]
```

Parameters

Name	Description	Type
areaid	A.B.C.D or 0..4294967295	String
defaultcost		Integer
prefixlistname	String	String
rangeprefix	A.B.C.D/mask	String
metriccost		Integer
rangenetworkprefix	A.B.C.D/mask	String
vlinkip	A.B.C.D	String
auth-key	String	String
keyid		Integer
md5key	String	String
deadinterval		Integer
hellointerval		Integer
retransmitinterval		Integer
transmitinterval		Integer

Examples

Area command examples

```
sonic-cli(config-router-ospf)# area 19
sonic-cli(config-router-ospf)# area 19.1.1.19
sonic-cli(config-router-ospf)# area 19 authentication
sonic-cli(config-router-ospf)# area 19 authentication message-digest
sonic-cli(config-router-ospf)# area 19 filter-list prefix plist-area10_in  in
sonic-cli(config-router-ospf)# area 19 filter-list prefix plist-area10_out out
sonic-cli(config-router-ospf)# area 19 range 10.1.1.2/24
sonic-cli(config-router-ospf)# area 19 range 10.1.1.0/24 cost 48
sonic-cli(config-router-ospf)# area 19 range 10.2.2.0/24 not-advertise
sonic-cli(config-router-ospf)# area 19 range 10.3.3.0/24 substitute 192.3.3.0/24
sonic-cli(config-router-ospf)# area 19 stub
sonic-cli(config-router-ospf)# area 19 stub no summary
sonic-cli(config-router-ospf)# area 19 shortcut enable
sonic-cli(config-router-ospf)# area 19 virtual-link 1.1.1.9
sonic-cli(config-router-ospf)# area 19 virtual-link 1.1.1.9 authentication
sonic-cli(config-router-ospf)# area 19 virtual-link 1.1.1.9 authentication null
sonic-cli(config-router-ospf)# area 19 virtual-link 1.1.1.9 authentication message-
digest
sonic-cli(config-router-ospf)# area 19 virtual-link 1.1.1.9 authentication-key password
sonic-cli(config-router-ospf)# area 19 virtual-link 1.1.1.9 message-digest-key 19 md5
md5password
sonic-cli(config-router-ospf)# area 19 virtual-link 1.1.1.9 dead-interval 60
sonic-cli(config-router-ospf)# area 19 virtual-link 1.1.1.9 hello-interval 20
sonic-cli(config-router-ospf)# area 19 virtual-link 1.1.1.9 retransmit-interval 15
sonic-cli(config-router-ospf)# area 19 virtual-link 1.1.1.9 transmit-delay 10
```

Features this CLI belongs to

- OSPFv2

area (OSPFv3 Protocol)

This command configures area-related parameters within an OSPFv3 router. The below command options can be used:

- The following command configures an area within a router by specifying an area-id in positive-integer or dotted format.
  - area {{area-id}}
- The following command configures the prefix list for inter-area prefix filtering. Inter-area prefix propagation policies are configured using this command. The option "in" is used for filtering incoming prefixes from the area and "out" is used for filtering outgoing prefixes from the area.

    - area {{area-id}}}} filter-list prefix {{prefix-list-name}} in|out
- The following command configures address ranges for inter-area address propagation. Inter-area prefix propagation policies can also be configured using this command. This command enables configuring prefix advertising rules directly without using any prefix list. The cost of an advertised prefix can be modified using this command.
    - area {{area-id}} range {{ip-prefix}} [cost {{cost-value}} | not-advertise {{ip-prefix}}]
- The following command configures the area to be a stub area with stub options.
    - area {{area-id}} stub [no-summary]
- The following command configures the area to be an NSSA (Not-So-Stubby Area).
    - area {{area-id}} nssa
- The following command configures area NSSA default-information-originate options.
    - area {{area-id}} nssa [no-summary] [default-information-originate [metric (0..16777214)] [metric-type (1..2)]]
- The following command configures area NSSA range options.
    - area {{area-id}} nssa range X:X::X:X/M [{{not-advertise|cost (0..16777215)}}]

Parent Commands (Modes)

```
router ospfv3 [ vrf {{vrf-name}} ]
```

Syntax

```
area {{areaid}} { { [ authentication [ message-digest ] ] } | { [ default-cost
{{defaultcost}} ] } | { [ filter-list { prefix { {{prefixlistname}} { in | out } } } ]
} | { [ range { {{rangeprefix}} { { [ cost {{metriccost}} ] } | [ not-advertise ] | { [
substitute {{rangenetworkprefix}} ] } ] } } ] } | { [ stub [ no-summary ] ] } | { [ vir-
tual-link { {{vlinkip}} { { [ authentication { [ null ] | [ message-digest ] ] } ] } |
{ [ authentication-key { {{auth-key}} [ encrypted ] } ] } | { [ message-digest-key {
{{keyid}} { md5 { {{md5key}} [ encrypted ] } } } ] } | { [ dead-interval {{dead-
interval}} ] } | { [ hello-interval {{hellointerval}} ] } | { [ retransmit-interval
{{retransmitinterval}} ] } | { [ transmit-delay {{transmitinterval}} ] } ] } } ] } | {
[ shortcut { default | disable | enable } ] } } ]
no area {{areaid}} { { [ authentication [ message-digest ] ] } | [ default-cost ] | { [
filter-list { prefix { in | out } } ] } | { [ range { {{rangeprefix}} { [ cost ] | [
not-advertise ] | [ substitute ] ] } } ] } | { [ stub [ no-summary ] ] } | { [ virtual-
link { {{vlinkip}} { { [ authentication { [ null ] | [ message-digest ] ] } ] } | { [
message-digest-key { {{keyid}} md5 } ] } | [ authentication-key ] | [ dead-interval ] |
[ hello-interval ] | [ retransmit-interval ] | [ transmit-delay ] ] } } ] } | [ short-
cut ] } ]
```

Parameters

Name	Description	Type
areaid	A.B.C.D or 0..4294967295	String
prefixlistname	String	String
bgpmetricval		Integer
bgpmertrictype		Integer
rangeprefix	A::B/mask	String
metriccost		Integer

Examples

Area command examples

```
sonic-cli(config-router-ospfv3)# area 19
sonic-cli(config-router-ospfv3)# area 19.1.1.19
sonic-cli(config-router-ospfv3)# area 19 filter-list prefix plist-area10_in  in
sonic-cli(config-router-ospfv3)# area 19 filter-list prefix plist-area10_out out
sonic-cli(config-router-ospfv3)# area 19 range 10.1.1.2/24
sonic-cli(config-router-ospfv3)# area 19 range 10.1.1.0/24 cost 48
sonic-cli(config-router-ospfv3)# area 19 range 10.2.2.0/24 not-advertise
sonic-cli(config-router-ospfv3)# area 19 stub
sonic-cli(config-router-ospfv3)# area 19 stub no summary
sonic(config-router-ospfv3)# area 1 nssa
sonic(config-router-ospfv3)# area 1 nssa no-summary
sonic(config-router-ospfv3)# area 1 nssa default-information-originate
sonic(config-router-ospfv3)# area 1 nssa default-information-originate metric 45
sonic(config-router-ospfv3)# area 1 nssa default-information-originate metric-type 2
sonic(config-router-ospfv3)# area 1 nssa default-information-originate metric 45 met-
ric-type 2
sonic(config-router-ospfv3)# area 1 nssa range 2001:db8::/64
sonic(config-router-ospfv3)# area 1 nssa range 2001:db8::/64 cost 5
sonic(config-router-ospfv3)# area 1 nssa range 2001:db8::/64 not-advertise
```

Features this CLI belongs to

- OSPFv3

ars bind

This command binds an ARS port-profile to a port or to a range of ports. The user must specify the port-profile name or range.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
ars bind {{portprofile}}
no ars bind
```

Parameters

Name	Description	Type
portprofile	WORD	String

Examples

Bind an ARS port-profile to a port

```
sonic-cli(config-if-Ethernet32)# ars bind pp1
```

Features this CLI belongs to

- ARS

ars bind profile

This command binds an ARS profile to a switch. The user must specify the profile name.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ars bind profile {{profile}}
no ars bind profile
```

Parameters

Name	Description	Type
profile	WORD	String

Examples

Bind an ARS profile to a switch

```
sonic-cli(config)# ars bind profile profile1
```

Features this CLI belongs to

- ARS

ars object

This command configures an ARS object. The user must specify the object name. Upon successful configuration, the CLI mode will be changed to config-ars-object.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ars object {{name}}
no ars object {{name}}
```

Parameters

Name	Description	Type
name	WORD	String

Examples

Configure an ARS object

```
sonic-cli(config)# ars object object1
sonic-cli(config-ars-object)#
```

Features this CLI belongs to

- ARS

ars port-profile

This command configures an ARS port profile. The user must specify the profile name. Upon successful configuration, the CLI mode will be changed to config-ars-port-profile.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ars port-profile {{name}}
no ars port-profile {{name}}
```

Parameters

Name	Description	Type
name	WORD	String

Examples

Configure an ARS port-profile

```
sonic-cli(config)# ars port-profile pp1
sonic-cli(config-ars-port-profile)#
```

Features this CLI belongs to

- ARS

ars profile

This command configures an ARS profile. The user must specify the profile name. Upon successful configuration, the CLI mode will be changed to config-ars-profile.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ars profile {{name}}
no ars profile {{name}}
```

Parameters

Name	Description	Type
name	WORD	String

Examples

Configure an ARS profile

```
sonic-cli(config)# ars profile profile1
sonic-cli(config-ars-profile)#
```

Features this CLI belongs to

- ARS

as-notation

This command specifies the AS number notation format (default/asplain: no as-notation).

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }
```

Syntax

```
as-notation { asdot | asdot+ }
no as-notation
```

as-override

This command instructs BGP to override AS numbers in outbound updates if the as-path attribute equals remote-as.

Parent Commands (Modes)

```
address-family ipv4 unicast

address-family ipv6 unicast
```

Syntax

```
as-override
no as-override
```

Examples

Configure BGP to override the AS number in the AS-path for neighbor 20.20.20.2

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 20.20.20.2
sonic(config-router-bgp-neighbor)# remote-as 300
sonic(config-router-bgp-neighbor)# address-family ipv4 unicast
sonic(config-router-bgp-neighbor-af)# as-override
```

Configure BGP to override the AS number in the AS-path for peer-group PG_Ext

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# address-family ipv4 unicast
sonic(config-router-bgp-pg-af)# as-override
```

attribute-unchanged

This command instructs BGP to propagate route attributes (as-path, next-hop, med) unchanged to this neighbor or to neighbors in a peer-group. The user can control which attributes (as-path, next-hop, med) will be propagated unchanged.

Parent Commands (Modes)

```
address-family ipv4 unicast

address-family ipv6 unicast

address-family l2vpn evpn
```

Syntax

```
attribute-unchanged [ as-path ] [ med ] [ next-hop ]
no attribute-unchanged
```

Examples

Configure BGP to propagate the next-hop and AS-path unchanged to neighbor 20.20.20.2

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 20.20.20.2
sonic(config-router-bgp-neighbor)# remote-as 300
sonic(config-router-bgp-neighbor)# address-family ipv4 unicast
sonic(config-router-bgp-neighbor-af)# attribute-unchanged as-path next-hop
```

Configure BGP to propagate the next-hop and AS-path unchanged to neighbors in a peer-group

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# address-family ipv4 unicast
sonic(config-router-bgp-pg-af)# attribute-unchanged as-path next-hop
```

Configure BGP to propagate the next-hop and AS-path unchanged to neighbor 20.20.20.2

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 20.20.20.2
sonic(config-router-bgp-neighbor)# remote-as 300
sonic(config-router-bgp-neighbor)# address-family l2vpn evpn
sonic(config-router-bgp-neighbor-af)# attribute-unchanged as-path next-hop
```

Configure BGP to propagate the next-hop and AS-path unchanged to neighbors in a peer-group

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# address-family l2vpn evpn
sonic(config-router-bgp-pg-af)# attribute-unchanged as-path next-hop
```

auditd-system rules

This command configures kernel audit rules specific to the auditd application. The rules are configured as a profile. Each profile defines a set of rules. These rules are configured in the kernel. Two profiles are available: basic and detail. The detail profile encompasses the basic rules along with additional ones.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
auditd-system rules { basic | detail | custom }
no auditd-system rules
```

Examples

Configure auditd system rules

```
sonic# configure terminal
sonic(config)# auditd-system rules detail
```

auth-type

This command specifies the type of authorization that the device must use for RADIUS clients. The client must match the configured attributes for authorization.

Parent Commands (Modes)

```
aaa server radius dynamic-author
```

Syntax

```
auth-type { all | any | session-key }
no auth-type
```

Examples

Configure the auth-type

```
sonic-cli(config)# aaa server radius dynamic-author
sonic-cli(config-radius-da)# auth-type session-key
```

authentication allow vlan

This command configures VLAN as "allow vlan" on an interface or a range of interfaces. The range is from 1 to the maximum VLAN ID supported by the platform. By default, the allow VLAN value is 0 (i.e. invalid) and is not operational. Configuring the allow VLAN to 0 disables the allow VLAN, making the "allow vlan" functionality non-operational.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
authentication allow vlan {{vlan-id}}
no authentication allow vlan
```

Parameters

Name	Description	Type
vlan-id		Integer

Examples

Configure port VLANs to allow authentication

```
sonic-cli(conf-if-Ethernet0)# authentication allow vlan {vlan-id}
```

authentication command bounce-port ignore

This command configures the device to ignore a RADIUS server bounce-host-port command. The bounce-host-port command causes a host to flap the link on an authentication port. The link flap causes DHCP renegotiation from one or more hosts connected to this port.

Parent Commands (Modes)

```
configure session

configure terminal
```

Syntax

```
authentication command bounce-port ignore
no authentication command bounce-port ignore
```

Examples

Configure the switch to ignore bounce-host-port messages

```
sonic-cli(config)# authentication command bounce-port ignore
```

authentication command disable-port ignore

This command configures the device to ignore a RADIUS server disable-host-port command. The disable-host-port command switches the host port to the "D-Disabled" state with "coa disabled" as the reason. The "D-Disabled" port marked as "coa disabled" can be re-enabled either if the auto recovery cause is enabled for coa after the expiry of the auto recovery timer, or manually by the administrator by not shutting down the port.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
authentication command disable-port ignore
no authentication command disable-port ignore
```

Examples

Configure the switch to ignore disable-host-port messages

```
sonic-cli(config)# authentication command disable-port ignore
```

authentication event fail action authorize vlan

This command configures the unauthenticated VLAN associated with the specified interface or range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}
interface range iface_range_num
```

Syntax

```
authentication event fail action authorize vlan {{vlan-id}}
no authentication event fail action authorize vlan
```

Parameters

Name	Description	Type
vlan-id		Integer

Examples

Configure the range of ports to use an unauthenticated VLAN

```
sonic-cli(conf-if-Ethernet0)# authentication event fail action authorize vlan {vlan-id}
```

authentication event fail retry

This command configures the number of times authentication can be reattempted by the client before a port (or a range of ports) moves to the authentication fail VLAN. The range of reattempts is 1 to 5.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
authentication event fail retry {{max-attempts}}
no authentication event fail retry
```

Parameters

Name	Description	Type
max-attempts	Authentication max-attempts	Integer

Examples

Configure the port to retry a maximum number of times

```
sonic-cli(conf-if-Ethernet0)#  authentication event fail retry {max-attempts}
```

authentication event no-response action authorize vlan

This command configures the VLAN as a guest VLAN on an interface or on a range of interfaces. The range is 1 to the maximum VLAN ID supported by the switch platform. By default, the guest VLAN is 0 (i.e. invalid) and is non-operational.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
authentication event no-response action authorize vlan {{vlan-id}}
no authentication event no-response action authorize vlan
```

Parameters

Name	Description	Type
vlan-id		Integer

Examples

Configure the port to use VLAN if no response is received

```
sonic-cli(conf-if-Ethernet0)# authentication event no-response action authorize vlan
{vlan-id}
```

authentication host-mode

This command configures the host mode of an interface or a range of interfaces. Configuration on the interface mode takes precedence over the global configuration of this parameter.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
authentication host-mode { single-host | multi-auth | multi-domain | multi-host }
no authentication host-mode
```

Examples

Configure the port and associated host mode

```
sonic(conf-if-Ethernet0)# authentication host-mode all { multi-auth | multi-domain |
multi-host | single-host }
```

authentication max-users

This command sets the maximum number of clients supported on an interface or a range of interfaces when multi-authentication host mode is enabled on the port. The valid range for the count value is 1 to 48.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
authentication max-users {{maxUsers}}
no authentication max-users
```

Parameters

Name	Description	Type
maxUsers		Integer

Examples

Configure the port to support a maximum of clients

```
sonic-cli(conf-if-Eth1/1/1)# authentication max-users 37
```

authentication monitor

This command enables the authentication Monitor mode on the switch. The purpose of Monitor mode is to help troubleshoot port-based authentication configuration issues without disrupting network access for hosts connected to the switch. In Monitor mode, a host is granted network access to an authentication enforced port even if it fails the authentication process. The results of the process are logged for diagnostic purposes.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
authentication monitor
no authentication monitor
```

Examples

Configure the switch to monitor authentications

```
sonic(config)# authentication monitor
```

authentication open

This command configures Open Authentication mode on a port or a range of ports.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
authentication open
no authentication open
```

Examples

Configure the port to support open authentication mode

```
sonic-cli(conf-if-Ethernet0)# authentication open
```

authentication order

This command sets the order of authentication methods used on an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}
```

```
interface range iface_range_num
```

Syntax

```
authentication order { { dot1x [ mab ] } | { mab [ dot1x ] } }
no authentication order
```

Examples

Configure the port to support authentication methods in a specified order

```
sonic-cli(conf-if-Ethernet0)# authentication order dot1x mab
```

authentication periodic

This command enables periodic reauthentication of the supplicant for the specified interface or range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
authentication periodic
no authentication periodic
```

Examples

Configure the port to periodically reauthenticate

```
sonic-cli(conf-if-Ethernet0)# authentication periodic
```

authentication port-control

This command configures the authentication mode to use on the specified interface or range of interfaces. Configuration on the interface mode takes precedence over the global configuration of this parameter.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
authentication port-control { auto | force-authorized | force-unauthorized }
no authentication port-control
```

Examples

Configure port-control enforcement mode

```
sonic(conf-if-Ethernet0)# authentication port-control all {auto | force-authorized |
force-un authorized}
```

authentication priority

This command sets the priority for the authentication methods used on the interface or range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
authentication priority { { dot1x [ mab ] } | { mab [ dot1x ] } }
no authentication priority
```

Examples

Configure port authentication modes in a specified order of priority

```
sonic-cli(conf-if-Ethernet0)# authentication priority dot1x mab
```

authentication timer reauthenticate

This command configures the period of time after which the authenticator attempts to reauthenticate a supplicant on a port or a range of ports. The valid range for the reauthenticate value in seconds is 1 to 65535.

This command also provides the option to specify the reauthentication timeout value from the server (such as RADIUS). When the server option is selected, the server-supplied Session timeout and Session Termination-action are used by the authenticator to reauthenticate a supplicant on the port. By default, the server option is enabled.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
authentication timer reauthenticate { server | {{time-period}} }
no authentication timer reauthenticate
```

Parameters

Name	Description	Type
time-period		Integer

Examples

Configure the port to reauthenticate after a specified period of time

```
sonic-cli(conf-if-Eth1/1/1)# authentication timer reauthenticate { seconds | server}
```

auto-breakout

This command enables the switch auto-breakout functionality.

Parent Commands (Modes)

```
configure terminal
```

Syntax

```
auto-breakout
no auto-breakout
```

auto-cost

This command configures the interface auto-cost reference bandwidth for OSPFv2 or OSPFv3. Whenever the interface cost is not configured explicitly, the reference bandwidth value will be used to calculate the interface cost.

Parent Commands (Modes)

```
router ospf [ vrf {{vrf-name}} ]

router ospfv3 [ vrf {{vrf-name}} ]
```

Syntax

```
auto-cost reference-bandwidth {{ref-bandwidth}}
no auto-cost reference-bandwidth
```

Parameters

Name	Description	Type
ref-bandwidth	1..4294967	Integer

Examples

Configure the auto-cost reference bandwidth for OSPFv2

```
sonic-cli(config-router-ospf)# auto-cost reference-bandwidth 10000
```

Configure the auto-cost reference bandwidth for OSPFv3

```
sonic-cli(config-router-ospfv3)# auto-cost reference-bandwidth 10000
```

Features this CLI belongs to

- OSPFv2
- OSPFv3

autoneg

This command configures auto-negotiation.

Parent Commands (Modes)

```
interface {{mgmt-if-name}}
```

Syntax

```
autoneg
no autoneg
```

autort

This command enables automatic derivation of route-distinguisher and route-targets.

Parent Commands (Modes)

```
address-family l2vpn evpn
```

Syntax

```
autort rfc8365-compatible
no autort rfc8365-compatible
```

Examples

Enable automatic derivation using rfc8365

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# address-family l2vpn evpn
sonic(config-router-bgp-af)# autort rfc8365-compatible
```

autostate

This command configures Autostate on a VLAN interface.

- Enable: VLAN Operstatus is dependent on VLAN Member operstatus and VRF-VNI mappings.
- Disable: VLAN Operstatus is set to Up once created.

Parent Commands (Modes)

```
interface {{vlan-if-name}}

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
autostate
no autostate
```

Examples

Configure autostate

```
sonic-cli(config)# interface Vlan 10
sonic-cli(conf-if-Vlan10)# autostate
```

backup-keepalive interval

This command configures the keepalive interval in seconds.

Parent Commands (Modes)

```
mclag domain {{mclag-domain-id}}
```

Syntax

```
backup-keepalive interval {{BKI}}
no backup-keepalive interval
```

Parameters

Name	Description	Type
BKI	Keepalive Interval	Integer

backup-keepalive peer-ip

This command configures a peer IPv4 address.

Parent Commands (Modes)

```
mclag domain {{mclag-domain-id}}
```

Syntax

```
backup-keepalive peer-ip {{PIP}}
no backup-keepalive peer-ip
```

Parameters

Name	Description	Type
PIP	A.B.C.D	String

backup-keepalive session-vrf

This command configures the VRF.

Parent Commands (Modes)

```
mclag domain {{mclag-domain-id}}
```

Syntax

```
backup-keepalive session-vrf {{BKVRF}}
```

```
no backup-keepalive session-vrf
```

Parameters

Name	Description	Type
BKVRF	WORD	String

backup-keepalive source-ip

This command configures a source IPv4 address.

Parent Commands (Modes)

```
mclag domain {{mclag-domain-id}}
```

Syntax

```
backup-keepalive source-ip {{PIP}}
no backup-keepalive source-ip
```

Parameters

Name	Description	Type
PIP	A.B.C.D	String

banner login

This command configures the banner to display before login.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
banner login {{banner-msg}}
no banner login
```

Parameters

Name	Description	Type
banner-msg	String	String

banner login disable

This command disables the login banner.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
banner login disable
no banner login disable
```

banner motd

This command configures the banner to display after login.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
banner motd {{banner-msg}}
no banner motd
```

Parameters

Name	Description	Type
banner-msg	String	String

banner motd disable

This command disables the MOTD banner.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
banner motd disable
no banner motd disable
```

bestpath as-path confed

This command specifies that the length of confederation path sets and sequences should be taken into account during the BGP best-path decision process.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }
```

Syntax

```
bestpath as-path confed
no bestpath as-path confed
```

Examples

Instruct BGP to consider the confederation path length in AS-path length comparison during best-path selection

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# bestpath as-path confed
```

bestpath as-path ignore

This command influences the best-path selection algorithm by not comparing the as-path attribute.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }
```

Syntax

```
bestpath as-path ignore
no bestpath as-path ignore
```

Examples

Instruct the BGP to ignore AS-path comparison during best-path selection process

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# bestpath as-path ignore
```

bestpath as-path multipath-relax

This command specifies that the BGP decision process should consider paths of equal AS-path length as candidates for multipath computation. Without the knob, the entire AS-path must match for multipath computation. Use this command to ignore the AS-path check for paths for the same prefix, thereby making all paths equal regardless of their AS-path.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }
```

Syntax

```
bestpath as-path multipath-relax [ as-set ]
no bestpath as-path multipath-relax [ as-set ]
```

Examples

Relax AS-path comparison for multipath cases during the best-path selection process

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# bestpath as-path multipath-relax
```

bestpath backup

This command specifies the BGP decision process to compute backup paths for this address-family.

Parent Commands (Modes)

```
address-family ipv4 unicast

address-family ipv6 unicast
```

Syntax

```
bestpath backup [ install ]
no bestpath backup [ install ]
```

Examples

Enable the backup path computation for the address-family (IPv4)

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# address-family ipv4 unicast
sonic(config-router-bgp-af)# bestpath backup install
```

bestpath bandwidth

This command influences the best-path selection algorithm by selecting how to treat the received link bandwidth attribute in the BGP message. When using default-weight-for-missing, a default weight of 1 will be assigned to all the paths for which the attribute is not received.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }
```

Syntax

```
bestpath bandwidth { DEFAULT_WT | IGNORE_LB | SKIP_MISSING }
no bestpath bandwidth
```

Examples

Instruct BGP to consider link bandwidth community received in the BGP message for bestpath calculation

```
sonic# configure terminal
sonic(config)# router bgp 65300
```

```
sonic(config-router-bgp)# bestpath bandwidth default-weight
```

bestpath compare-routerid

This command influences the best-path selection algorithm by comparing router-ids to use as tie-breakers for identical eBGP routes.

Ensure that when comparing routes where both are equal on most metrics (including local-pref, AS_PATH length, IGP cost, and MED), that the tie is broken based on router-ID. If this option is enabled, then the already-selected check, where already-selected eBGP routes are preferred, is skipped. If a route has an ORIGINATOR_ID attribute because it has been reflected, that ORIGINATOR_ID will be used. Otherwise, the router-ID of the peer the route was received from will be used.

The advantage of this is that the route-selection (at this point) will be more deterministic. The disadvantage is that a few or even one lowest-ID router may attract all traffic to otherwise-equal paths because of this check. It might increase the possibility of MED or IGP oscillation, unless other measures were taken to prevent them. The exact behavior will be sensitive to the iBGP and reflection topology.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }
```

Syntax

```
bestpath compare-routerid
no bestpath compare-routerid
```

Examples

Instruct BGP to compare router-ids for identical eBGP paths

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# bestpath compare-routerid
```

bestpath med

This command considers MED for confederation paths for the best-path selection process. This influences the best-path selection algorithm by how the missing MEDs are treated, as well as whether MEDs should be compared for confederation paths. Also, if the MED is missing, whether it should be considered the worst MED.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }
```

Syntax

```
bestpath med { { missing-as-worst [ confed ] } | { confed [ missing-as-worst ] } }
no bestpath med { { [ missing-as-worst [ confed ] ] } | { [ confed [ missing-as-worst ]
] } } ]
```

Examples

Instruct BGP to consider the missing MED the worst and compare MED value for confederation paths

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# bestpath med missing-as-worst confed
```

bfd (BGP Protocol)

This command enables the BFD liveliness check for a BGP neighbor (or neighbors in a peer-group).

Parent Commands (Modes)

```
neighbor { {{ip}} | { interface { ethernet | portchannel | vlan } } }

peer-group {{template-str}}
```

Syntax

```
bfd
no bfd
```

Examples

Enable BFD for BGP neighbor 30.30.30.3

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 30.30.30.3
sonic(config-router-bgp-neighbor)# bfd
```

Enable BFD for BGP peer-group PG_Ext

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# bfd
```

bfd (Global)

This command enables BFD on the switch globally and allows the configuration of BFD peers under the sub-configuration mode.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
bfd
```

bfd check-control-plane-failure

This command links the Data Plane status to the BGP control plane.

Parent Commands (Modes)

```
neighbor { {{ip}} | { interface { ethernet | portchannel | vlan } } }

peer-group {{template-str}}
```

Syntax

```
bfd check-control-plane-failure
no bfd check-control-plane-failure
```

Examples

Link Data Plane status to BGP control plane 30.30.30.3

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 30.30.30.3
sonic(config-router-bgp-neighbor)# bfd check-control-plane-failure
```

Link Data Plane status to BGP control plane PG_Ext

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# bfd check-control-plane-failure
```

bfd profile

This command enables the BFD profile for a BGP neighbor or peer-group.

Parent Commands (Modes)

```
neighbor { {{ip}} | { interface { ethernet | portchannel | vlan } } }

peer-group {{template-str}}
```

Syntax

```
bfd profile {{profilename}}
no bfd profile
```

Parameters

Name	Description	Type
profilename	WORD	String

Examples

Enable the BFD profile for BGP neighbor 30.30.30.3

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 30.30.30.3
sonic(config-router-bgp-neighbor)# bfd profile bgp
```

Enable the BFD profile for BGP peer-group PG_Ext

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# bfd profile bgp
```

bgp as-path-list

This command creates a BGP AS-path list. The user can enter a regular expression of AS-paths that provides flexible and powerful match support. The command also provides the "any" and "all" options to allow matching all or any entry in the AS-path list.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
bgp as-path-list {{as-path-list-name}} { { [ seq {{seq-no}} ] } { { deny {{regx-id}} }
| { permit {{regx-id}} } } }
no bgp as-path-list {{as-path-list-name}} { { [ seq {{seq-no}} ] } { { [ deny {{regx-
id}} ] } | { [ permit {{regx-id}} ] } ] } }
```

Parameters

Name	Description	Type
as-path-list-name	WORD	String
seq-no	1..4294967295	Integer
regx-id	String	String

Examples

Create two entries for an AS-path list named asp_private

```
sonic# configure terminal
sonic(config)# bgp as-path-list asp_private permit ^65000.*6510565109$
sonic(config)# bgp as-path-list asp_private deny 65107.*65200
```

bgp community-list

This command creates a BGP community list. The command provides options to create an expanded or standard community, and accepts community in AA:NN, IP:NN, and well-known communities formats. This command also provides the "any" and "all" options to enable the user to design community filters with clause match any or all. For expanded community, the user can specify a regular expression of communities.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
bgp community-list { { standard { {{community-list-name}} { deny | permit } { {
{{aann}} [ local-as ] [ no-advertise ] [ no-export ] [ no-peer ] { [ any ] | [ all ] ]
} } | { local-as [ {{aann}} ] [ no-advertise ] [ no-export ] [ no-peer ] { [ any ] | [
all ] ] } } | { no-advertise [ {{aann}} ] [ local-as ] [ no-export ] [ no-peer ] { [
any ] | [ all ] ] } } | { no-export [ {{aann}} ] [ local-as ] [ no-advertise ] [ no-
peer ] { [ any ] | [ all ] ] } } | { no-peer [ {{aann}} ] [ local-as ] [ no-advertise ]
[ no-export ] { [ any ] | [ all ] ] } } } } | { expanded { {{community-list-name}} {
deny | permit } { {{line}} { [ any ] | [ all ] ] } } } } }
no bgp community-list { { standard { {{community-list-name}} { { [ deny { {{aann}} |
local-as | no-advertise | no-export | no-peer } ] } | { [ permit { {{aann}} | local-as
| no-advertise | no-export | no-peer } ] } ] } } } | { expanded { {{community-list-
name}} { { [ deny {{line}} ] } | { [ permit {{line}} ] } ] } } } }
```

Parameters

Name	Description	Type
community-list-name	WORD	String
aann	AA:NN	String
line	Line	String

Examples

Create a community list named CommList_RT

```
sonic# configure terminal
sonic(config)# bgp community-list standard CommList_RT 100:200
sonic(config)# bgp community-list standard CommList_RT no-export
sonic(config)# bgp community-list standard CommList_RT no-peer
sonic(config)# bgp community-list standard CommList_RT 65100:3456
```

bgp extcommunity-list

This command creates BGP extended community list entries. The command provides options to create expanded or standard extended community list entries.

For standard extended community, the user can create rt or soo-type communities, and the command will accept communities in AA:NN or IP:NN formats. For expanded extended community, the command will accept a regular expression of communities, which is flexible for matching communities in routes. This command also provides the option of matching all or any extended communities.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
bgp extcommunity-list { { standard { {{extcommunity-list-name}} { deny | permit } { {
rt { {{aa}} | {{ipaddrnn}} } { [ any ] | [ all ] ] } } | { soo { {{aa}} | {{ipaddrnn}}
} { [ any ] | [ all ] ] } } } } } | { expanded { {{extcommunity-list-name}} { deny |
permit } { {{line}} { [ any ] | [ all ] ] } } } } }
no bgp extcommunity-list { { standard { {{extcommunity-list-name}} { { [ deny { { rt {
{{aa}} | {{ipaddrnn}} } } | { soo { {{aa}} | {{ipaddrnn}} } } } ] } | { [ permit { { rt
{ {{aa}} | {{ipaddrnn}} } } | { soo { {{aa}} | {{ipaddrnn}} } } } ] } ] } } } | { expan-
ded { {{extcommunity-list-name}} { { [ deny {{line}} ] } | { [ permit {{line}} ] } ] }
} } }
```

Parameters

Name	Description	Type
extcommunity-list-name	WORD	String
aa	AA:NN	String
ipaddrnn	A.B.C.D:[1..65535]	String
line	Line	String

Examples

Create entries in an extended community list named ExtComm_AllowInt

```
sonic# configure terminal
sonic(config)# bgp extcommunity-list standard ExtComm_AllowInt rt 19.32.56.167:65011
all
sonic(config)# bgp extcommunity-list standard ExtComm_AllowInt rt 31.67.182.214:3001
all
sonic(config)# bgp extcommunity-list standard ExtComm_AllowInt soo 4001:65010 all
```

```
sonic(config)# bgp extcommunity-list standard ExtComm_AllowInt soo 98.13.175.21:65101
all
```

binding

This command creates binding between an ACL and a NAT pool.

Parent Commands (Modes)

```
nat
```

Syntax

```
binding {{binding-name}} {{pool-name}} [ {{acl-name}} ] [ {{natType}} ] [ twice-nat-id
{{twice-nat-id-value}} ]
no binding {{bind-name}}
```

Parameters

Name	Description	Type
binding-name	String	String
pool-name	String	String
acl-name	String	String
natType	NAT type	Select [snat dnat]
twice-nat-id-value		Integer

buffer cable-length

This command configures the cable length on an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
buffer cable-length {{length}}
no buffer cable-length
```

Parameters

Name	Description	Type
length	Cable length option	Select [5m(5m) 40m(40m) 300m(300m)]

Examples

Configure the cable length on an interface

```
sonic# configure terminal
sonic(config)# interface Ethernet 8
sonic(conf-if-Ethernet8)# buffer cable-length 5m
```

Configure the cable length on a range of interfaces

```
sonic# configure terminal
sonic(config)# interface range Ethernet 0-8
sonic(conf-if-range-eth**)# buffer cable-length 5m
```

buffer default-lossless-buffer-profile

This command enables default QoS lossless buffer profile on an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
buffer default-lossless-buffer-profile
no buffer default-lossless-buffer-profile
```

Examples

Enable default QoS lossless buffer profile on an interface

```
sonic# configure terminal
sonic(config)# interface Ethernet 8
sonic(conf-if-Ethernet8)# buffer default-lossless-buffer-profile
```

Enable default QoS lossless buffer profile on a range of interfaces

```
sonic# configure terminal
sonic(config)# interface range Ethernet 0-8
%Info: Configuring only existing interfaces in range
sonic(config-if-range-eth**)# buffer default-lossless-buffer-profile
```

buffer init

This command resets the lossless QoS buffer-related entries to default settings. By default, QoS buffer init lossless populates the QoS buffer-related tables in the Redis ConfigDB. The size and xoff values vary based on platform capabilities.

Parent Commands (Modes)

```
configure terminal
```

Syntax

```
buffer init lossless
no buffer init
```

Examples

Reset QoS buffer-related entries to default settings

```
sonic# configure terminal
sonic(config)# buffer init lossless
```

buffer pool

This command configures the shared headroom size for QoS buffer pool ingress_lossless_pool.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
buffer pool ingress_lossless_pool { shared-headroom-size {{headroom-size}} }
```

Parameters

Name	Description	Type
headroom-size		Integer

Examples

Configure the shared headroom size for ingress_lossless_pool

```
sonic# configure terminal
sonic(config)# buffer pool ingress_lossless_pool shared-headroom-size 100000
```

buffer priority-group

This command maps the QoS priority group (ingress) to a QoS buffer profile.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
buffer priority-group {{pg-value-range}} {{profile-name}}
```

Parameters

Name	Description	Type
pg-value-range		String
profile-name	String	String

Examples

Map the QoS priority group (ingress) to a QoS buffer profile on an interface

```
sonic# configure terminal
sonic(config)# interface Ethernet 8
sonic(conf-if-Ethernet8)# buffer priority-group 2-6 profile_1
```

Map the QoS priority group (ingress) to a QoS buffer profile on a range of interfaces

```
sonic(config)# interface range Ethernet 0-8
%Info: Configuring only existing interfaces in range
sonic(config-if-range-eth**)# buffer priority-group 3-4 profile_1
```

buffer profile

This command creates the buffer profile for priority groups (ingress) and queue (egress) QoS operations.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
buffer profile {{name}} { {{pool-name}} { {{size}} { [ static-threshold {{static-
threshold-value}} ] } { [ dynamic-threshold {{dynamic-threshold-value}} ] } { [ pause-
threshold {{pause-threshold-value}} { resume-threshold {{resume-threshold-value}} } {
resume-offset-threshold {{resume-offset-threshold-value}} } ] } } }
no buffer profile {{name}}
```

Parameters

Name	Description	Type
name	String	String
pool-name	Name of the buffer pools	Select [ingress_lossless_pool egress_ lossless_pool egress_lossy_pool]
size		Integer
static-threshold-value		Integer
dynamic-threshold-value		Integer
pause-threshold-value		Integer
resume-threshold-value		Integer
resume-offset-threshold-value		Integer

Examples

Create a QoS buffer profile

```
sonic# configure terminal
sonic(config)# buffer profile profile_1 pool_1 1000000 static-threshold 100000 dynamic-
threshold -3
sonic(config)# buffer profile profile_2 pool_2 2000000 dynamic-threshold -2
sonic(config)# buffer profile profile_3 pool_3 3000000 static-threshold 300000 pause
pause-threshold 30000 resume-threshold 3000 resume-offset-threshold 300
sonic(config)# buffer profile profile_4 pool_4 4000000 dynamic-threshold -1 pause
pause-threshold 40000 resume-threshold 4000 resume-offset-threshold 400
```

buffer queue

This command maps the QoS queue (egress) to a QoS buffer profile.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
buffer queue {{queue-value-range}} {{profile-name}}
```

Parameters

Name	Description	Type
queue-value-range		String
profile-name	String	String

Examples

Map QoS queue (egress) to a QoS buffer profile on an interface

```
sonic# configure terminal
sonic(config)# interface Ethernet 8
sonic(conf-if-Ethernet8)# buffer queue 2-6 profile_1
```

Map QoS queue (egress) to a QoS buffer profile on a range of interfaces

```
sonic# configure terminal
sonic(config)# interface range Ethernet 0-8
%Info: Configuring only existing interfaces in range
sonic(config-if-range-eth**)# buffer queue 2-6 profile_1
```

Chapter 2:

Commands C to D

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call

This command jumps to another route-map after match_set.

Parent Commands (Modes)

```
route-map {{route-map-name}} { permit | deny } {{seq-nu}}
```

Syntax

```
call {{match-call}}
no call
```

Parameters

Name	Description	Type
match-call	WORD	String

capability

This command configures OSPFv2 Opaque LSA Capability.

Parent Commands (Modes)

```
router ospf [ vrf {{vrf-name}} ]
```

Syntax

```
capability opaque
no capability opaque
```

Examples

Configure Opaque LSA Capability

```
sonic-cli(config-router-ospf)# capability opaque
```

Features this CLI belongs to

- OSPFv2

capability dynamic

This command allows BGP to advertise dynamic capability to a neighbor or to neighbors in a peer-group.

Parent Commands (Modes)

```
neighbor { {{ip}} | { interface { ethernet | portchannel | vlan } } }

peer-group {{template-str}}
```

Syntax

```
capability dynamic
no capability dynamic
```

Examples

Enable advertising dynamic capability for BGP neighbor 30.30.30.3

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 30.30.30.3
sonic(config-router-bgp-neighbor)# capability dynamic
```

Enable advertising dynamic capability for BGP peer-group PG_Ext

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# capability dynamic
```

capability extended-nexthop

This command allows BGP to negotiate the extended-nexthop capability with its peer or with a peer-group. If you are peering over a v6 LL address, this capability is turned on automatically. If you are peering over a v6 Global Address, then turning on this command will allow BGP to install v4 routes with v6 next-hops if you do not have v4 configured on interfaces.

Parent Commands (Modes)

```
neighbor { {{ip}} | { interface { ethernet | portchannel | vlan } } }
```

Syntax

```
capability extended-nexthop
no capability extended-nexthop
```

Examples

Enable extended-nexthop capability for BGP neighbor 30.30.30.3

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 30.30.30.3
sonic(config-router-bgp-neighbor)# capability extended-nexthop
```

Enable extended-nexthop capability for BGP peer-group PG_Ext

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# capability extended-nexthop
```

capability orf prefix-list

This command enables BGP to advertise Outbound Route Filtering (ORF) capability to a neighbor or to neighbors in a peer-group. This capability can be enabled in the inbound and outbound directions separately.

Parent Commands (Modes)

```
address-family ipv4 unicast

address-family ipv6 unicast
```

Syntax

```
capability orf prefix-list { send | receive | both }
no capability orf prefix-list { [ send ] | [ receive ] | [ both ] } ]
```

Examples

Enable BGP to advertise ORF capability to neighbor 20.20.20.2 (IPv4)

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 20.20.20.2
sonic(config-router-bgp-neighbor)# remote-as 300
sonic(config-router-bgp-neighbor)# address-family ipv4 unicast
sonic(config-router-bgp-neighbor-af)# capability orf prefix-list send
```

Enable BGP to advertise ORF capability to neighbors in a peer-group (IPv4)

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# address-family ipv4 unicast
sonic(config-router-bgp-pg-af)# capability orf prefix-list send
```

cbs

This command configures the Committed Burst Size (CBS) parameter for a QoS queue.

Parent Commands (Modes)

```
queue {{sequence}}
```

Syntax

```
cbs {{bc}}
no cbs
```

Parameters

Name	Description	Type
bc		Integer

channel-group

This command configures portchannel parameters for an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
channel-group {{lag-id}}
no channel-group
```

Parameters

Name	Description	Type
lag-id		Integer

cir

This command configures the Committed Information Rate (CIR) parameter for a QoS queue.

Parent Commands (Modes)

```
queue {{sequence}}
```

Syntax

```
cir {{cir}}
no cir
```

Parameters

Name	Description	Type
cir		Integer

class

This command configures the flow match criteria and its actions.

Parent Commands (Modes)

```
policy-map {{fbs-policy-name}} type { qos | monitoring | forwarding | copp | acl-copp }
```

Syntax

```
class {{fbs-class-name}} [ priority {{fbs-flow-priority}} ]
no class {{fbs-class-name}}
```

Parameters

Name	Description	Type
fbs-class-name	WORD	String
fbs-flow-priority		Integer

class-map

This command configures the class-map. The class-map name can be a maximum of 63 characters. The name must begin with A to Z, a to z, or 0 to 9. Underscores and hyphens can be used, except as the first character.

Parent Commands (Modes)

```
configure terminal
```

Syntax

```
class-map {{fbs-class-name}} match-type { acl | { fields match-all } | copp }
no class-map {{fbs-class-name}}
```

Parameters

Name	Description	Type
fbs-class-name	WORD	String

Examples

Create a class-map with match type fields

```
sonic(config)# class-map class_permit_ip match-type fields
```

clear ars nhg-statistics

This command clears ARS NHG statistics.

Syntax

```
clear ars nhg-statistics [ {{nhgid}} ] ]
```

Parameters

Name	Description	Type
nhgid	(0..4294967295)	Integer

Examples

Clear ARS NHG statistics

```
sonic#clear ars nhg-statistics
```

clear audit-log

This command clears the audit log.

Syntax

```
clear audit-log
```

clear authentication history interface

This command clears the authentication history of an interface or all interfaces.

Syntax

```
clear authentication history interface { all | {{port}} }
```

Parameters

Name	Description	Type
port	EthernetNUM	

clear authentication sessions

This command clears authentication sessions.

Syntax

```
clear authentication sessions { { mac {{mac-addr}} } | { interface { all | {{port}} } }
}
```

Parameters

Name	Description	Type
mac-addr	nn:nn:nn:nn:nn:nn	String
port	EthernetNUM	

clear bfd peer

This command clears the counters of the specific Bidirectional Forwarding Detection (BFD) peer, with filters. BFD packet counters will be reset to 0.

Syntax

```
clear bfd peer { {{peer_ipv4}} | {{peer_ipv6}} } [ vrf {{vrfname}} ] [ multihop ] [
local-address { {{local_ipv4}} | {{local_ipv6}} } ] [ interface {{interfacename}} ]
counters
```

Parameters

Name	Description	Type
peer_ipv4	A.B.C.D	String
peer_ipv6	A::B	String

Name	Description	Type
vrfname	WORD	String
local_ipv4	A.B.C.D	String
local_ipv6	A::B	String
interfacename	Interface Type - Ranges	

Examples

Clear BFD peer counters

```
device# clear bfd peer 192.168.2.1 interface Ethernet0 counters
```

clear bgp all

This command clears/resets BGP information, including neighbors, peer-group, etc. The following is a partial list of information with command syntax that can be cleared.

- The following command clears all BGP neighbors in all address-families activated.
  - clear bgp all *
- The following command clears peers with the address of peer_ip and this address-family activated.
  - clear bgp all A.B.C.D/A::B
- In the following command, the "in" option sends a route-refresh request unless "soft-reconfiguration inbound" is used. If "maximum prefix discard-extra" is configured, it overrides "soft-reconfiguration inbound" and sends only a route-refresh request. The "out" option re-sends all outbound updates.
  - clear bgp all A.B.C.D/A::B soft {in | out}

Syntax

```
clear bgp all [ vrf {{vrf-name}} ] { { [ * { [ in ] | [ out ] | { [ soft { [ in ] | [
out ] ] } ] } ] } ] } | { [ {{as-num-dot}} { [ in ] | [ out ] | { [ soft { [ in ] | [
out ] ] } ] } ] } ] } | { [ {{ipv4}} { [ in ] | [ out ] | { [ soft { [ in ] | [ out ] ]
} ] } ] } ] } | { [ {{ipv6}} { [ in ] | [ out ] | { [ soft { [ in ] | [ out ] ] } ] } ]
} ] } | { dampening { [ {{ip-addr}} ] | [ {{ip-prefix}} ] ] } } | { [ external { [ in ]
| [ out ] | { [ soft { [ in ] | [ out ] ] } ] } ] } ] } | { interface { Ethernet |
PortChannel | Vlan } } | { peer-group {{peer-group-name}} { [ in ] | [ out ] | { [ soft
{ [ in ] | [ out ] ] } ] } ] } } }
```

Parameters

Name	Description	Type
vrf-name	WORD	String
as-num-dot	0.1..65535.65535 or 1..4294967295	String
ipv4	A.B.C.D	String
ipv6	A::B	String
ip-addr	A.B.C.D	String
ip-prefix	A.B.C.D/mask	String
peer-group-name	WORD	String

Examples

Reset BGP neighbor 14.14.14.1

```
leaf4# clear bgp all 14.14.14.1
```

clear bgp ipv4

This command clears/resets BGP information, including neighbors, peer-group, dampening, etc. The following is a partial list of information with command syntax that can be cleared.

- The following command clears all BGP neighbors with the specified address-family and sub-address-family activated.
  - clear bgp {ipv4 | ipv6} unicast *
- The following command clears peers with the address of peer_ip and this address-family activated.
  - clear bgp {ipv4 | ipv6} unicast peer_ip
- The following command clears dampened routes.
  - clear bgp ipv4 unicast dampening { address | prefix | in | out | soft }
- In the following command, the "in" option sends route-refresh request unless "soft-reconfiguration inbound" is used. If "maximum prefix discard-extra" is configured, it overrides "soft-reconfiguration inbound" and sends only a route-refresh request. The

"out" option re-sends all outbound updates.

- clear bgp {ipv6 | ipv4} unicast soft {in | out}

Syntax

```
clear bgp ipv4 unicast [ vrf {{vrf-name}} ] { { * { [ in ] | [ out ] | { [ soft { [ in
] | [ out ] ] } ] } ] } } | { {{as-num-dot}} { [ in ] | [ out ] | { [ soft { [ in ] | [
out ] ] } ] } ] } } | { external { [ in ] | [ out ] | { [ soft { [ in ] | [ out ] ] } ]
} ] } } | { {{ipv4-addr}} { [ in ] | [ out ] | { [ soft { [ in ] | [ out ] ] } ] } ] }
} | { {{ipv6-addr}} { [ in ] | [ out ] | { [ soft { [ in ] | [ out ] ] } ] } ] } } |
{{ip-prefix}} | { interface { Ethernet | PortChannel | Vlan } { [ in ] | [ out ] | { [
soft { [ in ] | [ out ] ] } ] } ] } } | { peer-group [ {{peer-group-name}} ] { [ in ] |
[ out ] | { [ soft { [ in ] | [ out ] ] } ] } ] } } | { dampening { [ {{ip-addr}} ] | [
{{ip-prefix}} ] ] } } | in | out | { soft { [ in ] | [ out ] ] } } }
```

Parameters

Name	Description	Type
vrf-name	WORD	String
as-num-dot	0.1..65535.65535 or 1..4294967295	String
ipv4-addr	A.B.C.D	String
ipv6-addr	A::B	String
ip-prefix	A.B.C.D/mask	String
peer-group-name	WORD	String
ip-addr	A.B.C.D	String

Examples

Reset BGP neighbor 14.14.14.1

```
leaf4# clear bgp ipv4 unicast 14.14.14.1
```

clear bgp ipv6

This command clears BGP IPv6.

Syntax

```
clear bgp ipv6 unicast [ vrf {{vrf-name}} ] { { * { [ in ] | [ out ] | { [ soft { [ in
] | [ out ] ] } ] } ] } } | { {{as-num-dot}} { [ in ] | [ out ] | { [ soft { [ in ] | [
out ] ] } ] } ] } } | { external { [ in ] | [ out ] | { [ soft { [ in ] | [ out ] ] } ]
} ] } } | { {{ipv4-addr}} { [ in ] | [ out ] | { [ soft { [ in ] | [ out ] ] } ] } ] }
} | { {{ipv6-addr}} { [ in ] | [ out ] | { [ soft { [ in ] | [ out ] ] } ] } ] } } |
{{ip-prefix}} | { interface { Ethernet | PortChannel | Vlan } { [ in ] | [ out ] | { [
soft { [ in ] | [ out ] ] } ] } ] } } | { peer-group [ {{peer-group-name}} ] { [ in ] |
[ out ] | { [ soft { [ in ] | [ out ] ] } ] } ] } } | { dampening { [ {{ip-addr}} ] | [
{{ip-prefix}} ] ] } } | in | out | { soft { [ in ] | [ out ] ] } } }
```

Parameters

Name	Description	Type
vrf-name	WORD	String
as-num-dot	0.1..65535.65535 or 1..4294967295	String
ipv4-addr	A.B.C.D	String
ipv6-addr	A::B	String
ip-prefix	A::B/mask	String
peer-group-name	WORD	String
ip-addr	A.B.C.D	String

clear bgp l2vpn evpn

This command clears/resets BGP information for an EVPN address-family on neighbors. The following is a partial list of information with command syntax that can be cleared.

- The following command clears all BGP neighbors with "address-family l2vpn evpn" activated.
  - clear bgp l2vpn evpn *
- The following command clears peers with the address of peer_ip and "address-family l2vpn evpn" activated.
  - clear bgp l2vpn evpn *
- In the following command, the "in" option sends a route-refresh request unless "soft-reconfiguration inbound" is used. The "out" option re-sends all outbound updates.
  - clear bgp l2vpn evpn soft {in | out}

Syntax

```
clear bgp l2vpn evpn { { [ {{as-num-dot}} { [ in ] | [ out ] | { [ soft { [ in ] | [
out ] ] } ] } ] } ] } | { [ * { [ in ] | [ out ] | { [ soft { [ in ] | [ out ] ] } ] }
] } ] } | { [ external { [ in ] | [ out ] | { [ soft { [ in ] | [ out ] ] } ] } ] } ] }
| { [ interface { ifname { [ in ] | [ out ] | { [ soft { [ in ] | [ out ] ] } ] } ] } ] } }
] } | { [ peer-group { {{peer-group name}} { [ in ] | [ out ] | { [ soft { [ in ] | [
out ] ] } ] } ] } ] } } ] } | { [ {{neighbor-ipv6}} { [ in ] | [ out ] | { [ soft { [ in ]
| [ out ] ] } ] } ] } ] } ] } | { [ {{neighbor-ipv4}} { [ in ] | [ out ] | { [ soft { [ in
] | [ out ] ] } ] } ] } ] } ] } | [ in ] | [ out ] | { [ soft [ in ] [ out ] ] } }
```

Parameters

Name	Description	Type
as-num-dot	0.1..65535.65535 or 1..4294967295	String
peer-group name	String	String
neighbor-ipv6	A::B	String
neighbor-ipv4	A.B.C.D	String

Examples

Reset all BGP neighbors with EVPN activated

```
sonic# clear bgp l2vpn evpn *
```

clear buffer-pool

This command clears user/persistent watermark counters recorded by the system.

Syntax

```
clear buffer-pool { watermark | persistent-watermark } [ interface {{intf}} ] { shared
| unicast | multicast }
```

Parameters

Name	Description	Type
intf	EthernetNUM	

Examples

Clear buffer-pool user/persistent watermark counters

```
sonic-cli# clear buffer-pool watermark shared
sonic-cli# clear buffer-pool persistent-watermark multicast
sonic-cli# clear buffer-pool watermark interface Ethernet0 unicast
sonic-cli# clear buffer-pool persistent-watermark interface Ethernet0 shared
```

clear config session

This command force-aborts the config session without entering it. The command allows an admin user to clean up sessions created by someone else.

Syntax

```
clear config session [ no-prompt ]
```

Examples

```
sonic# clear config session
WARNING: this operation will discard all changes done in config session
Do you want to continue? [Y/N] y
% Aborted unnamed session
sonic#
```

clear core-files

This command removes all core files, and also removes the core description from systemd-journal. Note that this operation also removes all information from the systemd-journal which is not related to core files.

Syntax

```
clear core-files
```

Examples

```
sonic# clear core-files
```

Features this CLI belongs to

- COREDUMP

clear counters

This command clears counters.

Syntax

```
clear counters interface { rif | all | {{port}} | {{PortChannel}} }
```

Parameters

Name	Description	Type
port	EthernetNUM	
PortChannel	PortChannelNUM	

clear counters service-policy

This command clears the flow-based services applied policy-map applied at the switch/global level. The policy-map type argument is optional. If the policy-map type is not specified, it clears FBS policies counters for given interfaces for all policies matching that interface.

Syntax

```
clear counters service-policy { Switch | CtrlPlane } [ type { qos | monitoring | for-
warding | copp | acl-copp } ]
```

Examples

Clear service-policy counters on a switch

```
sonic# clear counters service-policy Switch type qos
```

clear counters service-policy interface

This command clears the counters for flow-based services' applied policies by interface. The policy-map type argument is optional. If the policy-map type is not specified, it clear the FBS policies' counters (for given interfaces) for all policies matching that interface.

Syntax

```
clear counters service-policy interface { {{eth-if-id}} | {{po-if-id}} | {{vlan-if-id}}
| {{eth-sub-if-id}} | {{po-sub-if-id}} | CPU } [ type { qos | monitoring | forwarding |
copp | acl-copp } ]
```

Parameters

Name	Description	Type
eth-if-id	EthernetNUM	
po-if-id	PortChannelNUM	
vlan-if-id	VlanNUM	
eth-sub-if-id	EthernetX.Y	
po-sub-if-id	PortChannelNUM	

Examples

Clear service-policy counters on an interface

```
clear counters service-policy interface Vlan 100 type qos
```

clear counters service-policy policy-map

This command clears the counters for flow-based services applied policies by policy name. The interface argument is optional. If not specified, it clears FBS policies' counters (for a given policy-map) for all interfaces.

Syntax

```
clear counters service-policy policy-map {{fbs-policy-name}} { { [ interface { {{eth-
if-id}} | {{po-if-id}} | {{vlan-if-id}} | {{eth-sub-if-id}} | {{po-sub-if-id}} | CPU }
] } | [ Switch ] | [ CtrlPlane ] } ]
```

Parameters

Name	Description	Type
fbs-policy-name	WORD	String
eth-if-id	EthernetNUM	
po-if-id	PortChannelNUM	
vlan-if-id	VlanNUM	
eth-sub-if-id	EthernetX.Y	
po-sub-if-id	PortChannelNUM	

Examples

Clear service-policy counters for a policy_name

```
clear counters service-policy policy-map policy_vrf interface Vlan 100
```

clear counters tam

This command clears flow-group counters.

Syntax

```
clear counters tam { flow-groups { all | {{name}} } }
```

Parameters

Name	Description	Type
name	WORD	String

Examples

Clear TAM flow-group counters

```
sonic-cli# clear counters tam flow-groups all
sonic-cli# clear counters tam flow-groups flowgroup_name
```

clear counters vxlan

This command clears VXLAN tunnel counters per remote VTEP or all remotes.

Syntax

```
clear counters vxlan [ {{remote_ip_addr}} ]
```

Parameters

Name	Description	Type
remote_ip_addr	A.B.C.D	String

Examples

Clear VXLAN tunnel counters

```
sonic# clear counters vxlan
sonic# clear counters vxlan 1.2.34.2
```

clear dcbx-statistics

This command clears DCBX statistics.

Syntax

```
clear dcbx-statistics [ interface { {{port}} } ]
```

Parameters

Name	Description	Type
port	EthernetNUM	

clear device

This command clears device-level watermark counters.

Syntax

```
clear device { watermark | persistent-watermark }
```

clear error-database

This command clears the error database table.

Syntax

```
clear error-database { ERROR_ROUTE_TABLE | ERROR_NEIGH_TABLE | ERROR_IPMC_ROUTE_TABLE |
ERROR_VLAN_MAPPING_TABLE | ERROR_VLAN_MEMBER_TABLE | ALL }
```

clear evpn dup-addr

This command clears a duplicate address.

Syntax

```
clear evpn dup-addr { vni { all | { {{vni-number}} { { [ mac { {{mac-addr}} } ] } | { [
ip { {{ip-addr}} } ] } ] } } } }
```

Parameters

Name	Description	Type
vni-number	VNI	Integer
mac-addr	nn:nn:nn:nn:nn:nn	String
ip-addr	A.B.C.D/A::B	String

clear i2c errors

This command clears the I^2C error stats collected so far.

Syntax

```
clear i2c errors
```

clear ip access-list counters

This command clears the statistics for IPv4 ACL rules. The ACL name and interface names are optional. If the ACL name is not specified, then all IPv4 ACLs' statistics will be cleared.

Syntax

```
clear ip access-list counters [ {{access-list-name}} { { [ interface { Ethernet |
{{PortChannel}} | {{Vlan}} | {{eth-sub-if-id}} | {{po-sub-if-id}} } ] } | [ Switch ] ]
} ]
```

Parameters

Name	Description	Type
access-list-name	String (Max: 72 characters)	String
PortChannel	PortChannelNUM	
Vlan	VlanNUM	
eth-sub-if-id	EthernetX.Y	
po-sub-if-id	PortChannelNUM	

Examples

Clear IP access-list counters

```
sonic# clear ip access-list counters ipacl-example
```

clear ip arp

This command deletes dynamically learned IPv4 entries from the ARP table. To specify the entries to be deleted, enter an interface, port channel, VLAN, an IPv4 address, or a combination to match.

Afterward, use the "show ip arp" command to verify that the ARP entries have been deleted.

Syntax

```
clear ip arp [ {{ip-addr}} ] ] [ vrf { {{vrfname}} | mgmt | all } ]
```

Parameters

Name	Description	Type
ip-addr	A.B.C.D	String
vrfname	VRF name (prefixed by Vrf, Max: 15 characters)	String

Examples

Clear IP ARP information

```
sonic# show ip arp
------------------------------------------------------------------------
Address         Hardware address    Interface        Egress Interface
------------------------------------------------------------------------
192.168.1.4     00:01:02:03:44:55   Ethernet8         -
192.168.2.4     00:01:02:03:ab:cd   PortChannel200    -
192.168.3.6     00:01:02:03:04:05   Vlan100           Ethernet4
10.11.48.254    00:01:e8:8b:44:71   eth0              -
10.14.8.102     00:01:e8:8b:44:71   eth0              -
sonic# clear ip arp
sonic# show ip arp
sonic#
```

Clear IP ARP interface information

```
sonic# show ip arp
------------------------------------------------------------------------
Address         Hardware address    Interface        Egress Interface
------------------------------------------------------------------------
192.168.1.4     00:01:02:03:44:55   Ethernet8         -
192.168.2.4     00:01:02:03:ab:cd   PortChannel200    -
192.168.3.6     00:01:02:03:04:05   Vlan100           Ethernet4
10.11.48.254    00:01:e8:8b:44:71   eth0              -
10.14.8.102     00:01:e8:8b:44:71   eth0              -
sonic# clear ip arp interface Vlan 100
sonic# show ip arp
------------------------------------------------------------------------
Address         Hardware address    Interface        Egress Interface
------------------------------------------------------------------------
192.168.1.4     00:01:02:03:44:55   Ethernet8         -
192.168.2.4     00:01:02:03:ab:cd   PortChannel200    -
10.11.48.254    00:01:e8:8b:44:71   eth0              -
10.14.8.102     00:01:e8:8b:44:71   eth0              -
```

Clear IP ARP IP information

```
sonic# show ip arp
------------------------------------------------------------------------
Address         Hardware address    Interface        Egress Interface
------------------------------------------------------------------------
192.168.1.4     00:01:02:03:44:55   Ethernet8         -
192.168.2.4     00:01:02:03:ab:cd   PortChannel200    -
192.168.3.6     00:01:02:03:04:05   Vlan100           Ethernet4
10.11.48.254    00:01:e8:8b:44:71   eth0              -
10.14.8.102     00:01:e8:8b:44:71   eth0              -
sonic# clear ip arp 192.168.1.4
sonic# show ip arp
------------------------------------------------------------------------
Address         Hardware address    Interface        Egress Interface
------------------------------------------------------------------------
192.168.2.4     00:01:02:03:ab:cd   PortChannel200    -
192.168.3.6     00:01:02:03:04:05   Vlan100           Ethernet4
10.11.48.254    00:01:e8:8b:44:71   eth0              -
10.14.8.102     00:01:e8:8b:44:71   eth0              -
```

clear ip arp interface

This command clears ARP entries for this interface.

Syntax

```
clear ip arp interface { {{phy-if-name}} | {{subif-name}} | {{mgmt-if-name}} | {{po-if-name}} | {{vlan-if-name}} }
```

Parameters

Name	Description	Type
phy-if-name	EthernetNUM	
subif-name	Interface Type	
mgmt-if-name		
po-if-name	PortChannelNUM	
vlan-if-name	VlanNUM	

clear ip dhcp snooping binding

This command clears all (or a specific) dynamic DHCP Snooping binding entries.

Syntax

```
clear ip dhcp snooping binding [ {{ip-address}} { {{mac-address}} { vlan { {{phy-if-name}} | PortChannel } } } ]
```

Parameters

Name	Description	Type
ip-address	A.B.C.D	String
mac-address	nn:nn:nn:nn:nn:nn	String
phy-if-name	EthernetNUM	

clear ip dhcp snooping statistics

This command clears IP DHCP Snooping statistics.

Syntax

```
clear ip dhcp snooping statistics {{iface}}
```

Parameters

Name	Description	Type
iface	Interface Type - Ranges	

clear ip dhcp snooping statistics detail

This command clears IP DHCP Snooping statistics details.

Syntax

```
clear ip dhcp snooping statistics detail
```

clear ip dhcp-relay

This command clears IPv4 DHCP relay statistics.

Syntax

```
clear ip dhcp-relay { statistics {{ifName}} }
```

Parameters

Name	Description	Type
ifName	Interface Type - Ranges	

clear ip helper-address statistics

This command clears IP helper statistics on interface.

Syntax

```
clear ip helper-address statistics [ {{iface}} ]
```

Parameters

Name	Description	Type
iface	Interface Type - Ranges	

Examples

Clear statistics on all interfaces

```
clear ip helper-address statistics
```

Clear statistics on specific interface

```
clear ip helper-address statistics Ethernet0
```

Features this CLI belongs to

- IP Helper

clear ip igmp interfaces

This command clears/resets IGMP for interfaces.

Syntax

```
clear ip igmp interfaces
```

Examples

Clear IGMP for interfaces

```
sonic# clear ip igmp interfaces
```

clear ip igmp vrf

This command clears/resets IGMP for VRF.

Syntax

```
clear ip igmp vrf {{vrf-name}} interfaces
```

Parameters

Name	Description	Type
vrf-name	WORD	String

Examples

Clear IGMP for VRF

```
sonic# clear ip igmp vrf default interfaces
```

clear ip mroute

This command resets multicast route information, and is useful for debugging.

Syntax

```
clear ip mroute [ vrf {{vrf-name}} ]
```

Parameters

Name	Description	Type
vrf-name	WORD	String

Examples

Clear IP multicast route information

```
sonic# clear ip mroute
sonic#
```

clear ip ospf

This command clears/resets OSPFv2 sessions on an OSPFv2 interface. The following is a partial list of information with command syntax that can be cleared.

- The following command clears all OSPFv2 sessions on an OSPFv2 interface.
  - clear ip ospf interface IF-NAME
- The following command clears all OSPFv2 sessions on an interface in a VRF.
  - clear ip ospf vrf VRF-NAME interface IF-NAME
- The following command clears all OSPFv2 sessions.
  - clear ip ospf process

Syntax

```
clear ip ospf { process | { interface [ {{interface-name}} ] } | { vrf { {{vrf-name}} {
interface [ {{interface-name}} ] } } } }
```

Parameters

Name	Description	Type
interface-name	Interface Type - Ranges	
vrf-name	String	String

Examples

Clear sessions on Ethernet64

```
sonic# clear ip ospf interface  Ethernet64
sonic# clear ip ospf vrf default interface Ethernet64
sonic# clear ip ospf process
```

clear ip pim

These commands are useful for debugging. One resets the PIM interfaces, and the other rescans the Outgoing Interface Lists (OILs).

Syntax

```
clear ip pim [ vrf {{vrf-name}} ] { [ interfaces ] | [ oil ] }
```

Parameters

Name	Description	Type
vrf-name	WORD	String

Examples

Reset PIM interfaces

```
sonic# clear ip pim interfaces
sonic#
--------------------------------------
sonic# clear ip pim vrf Vrf2 interfaces
sonic#
```

Rescan OILs

```
sonic# clear ip pim oil
sonic#
--------------------------------------
sonic# clear ip pim vrf Vrf2 oil
sonic#
```

clear ip sla

This command clears counters for an IP SLA instance.

Syntax

```
clear ip sla {{id}}
```

Parameters

Name	Description	Type
id		Integer

Examples

Clear the counters for an IP SLA instance

```
sonic(config)# clear ip sla 10
```

clear ip sla all

This command clears counters for all IP SLA instances.

Syntax

```
clear ip sla all
```

Examples

Clear the counters for all IP SLA instances

```
sonic(config)# clear ip sla all
```

clear ipv6 access-list counters

This command clears IPv6 ACL rules statistics. The ACL name and interface names are optional. If the ACL name is not specified, then all IPv6 ACLs statistics will be cleared.

Syntax

```
clear ipv6 access-list counters [ {{access-list-name}} { { [ interface { Ethernet |
{{PortChannel}} | {{Vlan}} | {{eth-sub-if-id}} | {{po-sub-if-id}} } ] } | [ Switch ] ]
} ]
```

Parameters

Name	Description	Type
access-list-name	String (Max: 72 characters)	String
PortChannel	PortChannelNUM	
Vlan	VlanNUM	
eth-sub-if-id	EthernetX.Y	
po-sub-if-id	PortChannelNUM	

Examples

Clear IPv6 access-list counters

```
sonic# clear ipv6 access-list counters ipv6acl-example
```

clear ipv6 dhcp snooping binding

This command clears all (or a specific) IPv6 DHCP Snooping binding entries.

Syntax

```
clear ipv6 dhcp snooping binding [ {{ip-address}} { {{mac-address}} { vlan { {{phy-if-
name}} | PortChannel } } } ]
```

Parameters

Name	Description	Type
ip-address	A::B	String
mac-address	nn:nn:nn:nn:nn:nn	String
phy-if-name	EthernetNUM	

clear ipv6 dhcp snooping statistics

This command clears IPv6 DHCP Snooping statistics.

Syntax

```
clear ipv6 dhcp snooping statistics {{iface}}
```

Parameters

Name	Description	Type
iface	Interface Type - Ranges	

clear ipv6 dhcp snooping statistics detail

This command clears IPv6 DHCP Snooping statistics details.

Syntax

```
clear ipv6 dhcp snooping statistics detail
```

clear ipv6 dhcp-relay

This command clears IPv6 DHCP relay statistics.

Syntax

```
clear ipv6 dhcp-relay { statistics {{ifName}} }
```

Parameters

Name	Description	Type
ifName	Interface Type - Ranges	

clear ipv6 nd

This command clears/resets statistical information on RA-enabled interface(s).

Syntax

```
clear ipv6 nd ra-interfaces [ {{ifName}} ]
```

Parameters

Name	Description	Type
ifName	Interface Type - Ranges	

Examples

Clear sessions on interface Ethernet64

```
sonic# clear ipv6 nd ra-interfaces Ethernet64
```

clear ipv6 neighbors

This command deletes dynamically learned IPv6 entries from the NDP table. To specify the entries to be deleted, enter an interface, port channel, VLAN, an IPv6 address, or a combination to match.

Afterward, use the "show ipv6 neighbors" command to verify that the IPv6 entries have been deleted.

Syntax

```
clear ipv6 neighbors [ {{ip-addr}} ] ] [ vrf { {{vrfname}} | mgmt | all } ]
```

Parameters

Name	Description	Type
ip-addr	A::B	String
vrfname	VRF name (prefixed by Vrf, Max: 15 characters)	String

Examples

Clear IPv6 neighbors' information

```
sonic# show ipv6 neighbors
------------------------------------------------------------------------------
Address                   Hardware address    Interface        Egress Interface
------------------------------------------------------------------------------
20::1                     00:01:02:03:44:55   Ethernet8         -
20::2                     00:01:02:03:ab:cd   PortChannel200    -
20::3                     00:01:02:03:04:05   Vlan100           Ethernet4
fe80::e6f0:4ff:fe79:34c7  00:01:e8:8b:44:71   eth0              -
sonic# clear ipv6 neighbors
sonic# show ipv6 neighbors
```

Clear IPv6 neighbors' interface information

```
sonic# show ipv6 neighbors
------------------------------------------------------------------------------
Address                   Hardware address    Interface        Egress Interface
------------------------------------------------------------------------------
20::1                     00:01:02:03:44:55   Ethernet8         -
20::2                     00:01:02:03:ab:cd   PortChannel200    -
20::3                     00:01:02:03:04:05   Vlan100           Ethernet4
fe80::e6f0:4ff:fe79:34c7  00:01:e8:8b:44:71   eth0              -
sonic# clear ipv6 neighbors interface Vlan 100
sonic# show ipv6 neighbors
------------------------------------------------------------------------------
Address                   Hardware address    Interface        Egress Interface
------------------------------------------------------------------------------
20::1                     00:01:02:03:44:55   Ethernet8         -
20::2                     00:01:02:03:ab:cd   PortChannel200    -
fe80::e6f0:4ff:fe79:34c7  00:01:e8:8b:44:71   eth0              -
```

Clear IPv6 neighbors' IP information

```
sonic# show ipv6 neighbors
------------------------------------------------------------------------------
Address                   Hardware address    Interface        Egress Interface
------------------------------------------------------------------------------
20::1                     00:01:02:03:44:55   Ethernet8         -
```

```
20::2                       00:01:02:03:ab:cd   PortChannel200    -
20::3                       00:01:02:03:04:05   Vlan100           Ethernet4
fe80::e6f0:4ff:fe79:34c7    00:01:e8:8b:44:71   eth0              -
sonic# clear ipv6 neighbors fe80::e6f0:4ff:fe79:34c7
sonic# show ipv6 neighbors
------------------------------------------------------------------------------
Address                     Hardware address    Interface        Egress Interface
------------------------------------------------------------------------------
20::1                       00:01:02:03:44:55   Ethernet8         -
20::2                       00:01:02:03:ab:cd   PortChannel200    -
20::3                       00:01:02:03:04:05   Vlan100           Ethernet4
```

clear ipv6 neighbors interface

This command clears NDP entries for this interface.

Syntax

```
clear ipv6 neighbors interface { {{phy-if-name}} | {{subif-name}} | {{mgmt-if-name}} |
{{po-if-name}} | {{vlan-if-name}} }
```

Parameters

Name	Description	Type
phy-if-name	EthernetNUM	
subif-name	Interface Type	
mgmt-if-name		
po-if-name	PortChannelNUM	
vlan-if-name	VlanNUM	

clear ipv6 ospfv3

This command clears/resets OSPFv3 sessions on an OSPFv3 interface.

Syntax

```
clear ipv6 ospfv3 { { interface [ {{interface-name}} ] } | { process { [ vrf {{vrf-
name}} ] } } | { vrf { {{vrf-name}} { interface [ {{interface-name}} ] } } } }
```

Parameters

Name	Description	Type
interface-name	Interface Type - Ranges	
vrf-name	String	String

Examples

Clear sessions on Ethernet64

```
sonic# clear ipv6 ospfv3 interface  Ethernet64
sonic# clear ipv6 ospfv3 vrf default interface Ethernet64
```

clear logging

This command clears logging.

Syntax

```
clear logging
```

clear mac access-list counters

This command clears MAC ACL rules statistics. The ACL name and interface names are optional. If the ACL name is not specified, then all MAC ACLs statistics will be cleared.

Syntax

```
clear mac access-list counters [ {{access-list-name}} { { [ interface { Ethernet |
{{PortChannel}} | {{Vlan}} | {{eth-sub-if-id}} | {{po-sub-if-id}} } ] } | [ Switch ] ]
} ]
```

Parameters

Name	Description	Type
access-list-name	String (Max: 72 characters)	String

Name	Description	Type
PortChannel	PortChannelNUM	
Vlan	VlanNUM	
eth-sub-if-id	EthernetX.Y	
po-sub-if-id	PortChannelNUM	

Examples

Clear MAC access-list counters

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

clear mac address-table dynamic

This command clears the MAC address-table for dynamic commands.

Syntax

```
clear mac address-table dynamic { all | { Vlan { [ address {{mac_addr}} ] } } | { inter-
face { Ethernet | PortChannel } } }
```

Parameters

Name	Description	Type
mac_addr	nn:nn:nn:nn:nn:nn	String

clear mac address-table sticky-mac

This command clears the sticky MAC address-table.

Syntax

```
clear mac address-table sticky-mac { all | { Vlan { [ address {{mac_addr}} ] } } | {
interface { Ethernet | PortChannel } } }
```

Parameters

Name	Description	Type
mac_addr	nn:nn:nn:nn:nn:nn	String

clear mac dampening-disabled-ports

This command clears MAC dampening disabled ports.

Syntax

```
clear mac dampening-disabled-ports { all | PORT_ID | PO_ID }
```

clear nat

This command clears NAT.

Syntax

```
clear nat { translations | statistics }
```

clear poe counters

This command clears the counters of one or all PoE ports.

Syntax

```
clear poe counters [ {{port}} ]
```

Parameters

Name	Description	Type
port	EthernetNUM	

Examples

Reset PoE ports

```
sonic-cli# clear poe counters
sonic-cli# clear poe counters Ethernet0
```

clear priority-group

This command clears priority-group watermarks, persistent-watermarks and breaches, etc. There are various CLI options available to clear information for unicast/multicast on a priority-group and an interface.

Syntax

```
clear priority-group { { watermark { { headroom { [ interface { {{phy-intf-name}} } ] }
} | { shared { [ interface { {{phy-intf-name}} } ] } } } } | { persistent-watermark { {
headroom { [ interface { {{phy-intf-name}} } ] } } | { shared { [ interface { {{phy-
intf-name}} } ] } } } } }
```

Parameters

Name	Description	Type
phy-intf-name	EthernetNUM	

Examples

Clear priority-groups

```
sonic# clear priority-group watermark shared interface Ethernet 0
sonic# clear priority-group persistent-watermark headroom
```

clear queue

This command clears queue counters, WRED ECN counters, watermarks, persistent-watermarks and breaches, etc. There are various CLI options available to clear counters for a queue, an interface, and all interfaces.

Syntax

```
clear queue { { counters { [ interface { { {{phy-intf-name}} { [ queue {{queue-id}} ] }
} | { CPU { [ queue {{queue-id}} ] } } } ] } } | { watermark { { unicast { [ interface
{ {{phy-intf-name}} } ] } } | { multicast { [ interface { {{phy-intf-name}} } ] } } |
CPU } } | { persistent-watermark { { unicast { [ interface { {{phy-intf-name}} } ] } }
| { multicast { [ interface { {{phy-intf-name}} } ] } } | CPU } } | { wred-ecn { coun-
ters { [ interface { {{phy-intf-name}} } ] } } } }
```

Parameters

Name	Description	Type
phy-intf-name	EthernetNUM	
queue-id		Integer

Examples

Clear queues

```
sonic# clear queue counters interface Ethernet 0 queue 0
sonic# clear queue watermark unicast
sonic# clear queue persistent-watermark multicast interface Ethernet 0
sonic# clear queue wred-ecn counters interface Ethernet 0
```

clear radius-server dynamic-author statistics

This command clears RADIUS dynamic authorization global counters and per-DAS client counters.

Syntax

```
clear radius-server dynamic-author statistics [ client { all | {{ipaddr_hostname}} } ]
```

Parameters

Name	Description	Type
ipaddr_hostname	WORD	String

Examples

```
sonic-cli# clear radius-server dynamic-author statistics [ client { all | ipv4 | ipv6 |
hostname }]
```

clear radius-server statistics

This command clears RADIUS statistics.

Syntax

```
clear radius-server statistics
```

clear snmp counters

This command clears the Simple Network Management Protocol (SNMP) counters statistics.

Syntax

```
clear snmp counters
```

Examples

```
sonic# clear snmp counters
```

clear spanning-tree counters

This command clears spanning-tree counters.

Syntax

```
clear spanning-tree counters { [ vlan-id ] | { [ interface {{intfname}} ] } } ]
```

Parameters

Name	Description	Type
intfname	Interface Type - Ranges	

Examples

Clear spanning-tree counters

```
sonic# clear spanning-tree counters
```

clear threshold

This command clears all or a given threshold breach event(s) recorded by the system.

Syntax

```
clear threshold breach { all | {{eventId}} }
```

Parameters

Name	Description	Type
eventId		Integer

Examples

Clear threshold breach events

```
sonic-cli# clear threshold breach all
sonic-cli# clear threshold breach eventId
```

clear user session

This command clears all active sessions of the user.

Syntax

```
clear user session {{user-name}}
```

Parameters

Name	Description	Type
user-name	String	String

client

This command configures the IPv4 address or IPv6 address, or hostname, of the AAA server client. At the client level, this command uses the optional "server-key" keyword.

Parent Commands (Modes)

```
aaa server radius dynamic-author
```

Syntax

```
client {{hostname_or_ipaddr}} { [ server-key { {{key}} [ encrypted ] } ] }
no client {{hostname_or_ipaddr}}
```

Parameters

Name	Description	Type
hostname_or_ipaddr	WORD	String
key	String	String

Examples

```
sonic-cli(config)# aaa server radius dynamic-author
sonic-cli(config-radius-da)# client 1.1.1.1 server-key U2Fs-
dGVkX18LcQREyGJP/aDuWTi34jJLzdqNy9W5WxI= encryted
sonic-cli(config-radius-da)#
```

client-to-client reflection

This command configures client-to-client route reflection.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }
```

Syntax

```
client-to-client reflection
no client-to-client reflection
```

Examples

Configure client-to-client reflection

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# client-to-client reflection
```

clock set

This command sets the system date and time.

Syntax

```
clock set {{time}} {{date}}
```

Parameters

Name	Description	Type
time	Time in {{HH:MM:SS}} format	String
date	Date in {{YYYY-MM-DD}} format	String

Examples

Set the system clock to 18:30:00 2024-12-31

```
sonic-cli# clock set 18:30:00 2024-12-31
sonic-cli#
```

clock timezone

This command configures the system clock time zone.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
clock timezone {{timezone}}
no clock timezone
```

Parameters

Name	Description	Type
timezone	Standard timezones	

Examples

Configure the system clock time zone to US/Pacific

```
sonic-cli(config)# clock timezone US/Pacific
sonic-cli(config)#
```

cluster-id

This command configures the cluster-ID (an IP address or a number) on a BGP router. A cluster is a collection of route reflectors and their clients, and is used by route reflectors to avoid looping.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }
```

Syntax

```
cluster-id {{intval-ip}}
no cluster-id
```

Parameters

Name	Description	Type
intval-ip	A.B.C.D or [1..4294967295]	String

Examples

Configure cluster ID

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# cluster-id 23.79.154.17
```

coalesce-time

This command sets the subgroup coalesce timer interval in milliseconds.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }
```

Syntax

```
coalesce-time {{coaltime}}
no coalesce-time
```

Parameters

Name	Description	Type
coaltime	1..4294967295	Integer

Examples

Set the coalesce timer interval to 2000 milliseconds

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# coalesce-time 2000
```

collector

This command configures collector information. A collector is typically a machine reachable from the switch where the telemetry reports are sent.

Parent Commands (Modes)

```
tam
```

Syntax

```
collector {{name}} ip {{ip_address}} port { {{port_number}} { [ protocol {{protocol_
type}} ] } } [ vrf {{vrf_name}} ]
no collector {{name}}
```

Parameters

Name	Description	Type
name	WORD	String
ip_address	A.B.C.D/A::B	String
port_number		Integer
protocol_type	Transport Protocol Method	Select [UDP(UDP) TCP(TCP)]
vrf_name	WORD	String

Examples

Configure collector {{name}} type {ipv4 | ipv6} ip {{ip-address}} port {{port-number}} [protocol { UDP | TCP }] [vrf {{vrf-name}}]

```
sonic(config-tam)# collector c2 ip 2.2.2.2 port 7676 protocol UDP vrf Vrf1
sonic(config-tam)#
sonic(config-tam)# show tam collectors
Name               IP Address       Port    Protocol   Vrf
----------------   --------------   ------  --------   -------
c2                 2.2.2.2          7676    UDP        Vrf1
```

commit

This command saves all cached configuration changes made in the session into config_db and terminates the session.

Parent Commands (Modes)

```
configure session
```

Syntax

```
commit
```

Examples

Commit without a label

```
sonic(config-s)# commit
% Committed session with checkpoint 1659637024-4
```

commit confirm

This command confirms the saved configuration within the timeout specified with the commit. This can be done with or without a label.

Parent Commands (Modes)

```
configure session
```

Syntax

```
commit confirm [ label {{label_val}} ]
```

Parameters

Name	Description	Type
label_val	String (Max: 72 characters)	String

Examples

Commit confirm without a label

```
sonic(config-s)# commit confirm
% Committed session with checkpoint 1659637024-4
```

Commit confirm label mgmt_acl_cleanup

```
sonic(config-s)# commit label mgmt_acl_cleanup
% Committed session with checkpoint 1659637024-5
```

commit label

This command saves all cached configuration changes made in the session into config_db and terminates the session.

Parent Commands (Modes)

```
configure session
```

Syntax

```
commit label {{label_val}}
```

Parameters

Name	Description	Type
label_val	String (Max: 72 characters)	String

Examples

Commit with a label

```
sonic(config-s)# commit label mgmt_acl_cleanup
% Committed session with checkpoint 1659637024-5
```

commit timeout

This command saves all cached configuration changes made in the session into config_db with a timeout. If a commit confirm is not executed before the timer times out, a configuration rollback will be performed.

Parent Commands (Modes)

```
configure session
```

Syntax

```
commit timeout {{timeout_val}}
```

Parameters

Name	Description	Type
timeout_val		Integer

Examples

Commit with a timeout

```
sonic(config-s)# commit timeout 300
% Committed session with timeout
```

compatible

This command configures OSPFv2 RFC1583 compatibility.

Parent Commands (Modes)

```
router ospf [ vrf {{vrf-name}} ]
```

Syntax

```
compatible rfc1583
no compatible rfc1583
```

Examples

Configure RFC1583 compatibility

```
sonic-cli(config-router-ospf)# compatible rfc1583
```

Features this CLI belongs to

- OSPFv2

confederation

This command configures the list of AS numbers that are part of the confederation. This command also allows the user to configure the router's confederation ID.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }
```

Syntax

```
confederation { { identifier {{id-as}} } | { peers {{peer-as}} } }
no confederation { { identifier {{id-as}} } | peers }
```

Parameters

Name	Description	Type
id-as	0.1..65535.65535 or 1..4294967295	String
peer-as	0.1..65535.65535 or 1..4294967295	String

Examples

Configure the local confederation ID and create confederation peers

```
sonic# configure terminal
sonic(config)# router bgp 65300
```

```
sonic(config-router-bgp)# confederation identifier 65000
sonic(config-router-bgp)# confederation peers 65100
sonic(config-router-bgp)# confederation peers 65200
sonic(config-router-bgp)# confederation peers 65300
```

configure

This command enters configuration mode.

Syntax

```
configure
```

configure session

This command creates or resumes a configuration session. It takes the shell to a config terminal-like mode in which all the config commands are available. This mode can be identified through the "config-s" shell prompt prefix. All configuration changes made from this mode will not be immediately saved to the running config. These changes will be cached in the management REST server until the session is committed or aborted.

- Only one configuration session can be open at any given time.
- Only users with the administrator role can use this command.
- A user cannot resume a configuration session created by other users.
- Use the `commit` command to save all changes done in the session to the running configuration.
- Use the `abort` command to discard all changes done in the session.
- Use the `exit` or `end` command to navigate out of the session mode without committing/aborting it. The session can be resumed later through the `configure session` command.

Syntax

```
configure session
```

Examples

Create a new session

```
sonic# configure session
% Started new session
sonic(config-s)#
sonic(config-s)# exit
% Exited session
sonic#
```

Resume a session

```
sonic# configure session
% Resumed session
sonic(config-s)#
```

configure terminal

This command enables configuration from the terminal.

Syntax

```
configure terminal
```

consistency-check start

This command starts a consistency check.

Syntax

```
consistency-check start { { [ access-list { { [ mac [ {{access-list-name}} ] ] } | { [
ipv4 [ {{access-list-name}} ] ] } | { [ ipv6 [ {{access-list-name}} ] ] } ] } ] } | { [
route { [ vrf { {{vrfname}} { [ address-family {{afname}} ] } } ] } ] } } ]
```

Parameters

Name	Description	Type
access-list-name	String (Max: 72 characters)	String
vrfname	WORD	String
afname		Select [ipv4(ipv4) ipv6(ipv6)]

consistency-check stop

This command stops an ongoing consistency check.

Syntax

```
consistency-check stop { [ access-list ] | [ route ] } ]
```

copp-action

This command configures a CoPP action group.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
copp-action {{copp-action-name}}
no copp-action {{copp-action-name}}
```

Parameters

Name	Description	Type
copp-action-name	WORD	String

Examples

```
sonic(config)# classifier copp-system-arp match-type copp
sonic(config-classifier)#
```

copy

This command performs file operations.

Syntax

```
copy { { {{copy_config_url}} { {{config_to_config_url}} | {{config_to_home_url}} |
{{config_to_ftp_url}} | {{config_to_http_url}} | {{config_to_scp_url}} | { running-con-
figuration { [ overwrite ] | [ replace ] ] } } | startup-configuration | {{config_to_
usb_url}} } } | { {{copy_coredump_url}} { {{core_to_home_url}} | {{core_to_ftp_url}} |
{{core_to_http_url}} | {{core_to_scp_url}} | {{core_to_usb_url}} } } | { {{copy_ftp_
url}} { {{ftp_to_config_url}} | {{ftp_to_home_url}} | { running-configuration { [ over-
write ] | [ replace ] ] } } | startup-configuration | {{ftp_to_usb_url}} } } | {
{{copy_home_url}} { {{home_to_config_url}} | {{home_to_home_url}} | {{home_to_ftp_url}}
| {{home_to_http_url}} | {{home_to_scp_url}} | { running-configuration { [ overwrite ]
| [ replace ] ] } } | startup-configuration | {{home_to_usb_url}} } } | { {{copy_http_
url}} { {{http_to_config_url}} | {{http_to_home_url}} | { running-configuration { [
overwrite ] | [ replace ] ] } } | startup-configuration | {{http_to_usb_url}} } } | {
{{copy_log_url}} { {{log_to_home_url}} | {{log_to_ftp_url}} | {{log_to_http_url}} |
{{log_to_scp_url}} | {{log_to_usb_url}} } } | { {{copy_scp_url}} { {{scp_to_config_
url}} | {{scp_to_home_url}} | { running-configuration { [ overwrite ] | [ replace ] ] }
} | startup-configuration | {{scp_to_usb_url}} } } | { {{copy_support_url}} { {{sup-
port_to_home_url}} | {{support_to_ftp_url}} | {{support_to_http_url}} | {{support_to_
scp_url}} | {{support_to_usb_url}} } } | { running-configuration { {{run_to_config_
url}} | {{run_to_home_url}} | {{run_to_ftp_url}} | {{run_to_http_url}} | {{run_to_scp_
url}} | startup-configuration | {{run_to_usb_url}} } } | { startup-configuration {
{{start_to_config_url}} | {{start_to_home_url}} | {{start_to_ftp_url}} | {{start_to_
http_url}} | {{start_to_scp_url}} | { running-configuration [ overwrite ] } | {{start_
to_usb_url}} } } | { {{copy_usb_url}} { {{usb_to_config_url}} | {{usb_to_home_url}} |
{{usb_to_ftp_url}} | {{usb_to_http_url}} | {{usb_to_scp_url}} | { running-configuration
{ [ overwrite ] | [ replace ] ] } } | startup-configuration | {{usb_to_usb_url}} } } }
```

Parameters

Name	Description	Type
copy_config_url	config:	String
config_to_config_url	config:	String
config_to_home_url	home:	String
config_to_ftp_url	ftp:	String
config_to_http_url	http:	String

Name	Description	Type
config_to_scp_url	scp:	String
config_to_usb_url	usb:	String
copy_coredump_url	coredump:	String
core_to_home_url	home:	String
core_to_ftp_url	ftp:	String
core_to_http_url	http:	String
core_to_scp_url	scp:	String
core_to_usb_url	usb:	String
copy_ftp_url	ftp:	String
ftp_to_config_url	config:	String
ftp_to_home_url	home:	String
ftp_to_usb_url	usb:	String
copy_home_url	home:	String
home_to_config_url	config:	String
home_to_home_url	home:	String
home_to_ftp_url	ftp:	String
home_to_http_url	http:	String
home_to_scp_url	scp:	String
home_to_usb_url	usb:	String
copy_http_url	http:	String
http_to_config_url	config:	String
http_to_home_url	home:	String
http_to_usb_url	usb:	String
copy_log_url	log:	String
log_to_home_url	home:	String
log_to_ftp_url	ftp:	String
log_to_http_url	http:	String
log_to_scp_url	scp:	String
log_to_usb_url	usb:	String
copy_scp_url	scp:	String
scp_to_config_url	config:	String
scp_to_home_url	home:	String

Name	Description	Type
scp_to_usb_url	usb:	String
copy_support_url	tech-support:	String
support_to_home_url	home:	String
support_to_ftp_url	ftp:	String
support_to_http_url	http:	String
support_to_scp_url	scp:	String
support_to_usb_url	usb:	String
run_to_config_url	config:	String
run_to_home_url	home:	String
run_to_ftp_url	ftp:	String
run_to_http_url	http:	String
run_to_scp_url	scp:	String
run_to_usb_url	usb:	String
start_to_config_url	config:	String
start_to_home_url	home:	String
start_to_ftp_url	ftp:	String
start_to_http_url	http:	String
start_to_scp_url	scp:	String
start_to_usb_url	usb:	String
copy_usb_url	usb:	String
usb_to_config_url	config:	String
usb_to_home_url	home:	String
usb_to_ftp_url	ftp:	String
usb_to_http_url	http:	String
usb_to_scp_url	scp:	String
usb_to_usb_url	usb:	String

core enable

This command enables generating a core file when an application crash is detected by the kernel.

Parent Commands (Modes)

```
configure terminal
```

Syntax

```
core enable
```

Examples

```
sonic# configure terminal
sonic(config)# core enable
```

Features this CLI belongs to

- COREDUMP

counter

This command configures the VXLAN counter polling interval in seconds.

Parent Commands (Modes)

```
interface vxlan {{vxlan-if-name}}
```

Syntax

```
counter { polling-interval {{poll-timer-value}} }
```

Parameters

Name	Description	Type
poll-timer-value		Integer

Examples

Configure the VXLAN counter polling interval

```
sonic(config)# interface vxlan vtep1
sonic(conf-if-vxlan-vtep1)# counter polling-interval 3
```

counters

This command sets the ACL counters mode.

Parent Commands (Modes)

```
access-list
```

Syntax

```
counters { per-entry | per-interface-entry }
```

counters rif interval

This command configures the rif counters interval in seconds.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
counters rif interval {{rif-time}}
no counters rif interval
```

Parameters

Name	Description	Type
rif-time		Integer

crm

This command configures critical resource monitoring.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
crm { { polling { interval {{crm-subcmd-data}} } } | { thresholds { { all { { type
{{crm-subcmd-data}} } | { high {{crm-subcmd-data}} } | { low {{crm-subcmd-data}} } } }
| { acl { { group { { type {{crm-subcmd-data}} } | { high {{crm-subcmd-data}} } | { low
{{crm-subcmd-data}} } | { entry { { type {{crm-subcmd-data}} } | { high {{crm-subcmd-
data}} } | { low {{crm-subcmd-data}} } } } | { counter { { type {{crm-subcmd-data}} } |
{ high {{crm-subcmd-data}} } | { low {{crm-subcmd-data}} } } } } | { table { { type
{{crm-subcmd-data}} } | { high {{crm-subcmd-data}} } | { low {{crm-subcmd-data}} } } }
} } | { dnat { { type {{crm-subcmd-data}} } | { high {{crm-subcmd-data}} } | { low
{{crm-subcmd-data}} } } } | { snat { { type {{crm-subcmd-data}} } | { high {{crm-sub-
cmd-data}} } | { low {{crm-subcmd-data}} } } } | { fdb { { type {{crm-subcmd-data}} } |
{ high {{crm-subcmd-data}} } | { low {{crm-subcmd-data}} } } } | { ipmc { { type {{crm-
subcmd-data}} } | { high {{crm-subcmd-data}} } | { low {{crm-subcmd-data}} } } } | {
l2mc { { type {{crm-subcmd-data}} } | { high {{crm-subcmd-data}} } | { low {{crm-sub-
cmd-data}} } } } | { ipv4 { { neighbor { { type {{crm-subcmd-data}} } | { high {{crm-
subcmd-data}} } | { low {{crm-subcmd-data}} } } } | { nexthop { { type {{crm-subcmd-
data}} } | { high {{crm-subcmd-data}} } | { low {{crm-subcmd-data}} } } } | { route { {
type {{crm-subcmd-data}} } | { high {{crm-subcmd-data}} } | { low {{crm-subcmd-data}} }
} } } } } | { ipv6 { { neighbor { { type {{crm-subcmd-data}} } | { high {{crm-subcmd-
data}} } | { low {{crm-subcmd-data}} } } } | { nexthop { { type {{crm-subcmd-data}} } |
{ high {{crm-subcmd-data}} } | { low {{crm-subcmd-data}} } } } | { route { { type
{{crm-subcmd-data}} } | { high {{crm-subcmd-data}} } | { low {{crm-subcmd-data}} } } }
} } | { nexthop { { group { { member { { type {{crm-subcmd-data}} } | { high {{crm-sub-
cmd-data}} } | { low {{crm-subcmd-data}} } } } | { object { { type {{crm-subcmd-data}}
} | { high {{crm-subcmd-data}} } | { low {{crm-subcmd-data}} } } } } } } } } } } }
no crm { all | { polling interval } | { thresholds { all | { acl { { group { type |
high | low | { entry { type | high | low } } | { counter { type | high | low } } } } |
{ table { type | high | low } } } | { dnat { type | high | low } } | { snat { type |
high | low } } | { fdb { type | high | low } } | { ipmc { type | high | low } } | {
l2mc { type | high | low } } | { ipv4 { { neighbor { type | high | low } } | { nexthop
{ type | high | low } } | { route { type | high | low } } } } | { ipv6 { { neighbor {
type | high | low } } | { nexthop { type | high | low } } | { route { type | high | low
} } } } | { nexthop { { group { { member { type | high | low } } | { object { type |
high | low } } } } } } } }
```

Parameters

Name	Description	Type
crm-subcmd-data		Integer

crypto ca-cert

This command configures a CA certificate.

Syntax

```
crypto ca-cert { { install { [ {{copy_ftp_url}} ] | [ {{copy_home_url}} ] | [ {{copy_
http_url}} ] | [ {{copy_scp_url}} ] ] } } | { delete { all | {{cert_name}} } } | {
verify { {{ca-cert-name}} { expiry | {{ca_name}} } } } }
```

Parameters

Name	Description	Type
copy_ftp_url	ftp:	String
copy_home_url	home:	String
copy_http_url	http:	String
copy_scp_url	scp:	String
cert_name	String	String
ca-cert-name	String	String
ca_name	String	String

crypto cert

This command configures a host certificate.

Syntax

```
crypto cert { { install { cert-file { {{copy_ftp_url}} | {{copy_home_url}} | {{copy_
http_url}} | {{copy_scp_url}} } { key-file { {{key_copy_ftp_url}} | {{key_copy_home_
url}} | {{key_copy_http_url}} | {{key_copy_scp_url}} } { [ password {{key-paswd}} ] } [
fips ] } } } | { delete { all | { {{cert_name}} [ fips ] } } } | { verify { {{host-
cert-name}} { expiry | {{ca_name}} } } } }
```

Parameters

Name	Description	Type
copy_ftp_url	ftp:	String
copy_home_url	home:	String
copy_http_url	http:	String
copy_scp_url	scp:	String
key_copy_ftp_url	ftp:	String
key_copy_home_url	home:	String
key_copy_http_url	http:	String
key_copy_scp_url	scp:	String
key-paswd	String	String
cert_name	String	String
host-cert-name	String	String
ca_name	String	String

crypto cert generate

This command generates a Certificate Signing Request (CSR).

Syntax

```
crypto cert generate request { [ cert-file { {{copy_ftp_url}} | {{copy_home_url}} |
{{copy_http_url}} | {{copy_scp_url}} | {{copy_usb_url}} } { key-file { {{key_copy_ftp_
url}} | {{key_copy_home_url}} | {{key_copy_http_url}} | {{key_copy_scp_url}} | {{key_
copy_usb_url}} } { [ key-password {{password}} ] } } { [ cname {{common_name}} ] } { [
altname {{sa_name}} ] } { [ email {{email_add}} ] } { [ organization {{org_name}} ] } {
[ orgunit {{orgunit_name}} ] } { [ locality {{locality_name}} ] } { [ state {{state_
name}} ] } { [ country {{country_name}} ] } { [ key-length {{key_length}} ] } ] }
```

Parameters

Name	Description	Type
copy_ftp_url	ftp:	String
copy_home_url	home:	String
copy_http_url	http:	String
copy_scp_url	scp:	String

Name	Description	Type
copy_usb_url	usb:	String
key_copy_ftp_url	ftp:	String
key_copy_home_url	home:	String
key_copy_http_url	http:	String
key_copy_scp_url	scp:	String
key_copy_usb_url	usb:	String
password	String	String
common_name	String	String
sa_name	String	String
email_add	String	String
org_name	String	String
orgunit_name	String	String
locality_name	String	String
state_name	String	String
country_name	[A-Z][A-Z]	String
key_length		Integer

crypto fips

This command administratively enables or disables FIPS-compliant mode.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
crypto fips enable
no crypto fips enable
```

Examples

```
sonic# configure terminal
sonic(config)# crypto fips enable
sonic(config)# no crypto fips enable
```

crypto security-profile

This command configures a security profile.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
crypto security-profile { { certificate { {{profile_name}} {{cert_name}} } } | { trust-
store { {{profile_name}} {{store_name}} } } | { cdp-list { {{profile_name}} {{url}} } }
| { ocsp-list { {{profile_name}} {{url}} } } | { {{profile_name}} { [ key-usage-check
{{key_usage}} ] } { [ peer-name-check {{peer_name}} ] } { [ revocation-check {{revoc_
check}} ] } { [ vrf mgmt ] } } }
no crypto security-profile { { certificate {{profile_name}} } | { trust-store {{pro-
file_name}} } | { cdp-list { {{profile_name}} {{url}} } } | { ocsp-list { {{profile_
name}} {{url}} } } | { {{profile_name}} { [ key-usage-check ] | [ peer-name-check ] | [
revocation-check ] | [ vrf ] ] } } }
```

Parameters

Name	Description	Type
profile_name	String	String
cert_name	String	String
store_name	String	String
url	http:	String
key_usage	Boolean choice	Select [true(1) false(0)]
peer_name	Boolean choice	Select [true(1) false(0)]
revoc_check	Boolean choice	Select [true(1) false(0)]

crypto ssh-keygen

This command generates SSH keys.

Syntax

```
crypto ssh-keygen { { ecdsa [ {{ecdsa_key_length}} ] } | { rsa [ {{rsa_key_length}} ] }
}
```

Parameters

Name	Description	Type
ecdsa_key_length		Select [256(256) 384(384) 521(521)]
rsa_key_length		Select [2048(2048) 3072(3072) 4096(4096)]

Examples

Generate RSA SSH keys

```
sonic# crypto ssh-keygen rsa 2048
Processing SSH Key Gen request ...
Generated 2048-bit rsa key!!!
sonic#
```

Generate ECDSA SSH keys

```
sonic# crypto ssh-keygen ecdsa 521
Processing SSH Key Gen request ...
Generated 521-bit ecdsa key!!!
sonic#
```

crypto trust-store

This command configures a trust store.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
crypto trust-store {{name}} { ca-cert {{ca-cert-name}} }
no crypto trust-store {{name}} { [ ca-cert {{ca-cert-name}} ] }
```

Parameters

Name	Description	Type
name	String	String
ca-cert-name	String	String

dampening

This command enables BGP route-flap dampening and specifies dampening parameters. The route-flap dampening algorithm is compatible with RFC 2439.

The use of this command is not recommended; currently, the implementation works only for IPv4 address families.

Parent Commands (Modes)

```
address-family ipv4 unicast
```

Syntax

```
dampening [ {{halflife}} { [ {{reusethr}} { {{suppressthr}} {{maxsuppress}} } ] } ]
no dampening
```

Parameters

Name	Description	Type
halflife		Integer
reusethr		Integer
suppressthr		Integer
maxsuppress		Integer

Examples

Enable the route-flap dampening feature

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# address-family ipv4 unicast
sonic(config-router-bgp-af)# dampening 10 1200 2000 40
```

dcbx enable

This command enables DCBx at the global, interface, or interface range level.

Parent Commands (Modes)

```
configure session
configure terminal

interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
dcbx enable
no dcbx enable
```

Examples

Enable DCBx globally

```
sonic-cli(config)# dcbx enable
```

Enable DCBx for an interface

```
sonic-cli(config)# interface Ethernet 0
onic-cli(conf-if-Ethernet0)# no dcbx enable
```

Features this CLI belongs to

- DCBx

dcbx tlv-select

This command enables DCBx TLV advertisement on an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
dcbx tlv-select { pfc | ets-conf | ets-reco }
no dcbx tlv-select { pfc | ets-conf | ets-reco }
```

Examples

Enable DCBx TLVs on an interface

```
sonic-cli(config)# interface Ethernet 0
sonic-cli(conf-if-Ethernet0)# dcbx tlv-select pfc
sonic-cli(conf-if-Ethernet0)# dcbx tlv-select ets-conf
```

```
sonic-cli(conf-if-Ethernet0)# dcbx tlv-select ets-reco
```

debug mfa

This command enables/disables debug-level logging in a multi-factor authentication (MFA) service.

Syntax

```
debug mfa {{mode}}
```

Parameters

Name	Description	Type
mode	enable or disable	Select [enable(enable) disable(disable)]

Examples

```
sonic# debug mfa enable
```

debug ptp

This command enables debug logging the PTP stack.

Syntax

```
debug ptp { all | bmca | protocol | servo | system | timestamps } [ level {{debug-level-value}} ]
no debug ptp { all | bmca | protocol | servo | system | timestamps } [ level ]
```

Parameters

Name	Description	Type
debug-level-value		Integer

debug shell

This command enters the debug shell, giving access to advanced troubleshooting capabilities for the Broadcom ASIC.

Syntax

```
debug shell
```

default interface

This command restores a selected port to its factory default configuration.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
default interface {{iface}}
```

Parameters

Name	Description	Type
iface	EthernetNUM	

Examples

```
sonic# configure terminal
sonic(config)# default interface Ethernet 8
```

default interface range

This command applies the default configuration to a range of interfaces.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
default interface range iface_range_num
```

default ipv4-unicast

This command activates IPv4 unicast address-family for a BGP peer or for BGP neighbors by default.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }
```

Syntax

```
default ipv4-unicast
no default ipv4-unicast
```

Examples

Enable IPv4 unicast address family on all BGP neighbors by default

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# default ipv4-unicast
```

default local-preference

This command sets the default value for the local preference parameter.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }
```

Syntax

```
default local-preference {{lprftime}}
no default local-preference
```

Parameters

Name	Description	Type
lprftime	(0..4294967295)	Integer

Examples

Set the default local preference to 200

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# default local-preference 200
```

default show-hostname

This command instructs BGP to display the hostname in certain display commands.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }
```

Syntax

```
default show-hostname
no default show-hostname
```

Examples

Set BGP to display the hostname in certain display commands

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# default show-hostname
```

default shutdown

This command instructs BGP to assign the shutdown state to newly created neighbors. By default, newly created BGP neighbors are in the admin-enabled state.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }
```

Syntax

```
default shutdown
no default shutdown
```

Examples

Configure BGP to keep newly created neighbors in the shutdown state

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# default shutdown
```

default subgroup-pkt-queue-max

This command configures the maximum packet queue length for update groups.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }
```

Syntax

```
default subgroup-pkt-queue-max {{maxval}}
no default subgroup-pkt-queue-max
```

Parameters

Name	Description	Type
maxval		Integer

Examples

Set the maximum packet queue length to 50 for update groups

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# default subgroup-pkt-queue-max 50
```

default-information

This command configures default information origination policy rules. The metric value and metric type can be explicitly specified for default routes. Route map rules can also be applied to default routes.

Parent Commands (Modes)

```
router ospf [ vrf {{vrf-name}} ]
```

```
router ospfv3 [ vrf {{vrf-name}} ]
```

Syntax

```
default-information originate { [ always ] { [ metric {{metricval}} ] } { [ metric-type
{{mertrictype}} ] } { [ route-map {{routemapname}} ] } }
no default-information originate { [ always ] [ metric ] [ metric-type ] [ route-map ]
}
```

Parameters

Name	Description	Type
metricval		Integer
mertrictype		Integer
routemapname	WORD	String

Examples

Configure the default route origination parameters (OSPFv2)

```
sonic-cli(config-router-ospf)# default-information originate always
sonic-cli(config-router-ospf)# default-information originate metric 80
sonic-cli(config-router-ospf)# default-information originate metric-type 1
sonic-cli(config-router-ospf)# default-information originate route-map rmap_droute
```

Configure the default route origination parameters (OSPFv3)

```
sonic-cli(config-router-ospfv3)# default-information originate always
sonic-cli(config-router-ospfv3)# default-information originate metric 80
sonic-cli(config-router-ospfv3)# default-information originate metric-type 1
sonic-cli(config-router-ospfv3)# default-information originate route-map rmap_droute
```

Features this CLI belongs to

- OSPFv2
- OSPFv3

default-metric

This command configures the default metric for redistributed routes.

Parent Commands (Modes)

```
router ospf [ vrf {{vrf-name}} ]
```

Syntax

```
default-metric {{defaultmetric}}
no default-metric
```

Parameters

Name	Description	Type
defaultmetric		Integer

Examples

Configure the default metric for redistributed routes

```
sonic-cli(config-router-ospf)# default-metric 28
```

Features this CLI belongs to

- OSPFv2

default-originate

This command enables BGP to originate the default route to a neighbor, or to neighbors in a peer-group. The user can optionally use route-map along with this command to specify criteria to originate the default.

Parent Commands (Modes)

```
address-family ipv4 unicast

address-family ipv6 unicast
```

Syntax

```
default-originate [ route-map {{rtemap}} ]
no default-originate [ route-map {{rtemap}} ]
```

Parameters

Name	Description	Type
rtemap	WORD	String

Examples

Enable BGP to originate a default route to neighbor 20.20.20.2

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 20.20.20.2
sonic(config-router-bgp-neighbor)# remote-as 300
sonic(config-router-bgp-neighbor)# address-family ipv4 unicast
sonic(config-router-bgp-neighbor-af)# default-originate
```

Enable BGP to originate a default route to neighbors in peer-group PG_Ext

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# address-family ipv4 unicast
sonic(config-router-bgp-pg-af)# default-originate
```

default-originate ipv4

This command enables border leaf to originate IPv4 default type-5 EVPN routes.

Parent Commands (Modes)

```
address-family l2vpn evpn
```

Syntax

```
default-originate ipv4
no default-originate ipv4
```

Examples

Enable origination of default IPv4 type-5 EVPN routes in VRF Vrf1

```
sonic# configure terminal
sonic(config)# router bgp 100 vrf Vrf1
sonic(config-router-bgp)# address-family l2vpn evpn
sonic(config-router-bgp-af)# default-originate ipv4
```

default-originate ipv6

This command enables border leaf to originate IPv6 default type-5 EVPN routes.

Parent Commands (Modes)

```
address-family l2vpn evpn
```

Syntax

```
default-originate ipv6
no default-originate ipv6
```

Examples

Enable origination of default IPv6 type-5 EVPN routes in VRF Vrf1

```
sonic# configure terminal
sonic(config)# router bgp 100 vrf Vrf1
sonic(config-router-bgp)# address-family l2vpn evpn
sonic(config-router-bgp-af)# default-originate ipv6
```

delay-restore

This command configures the MCLAG delay restore time in seconds.

Parent Commands (Modes)

```
mclag domain {{mclag-domain-id}}
```

Syntax

```
delay-restore {{DL}}
no delay-restore
```

Parameters

Name	Description	Type
DL	Delay restore time in seconds	Integer

Examples

Configure the MCLAG delay restore time to 180 seconds for MCLAG domain 100

```
sonic-cli(config-mclag-domain-100)#delay-restore 180
```

delete

This command deletes the file from the given directory.

Syntax

```
delete { {{delete_from_config}} | {{delete_from_core}} | {{delete_from_home}} |
{{delete_from_support}} | {{delete_from_usb}} }
```

Parameters

Name	Description	Type
delete_from_config	config:	String
delete_from_core	coredump:	String
delete_from_home	home:	String
delete_from_support	tech-support:	String
delete_from_usb	usb:	String

delete-reason

This command removes the dropcounter type.

Parent Commands (Modes)

```
dropcounters {{counter-name}}
```

Syntax

```
delete-reason {{reason}}
```

Parameters

Name	Description	Type
reason	Drop reason list	String

description (BGP Protocol)

This command configures a descriptive string for a BGP neighbor or peer-group.

Parent Commands (Modes)

```
neighbor { {{ip}} | { interface { ethernet | portchannel | vlan } } }
peer-group {{template-str}}
```

Syntax

```
description {{String}}
no description
```

Parameters

Name	Description	Type
String	String	String

Examples

Configure the description for BGP neighbor 30.30.30.3

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 30.30.30.3
sonic(config-router-bgp-neighbor)# remote-as 65100
sonic(config-router-bgp-neighbor)# description to_nyc_dc1
```

Configure the description for BGP peer-group PG_Ext

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# description My_PG_East_Cost_Nbrs
```

description (Interfaces)

This command enters a string describing a port or range of ports, a VLAN or range of VLANs, a port- channel or range of port- channels, loopback, a management port, or a routed subinterface.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num

interface {{vlan-if-name}}

interface range create vlan_range_num
interface range vlan_range_num

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface {{lo-if-name}}

interface {{mgmt-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}
```

Syntax

```
description {{desc}}
no description
```

Examples

Set a routed subinterface description

```
sonic-cli# configure terminal
sonic-cli(config)# interface Ethernet 0.10
sonic-cli(conf-subif-Ethernet0.10)# description "My Desc"
sonic-cli(config)#
```

Remove a routed subinterface description

```
sonic-cli# configure terminal
sonic-cli(config)# interface Ethernet 0.10
sonic-cli(conf-subif-Ethernet0.10)# no description
sonic-cli(config)#
```

Features this CLI belongs to

- Subinterface

description (Link State Tracking)

This command enters a string describing a link state tracking group.

Parent Commands (Modes)

```
link state track {{grp-name}}
```

Syntax

```
description {{grp-descr}}
no description
```

Parameters

Name	Description	Type
grp-descr	String	String

Examples

Add a description to a link state tracking group

```
sonic(config-link-track)# description "Example description"
```

description (Policy-based Forwarding Protocol)

Use this command to enter a string describing a next-hop group or replication group; this string can be up to 256 characters in length. The description must be in double quotes if it contains spaces.

Parent Commands (Modes)

```
pbf next-hop-group {{fbs-nhgrp-name}} [ type { ip | ipv6 } ]

pbf replication-group {{fbs-replgrp-name}} [ type { ip | ipv6 } ]
```

Syntax

```
description {{description-value}}
no description
```

Parameters

Name	Description	Type
description-value	String (Max: 256 characters)	String

Examples

Add a description to a next-hop group

```
sonic(config-pbf-ipv6-nh-group)# description"example description"
```

Add description to replication group

```
sonic(config-pbf-ipv6-nh-group)# description"example description"
```

description (QoS Protocol)

This command configures a string describing a policy-map, class-map, or flow; this string can be up to 256 characters in length. The description must be in double quotes if it contains spaces.

Parent Commands (Modes)

```
policy-map {{fbs-policy-name}} type { qos | monitoring | forwarding | copp | acl-copp }

class-map {{fbs-class-name}} match-type { acl | { fields match-all } | copp }

class {{fbs-class-name}} [ priority {{fbs-flow-priority}} ]
```

Syntax

```
description {{description-value}}
no description
```

Parameters

Name	Description	Type
description-value	String (Max: 256 characters)	String

Examples

Add a description for a policy-map

```
sonic(config-policy-map)# description "Vrf policy information"
```

Add a description for a class-map

```
sonic(config-class-map)# description"ip match type class-map"
```

Add a description for qos flows

```
sonic(config)# policy-map policy_qos type qos
sonic(config-policy-map)# class class_permit_ip priority 10
sonic(config-policy-map-flow)# description"flow to match ip traffic and dscp remark to
10"
```

description (Telemetry Protocol)

This command adds a dropcounter description.

Parent Commands (Modes)

```
dropcounters {{counter-name}}
```

Syntax

```
description {{desc}}
no description {{desc}}
```

Parameters

Name	Description	Type
desc	String	String

destination

This command configures a SPAN mirror session. Supports mirroring to physical interface. The source interface can be either a port or a portchannel. This command supports mirroring in Rx/Tx or both directions. The mirror session can be used in ACL configurations.

Parent Commands (Modes)

```
mirror-session {{session-name}}
```

Syntax

```
destination {{phy-if-id}} [ source { {{phy-if-name}} | {{po-if-name}} } ] [ direction
{{sess-direction}} ]
```

Parameters

Name	Description	Type
phy-if-id	EthernetNUM	
phy-if-name	EthernetNUM	
po-if-name	PortChannelNUM	
sess-direction	Port mirror session direction	Select [rx(rx) tx(tx) both(both)]

Examples

```
sonic(config)# mirror-session Mirror1
sonic(config-mirror-Mirror1)# destination Ethernet0 source Ethernet4 direction rx
Success
sonic(config-mirror-Mirror1)# exit
```

destination CPU

This command configures a SPAN mirror session to a CPU port. The source interface can be either a port or a portchannel. This command supports mirroring in Rx/Tx or both directions. The mirror session can be used in ACL configurations.

Parent Commands (Modes)

```
mirror-session {{session-name}}
```

Syntax

```
destination CPU [ source { {{phy-if-name}} | {{po-if-name}} } ] [ direction {{sess-dir-
ection}} ]
```

Parameters

Name	Description	Type
phy-if-name	EthernetNUM	
po-if-name	PortChannelNUM	
sess-direction	Port mirror session direction	Select [rx(rx) tx(tx) both(both)]

Examples

```
sonic(config)# mirror-session Mirror1
sonic(config-mirror-Mirror1)# destination Ethernet0 source Ethernet4 direction rx
Success
sonic(config-mirror-Mirror2)#
```

destination erspan

This command configures an ERSPAN mirror session. Supports mirroring to any destination IP. The source interface can be either port or portchannel. Supports mirroring in Rx/Tx or both directions. The mirror session can be used in ACL configurations.

Parent Commands (Modes)

```
mirror-session {{session-name}}
```

Syntax

```
destination erspan [ dst-ip {{dst_ip}} ] [ src-ip {{src_ip}} ] [ dscp {{ip_dscp}} ] [
gre {{ip_gre}} ] [ ttl {{ip_ttl}} ] [ queue {{queue_val}} ] [ source { {{phy-if-name}}
| {{po-if-name}} } ] [ direction {{sess-direction}} ]
```

Parameters

Name	Description	Type
dst_ip	A.B.C.D	String
src_ip	A.B.C.D	String

Name	Description	Type
ip_dscp		Integer
ip_gre	Hexadecimal Type	String
ip_ttl		Integer
queue_val		Integer
phy-if-name	EthernetNUM	
po-if-name	PortChannelNUM	
sess-direction	Port mirror session direction	Select [rx(rx) tx(tx) both(both)]

Examples

```
sonic(config)# mirror-session Mirror2
sonic(config-mirror-Mirror2)# destination erspan dst-ip 10.1.1.1 src-ip 11.1.1.1 dscp
10 ttl 10 gre 0x88ee queue 10 source Ethernet4 direction rx
Success
sonic(config-mirror-Mirror2)#
```

detect-multiplier

This command configures a detection multiplier for a Bidirectional Forwarding Detection (BFD) peer for timeout. The default value is 3.

Parent Commands (Modes)

```
peer {{peer_ipv4}}
peer {{peer_ipv6}}
peer [ interface ] {{interfacename}}
peer [ local-address ] {{local_ipv4}}
peer [ local-address ] {{local_ipv6}}
peer [ multihop ]
peer [ vrf ] {{vrfname}}

profile {{profilename}}
```

Syntax

```
detect-multiplier {{multiplier}}
```

Parameters

Name	Description	Type
multiplier		Integer

Examples

Configure detection multiplier for a peer

```
device()#configure terminal
device(config)#bfd
device(conf-bfd)# peer 192.168.0.5 interface Ethernet0
device(conf-bfd-peer)# detect-multiplier 5
```

Configure detection multiplier for profile "fast"

```
device()#configure terminal
device(config)#bfd
device(conf-bfd)# profile fast
device(conf-bfd-profile)# detect-multiplier 5
```

deterministic-med

This command enables carrying out route-selection in a way that produces deterministic answers locally, despite MED and the lack of a well-defined order of preference that it can induce on routes.

Without this option, the preferred route with MED can be determined by the order that routes were received in. Setting this option will have a performance cost that might be noticeable when there are many routes for each destination. Currently in BGP, this option is implemented in a way that scales poorly as the number of routes per destination increases. By default, deterministic-med is disabled.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }
```

Syntax

```
deterministic-med
no deterministic-med
```

Examples

Enable deterministic-med

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# deterministic-med
```

df-election-time

This command specifies the DF election timer value in seconds.

Parent Commands (Modes)

```
evpn esi-multihoming
```

Syntax

```
df-election-time {{_df_election_time}}
no df-election-time
```

Parameters

Name	Description	Type
_df_election_time		Integer

df-preference

This command configures a DF selection preference.

Parent Commands (Modes)

```
evpn ethernet-segment {{es_id}}
evpn ethernet-segment auto-lacp
evpn ethernet-segment auto-system-mac
```

Syntax

```
df-preference {{df_pref}}
no df-preference
```

Parameters

Name	Description	Type
df_pref		Integer

diag-mode

This command configures the port diagnostic mode.

Parent Commands (Modes)

```
interface {{phy-if-name}}
interface range iface_range_num
```

Syntax

```
diag-mode {{diag-mode}}
no diag-mode
```

Parameters

Name	Description	Type
diag-mode	Set port diag mode	Select [on off]

dir

This command displays files in the given directory.

Syntax

```
dir {{folder-name}}
```

Parameters

Name	Description	Type
folder-name	Folder names	

Examples

Display directory information

```
sonic# dir config:/
------------------------------------------------------------------------
Date(Last Modified)      Size(Bytes)         Filename
------------------------------------------------------------------------
2021-08-09 19:47         41                  asic_config_checksum
2021-08-09 21:42         20830               config_db.json
2020-09-17 01:48         437                 config_db_version_registry.json
2021-08-09 19:50         1456                constants.yml
2021-08-09 21:14         15739               copp_config.json
```

disable-connected-check

This command disables the restriction that eBGP peers must be directly connected. Use this command to allow peerings between directly connected eBGP peers using loopback addresses.

Parent Commands (Modes)

```
neighbor { {{ip}} | { interface { ethernet | portchannel | vlan } } }
peer-group {{template-str}}
```

Syntax

```
disable-connected-check
no disable-connected-check
```

Examples

Disable connected check for BGP neighbor 30.30.30.3

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 30.30.30.3
sonic(config-router-bgp-neighbor)# disable-connected-check
```

Disable connected check for BGP peer-group PG_Ext

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# disable-connected-check
```

disable-ead-evi-rx

This command enables the activation of PE on EAD-ES even if EAD-EVI is not received, or disables advertising EAD-EVI for local ESes.

Parent Commands (Modes)

```
address-family l2vpn evpn
```

Syntax

```
disable-ead-evi-rx
no disable-ead-evi-rx
```

Examples

Enable to activate PE on EAD-ES even if EAD-EVI is not received

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# address-family l2vpn evpn
sonic(config-router-bgp-af)# disable-ead-evi-rx
```

Enable to disable advertising EAD-EVI for local ESes

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# address-family l2vpn evpn
sonic(config-router-bgp-af)# disable-ead-evi-tx
```

disable-ebgp-connected-route-check

This command disables checking if next-hop is connected on eBGP sessions. When BGP peering is between the loopback interfaces, the user must enable this option.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }
```

Syntax

```
disable-ebgp-connected-route-check
no disable-ebgp-connected-route-check
```

Examples

Disable eBGP connected route checking

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# disable-ebgp-connected-route-check
```

distance

This command configures the distance value to OSPFv2 or OSPFv3 routes. The distance value can also be configured based on the route type's link inter-area routes, intra-area routes, and external routes.

Parent Commands (Modes)

```
router ospf [ vrf {{vrf-name}} ]
router ospfv3 [ vrf {{vrf-name}} ]
```

Syntax

```
distance { [ {{admindistance}} ] | { [ ospf { { [ external {{extdistance}} ] } | { [
inter-area {{interdistance}} ] } | { [ intra-area {{intradistance}} ] } } ] } }
no distance [ ospf { [ external ] | [ inter-area ] | [ intra-area ] } ]

distance { [ {{admindistance}} ] | { [ ospfv3 { { [ external {{extdistance}} { [ inter-
area {{interdistance}} ] } { [ intra-area {{intradistance}} ] } ] } | { [ inter-area
{{interdistance}} { [ external {{extdistance}} ] } { [ intra-area {{intradistance}} ] }
] } | { [ intra-area {{intradistance}} { [ external {{extdistance}} ] } { [ inter-area
{{interdistance}} ] } ] } } ] } }
no distance [ ospfv3 { [ external ] [ inter-area ] [ intra-area ] } ]
```

Parameters

Name	Description	Type
admindistance		Integer
extdistance		Integer
interdistance		Integer
intradistance		Integer

Examples

Configure the distance value to OSPFv2 routes

```
sonic-cli(config-router-ospf)# distance ospf 40
sonic-cli(config-router-ospf)# distance intra-area 10 inter-area 20 external 30
```

Configure the distance value to OSPFv3 routes

```
sonic-cli(config-router-ospfv3)# distance ospfv3 40
sonic-cli(config-router-ospfv3)# distance intra-area 10 inter-area 20 external 30
```

Features this CLI belongs to

- OSPFv2
- OSPFv3

distance bgp

This command changes the administrative distance value for BGP route types. The command allows finer control to separately change the distance values for external routes, internal routes, and local routes.

Parent Commands (Modes)

```
address-family ipv4 unicast
address-family ipv6 unicast
```

Syntax

```
distance bgp {{external}} { {{internal}} {{local}} }
no distance bgp
```

Parameters

Name	Description	Type
external		Integer
internal		Integer
local		Integer

Examples

Set an administrative distance of 100, 50, and 10 for external, internal, and local BGP routes respectively under the IPv4 address-family

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# address-family ipv4 unicast
sonic(config-router-bgp-af)# distance bgp 100 50 10
```

dont-capability-negotiate

This command suppresses sending Capability Negotiation as an OPEN message optional parameter to a BGP peer or a BGP peer-group. This command only affects peers configured in ways other than with IPv4 Unicast configuration.

When a remote peer does not have the capability negotiation feature, the remote peer will not send any capabilities at all. In that case, BGP configures the peer with configured capabilities. You might prefer locally configured capabilities over the negotiated capabilities, even though the remote peer sends the capabilities.

If the peer is configured by override-capability, BGP ignores the received capabilities and then overrides the negotiated capabilities with the configured values. Additionally, this feature fundamentally disables the ability to use widely deployed BGP features: BGP unnumbered, hostname support, AS4, Addpath, Route Refresh, ORF, Dynamic Capabilities, and Graceful Restart.

Parent Commands (Modes)

```
neighbor { {{ip}} | { interface { ethernet | portchannel | vlan } } }
peer-group {{template-str}}
```

Syntax

```
dont-capability-negotiate
no dont-capability-negotiate
```

Examples

Disable capability negotiation for BGP neighbor 30.30.30.3

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 30.30.30.3
sonic(config-router-bgp-neighbor)# dont-capability-negotiate
```

Disable capability negotiation for BGP peer-group PG_Ext

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# dont-capability-negotiate
```

dot1p

This command creates an entry map for a DOT1P set to a Traffic class.

Parent Commands (Modes)

```
qos map dot1p-tc {{name}}
```

Syntax

```
dot1p {{dot1p_list}} { traffic-class {{tc}} }
no dot1p {{dot1p_list}}
```

Parameters

Name	Description	Type
dot1p_list		String
tc		Integer

Examples

Add an entry map for a DOT1P set to a Traffic class

```
sonic# configure terminal
sonic(config)# dot1p 1 traffic-class 0
sonic(config)# dot1p 2 traffic-class 0
sonic(config)# dot1p 3 traffic-class 1
```

dot1x max-req

This command sets the maximum number of retries for the authenticator to communicate with the supplicant over EAP. The valid range for the retries value is 1 to 5.

Parent Commands (Modes)

```
interface {{phy-if-name}}
interface range iface_range_num
```

Syntax

```
dot1x max-req {{max-req}}
no dot1x max-req
```

Parameters

Name	Description	Type
max-req		Integer

Examples

Set the maximum number of communication retries

```
sonic-cli(conf-if-Eth1/1/1)# dot1x max-req 2
```

dot1x pae

This command configures the DOT1X PAE role of a port or a range of ports. The port (or range) can serve either as an authenticator or none.

Parent Commands (Modes)

```
interface {{phy-if-name}}
interface range iface_range_num
```

Syntax

```
dot1x pae { authenticator | none }
no dot1x pae
```

Examples

```
sonic-cli(conf-if-Eth1/1/1)# dot1x pae { authenticator | none }
```

dot1x system-auth-control

This command enables DOT1X authentication support on the switch. When disabled, the DOT1X configuration is retained and can be changed, but is not activated.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
dot1x system-auth-control
no dot1x system-auth-control
```

Examples

```
sonic(config)# dot1x system-auth-control
```

dot1x timeout quiet-period

This command sets the DOT1X quiet period in seconds. During this period, the device remains in the quiet/wait state following a failed authentication exchange with the client, before reattempting authentication.

Parent Commands (Modes)

```
interface {{phy-if-name}}
interface range iface_range_num
```

Syntax

```
dot1x timeout quiet-period {{time-period}}
no dot1x timeout quiet-period
```

Parameters

Name	Description	Type
time-period		Integer

Examples

```
sonic-cli(conf-if-Eth1/1/1)# dot1x timeout quiet-period
```

dot1x timeout server-timeout

This command sets the DOT1X server timeout period in seconds. During this period, the device waits for a response from the authentication server. If the server does not send a response to an 802.1X packet within the specified period, the packet is sent again.

Parent Commands (Modes)

```
interface {{phy-if-name}}
interface range iface_range_num
```

Syntax

```
dot1x timeout server-timeout {{time-period}}
no dot1x timeout server-timeout
```

Parameters

Name	Description	Type
time-period		Integer

Examples

```
sonic-cli(conf-if-Eth1/1/1)# dot1x timeout server-timeout
```

dot1x timeout tx-period

This command sets the DOT1X Tx-period in seconds. During this period, the device waits for a response from the supplicant for EAP request/Identity. If the supplicant does not send a response to an EAP request/Identity within the specified period, the request is sent again.

Parent Commands (Modes)

```
interface {{phy-if-name}}
interface range iface_range_num
```

Syntax

```
dot1x timeout tx-period {{tx-period}}
no dot1x timeout tx-period
```

Parameters

Name	Description	Type
tx-period		Integer

Examples

```
sonic-cli(conf-if-Eth1/1/1)# dot1x timeout tx-period
```

downstream

This command configures all MCLAGs as downstream interfaces.

Parent Commands (Modes)

```
link state track {{grp-name}}
```

Syntax

```
downstream { all-mclag | all-evpn-es }
no downstream { all-mclag | all-evpn-es }
```

Examples

Configure all MCLAGs as downstream interfaces

```
sonic(config-link-track)# downstream all-mclag
```

drop-monitor (Switch Resources)

This command configures the drop-monitor flow scale in the EM Entry Table for the switch resource.

Parent Commands (Modes)

```
switch-resource
```

Syntax

```
drop-monitor flows {{flows-name}}
```

Parameters

Name	Description	Type
flows-name	Either min or none	Select [min(min) none(none)]

Examples

Configure the drop-monitor flow scale

```
sonic(config-switch-resource)# drop-monitor flows min
```

drop-monitor (Telemetry)

This command configures the drop-monitor feature for telemetry.

Parent Commands (Modes)

```
tam
```

Syntax

```
drop-monitor
```

dropcounters

This command configures dropcounters.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
dropcounters {{counter-name}}
no dropcounters {{counter-name}}
```

Parameters

Name	Description	Type
counter-name	WORD	String

dscp

This command creates an entry map for DSCP to a Traffic class.

Parent Commands (Modes)

```
qos map dscp-tc {{name}}
```

Syntax

```
dscp {{dscp_list}} { traffic-class {{tc}} }
no dscp {{dscp_list}}
```

Parameters

Name	Description	Type
dscp_list		String
tc		Integer

Examples

Add an entry map for DSCP to a Traffic class

```
sonic# configure terminal
sonic(config)# dscp 1 traffic-class 0
sonic(config)# dscp 2 traffic-class 0
sonic(config)# dscp 3 traffic-class 1
```

dup-addr-detection

This command allows to set the threshold for address moves, including the maximum moves allowed and maximum time interval in seconds.

Parent Commands (Modes)

```
address-family l2vpn evpn
```

Syntax

```
dup-addr-detection [ max-moves { {{nummoves}} { time {{timevalue}} } } ]
no dup-addr-detection [ max-moves { {{nummoves}} { time {{timevalue}} } } ]
```

Parameters

Name	Description	Type
nummoves	Number of moves 2..1000, default 5	Integer
timevalue	Time in seconds 2..1800, default 180	Integer

Examples

Set the duplicate address detection threshold to a maximum of 10 in a time interval of 1200 seconds

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# address-family l2vpn evpn
sonic(config-router-bgp-af)# dup-addr-detection max-moves 10 time 1200
```

dup-addr-detection freeze

This command allows specifying the action to be taken when a duplicate address is detected. This command allows the user to configure freezing the address permanently or for a specified duration.

Parent Commands (Modes)

```
address-family l2vpn evpn
```

Syntax

```
dup-addr-detection freeze { permanent | {{time}} }
no dup-addr-detection freeze { permanent | {{time}} }
```

Parameters

Name	Description	Type
time	Time in seconds 30..3600, default 180	Integer

Examples

Specify the action to permanently freeze the address unless the user intervenes

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# address-family l2vpn evpn
```

```
sonic(config-router-bgp-af)# dup-addr-detection freeze permanent
```

duplex

This command configures Duplex mode.

Parent Commands (Modes)

```
interface {{phy-if-name}}
interface range iface_range_num
```

Syntax

```
duplex {{duplex}}
no duplex
```

Parameters

Name	Description	Type
duplex	Duplex mode	Select [full half]

Chapter 3:

Commands E to F

After login, type sonic-cli to be able to use the commands in this guide.

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ebgp-multihop

This command enables the multihop attribute for eBGP neighbors or an eBGP peer-group.

Any eBGP neighbors (or peer-groups containing eBGP neighbors as members) that are multiple hops away need this configuration. The user can optionally set the maximum number of hops that can separate BGP neighbors (or BGP neighbors in a peer-group).

Parent Commands (Modes)

```
neighbor { {{ip}} | { interface { ethernet | portchannel | vlan } } }
peer-group {{template-str}}
```

Syntax

```
ebgp-multihop [ {{hop-count}} ]
no ebgp-multihop [ {{hop-count}} ]
```

Parameters

Name	Description	Type
hop-count		Integer

Examples

Configure ebgp-multihop for neighbor 30.30.30.3 with a maximum hop value of 10

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 30.30.30.3
sonic(config-router-bgp-neighbor)# remote-as 65100
sonic(config-router-bgp-neighbor)# ebgp-multihop 10
```

Configure ebgp-multihop for peer-group PG_Ext with a maximum hop value of 10

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# ebgp-multihop 10
```

echo-interval

This command configures the desired echo packet transmit interval (in milliseconds) for a Bidirectional Forwarding Detection (BFD) peer. The default value is 50.

Parent Commands (Modes)

```
peer {{peer_ipv4}}
peer {{peer_ipv6}}
peer [ interface ] {{interfacename}}
peer [ local-address ] {{local_ipv4}}
peer [ local-address ] {{local_ipv6}}
peer [ multihop ]
peer [ vrf ] {{vrfname}}

profile {{profilename}}
```

Syntax

```
echo-interval {{echo_interval}}
```

Parameters

Name	Description	Type
echo_interval		Integer

Examples

Configure the packet echo transmit interval for a peer

```
device()#configure terminal
device(config)#bfd
device(conf-bfd)# peer 192.168.0.5 interface Ethernet0
device(conf-bfd-peer)# echo-interval 200
```

Configure the packet echo transmit interval for profile "fast"

```
device()#configure terminal
device(config)#bfd
device(conf-bfd)# profile fast
device(conf-bfd-profile)# echo-interval 200
```

echo-mode

This command enables echo-mode for a Bidirectional Forwarding Detection (BFD) peer. Echo-mode is not supported for multihop peers.

Parent Commands (Modes)

```
peer {{peer_ipv4}}
peer {{peer_ipv6}}
peer [ interface ] {{interfacename}}
peer [ local-address ] {{local_ipv4}}
peer [ local-address ] {{local_ipv6}}
peer [ multihop ]
peer [ vrf ] {{vrfname}}

profile {{profilename}}
```

Syntax

```
echo-mode
no echo-mode
```

Examples

Enable echo mode for a peer

```
device()#configure terminal
device(config)#bfd
device(conf-bfd)# peer 192.168.0.5 interface Ethernet0
device(conf-bfd-peer)# echo-mode
```

Enable echo mode for profile "fast"

```
device()#configure terminal
device(config)#bfd
device(conf-bfd)# profile fast
device(conf-bfd-profile)# echo-mode
```

ecmp-group

This command configures an ECMP Group Level-1 Partition.

Parent Commands (Modes)

```
switch-resource
```

Syntax

```
ecmp-group level-1-partition {{size}}
no ecmp-group level-1-partition
```

Parameters

Name	Description	Type
size	512 or 1024 or 1536 or 2048 or 2560 or 3072 or 3584	Select [512(512) 1024(1024) 1536(1536) 2048(2048) 2560(2560) 3072(3072) 3584(3584)]

Examples

Configure an ECMP Group Level-1 Partition

```
sonic(config-switch-resource)# ecmp-group level-1-partition 512
```

ecn

This command configures Explicit Congestion Notification (ECN) for color.

- Option "none": Disable ECN.
- Option "green": Enable ECN only for the color green.
- Option "all": Enable ECN for all configured colors.

Parent Commands (Modes)

```
qos wred-policy {{name}}
```

Syntax

```
ecn {{ecn}}
no ecn
```

Parameters

Name	Description	Type
ecn	ECN options	Select [none(ecn_none) green(ecn_green)]

Examples

Enable ECN for green packets

```
sonic(conf-wred-wred-green)# ecn green
```

enable (ARS Protocol)

This command enables ARS for the port.

Parent Commands (Modes)

```
ars port-profile {{name}}
```

Syntax

```
enable
no enable
```

Examples

Enable ARS for the port

```
sonic-cli(config-ars-profile)# enable
```

Features this CLI belongs to

- ARS

enable (NAT Protocol)

This command enables the NAT feature on the switch.

Parent Commands (Modes)

```
nat
```

Syntax

```
enable
no enable
```

enable (Telemetry Protocol)

This command enables the dropcounter, IFA, drop-monitor, or tail-stamping features on the switch. IFA-activated switches act as intermediate nodes for all IFA-tagged flows transiting the switch.

Parent Commands (Modes)

```
dropcounters {{counter-name}}

ifa

drop-monitor

tail-stamping
```

Syntax

```
enable
no enable
```

Examples

Configure sonic (config-tam-ifa)# enable

```
sonic(config)# tam
sonic(config-tam)# ifa
sonic(config-tam-ifa)# enable
sonic(config-tam-ifa)# end
```

```
sonic# show tam ifa
Status               : Active
Switch ID            : 9876
Enterprise ID        : 8798
Version              : 2.0
Number of sessions   : 0
Number of collectors : 0
sonic#
```

Configure sonic (config-tam-dm)# enable

```
sonic(config-tam-dm)# enable
sonic(config-tam-dm)# end
sonic# show tam drop-monitor
Status               : Active
Switch ID            : 9876
Number of sessions   : 2
Number of collectors : 1
Aging Interval       : 30
sonic#
```

Configure sonic (config-tam-ts)# enable

```
sonic# configure terminal
sonic(config)# tam
sonic(config-tam)# tail-stamping
sonic(config-tam-ts)# enable
sonic(config-tam-ts)# end
sonic# show tam tail-stamping
Status               : Active
Switch ID            : 9876
Number of sessions   : 0
sonic#
```

encapsulation dot1q vlan-id

This command configures the VLAN tag for a routed subinterface.

Parent Commands (Modes)

```
interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}
```

Syntax

```
encapsulation dot1q vlan-id {{vlanid}}
```

Parameters

Name	Description	Type
vlanid		Integer

Examples

Configure VLAN tag "dot1q"

```
sonic-cli# configure terminal
sonic-cli(config)# interface Ethernet 0.10
sonic-cli(conf-subif-Ethernet0.10)# encapsulation dot1q vlan-id 100
sonic-cli(config)#
```

Remove a VLAN tag

```
sonic-cli# configure terminal
sonic-cli(config)# interface Ethernet 0.10
sonic-cli(conf-subif-Ethernet0.10)# no encapsulation
sonic-cli(config)#
```

Features this CLI belongs to

- Subinterface

enforce-first-as

This command enforces that the first AS in the AS-path of a route received from a BGP peer must be the peer's AS number.

Parent Commands (Modes)

```
neighbor { {{ip}} | { interface { ethernet | portchannel | vlan } } }
peer-group {{template-str}}
```

Syntax

```
enforce-first-as
no enforce-first-as
```

Examples

Enable enforcement of the first AS number for BGP neighbor 30.30.30.3

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 30.30.30.3
sonic(config-router-bgp-neighbor)# enforce-first-as
```

Enable enforcement of the first AS number for BGP peer-group PG_Ext

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# enforce-first-as
```

enforce-multihop

This command enforces that eBGP neighbors must perform multiple hops.

Parent Commands (Modes)

```
neighbor { {{ip}} | { interface { ethernet | portchannel | vlan } } }
peer-group {{template-str}}
```

Syntax

```
enforce-multihop
no enforce-multihop
```

Examples

Enable enforce-multihop for BGP neighbor 30.30.30.3

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 30.30.30.3
sonic(config-router-bgp-neighbor)# enforce-multihop
```

Enable enforce-multihop for BGP peer-group PG_Ext

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# enforce-multihop
```

enterprise-id

This command configures a 32-bit identifier that is used in IPFIX telemetry reports. When not configured, the last 16 bits from the system MAC address are used.

Parent Commands (Modes)

```
tam
```

Syntax

```
enterprise-id {{id}}
no enterprise-id
```

Parameters

Name	Description	Type
id	1..4294967295	Integer

Examples

Configure enterprise ID 5678

```
sonic# configure terminal
sonic(config)# tam
sonic(config-tam)# enterprise-id 5678
sonic(config-tam)# exit
sonic(config)# exit
sonic# show tam switch
TAM Device information
----------------------
Switch ID      : 1234
Enterprise ID  : 5678
sonic#
```

entry

This command configures the next-hop or replication group member at the specified index.

Parent Commands (Modes)

```
pbf next-hop-group {{fbs-nhgrp-name}} [ type { ip | ipv6 } ]
```

Syntax

```
entry {{entry-index}} { next-hop {{ip-address}} { [ vrf { {{vrf-name}} | default } ] }
{ [ recursive ] | [ non-recursive ] | [ overlay ] ] } }
no entry {{entry-index}}
```

Parameters

Name	Description	Type
entry-index		Integer
ip-address	A.B.C.D or A::B	String
vrf-name	VRF name (prefixed by Vrf, Max: 15 characters)	String

errdisable recovery cause

This command enables error disable recovery for the given cause.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
errdisable recovery cause { [ udld ] | [ bpduguard ] | [ link-flap ] | [ coa ] }
no errdisable recovery cause { [ udld ] | [ bpduguard ] | [ link-flap ] | [ coa ] }
```

Examples

Enable error disable recovery for UDLD

```
sonic-cli(config)# errdisable recovery cause udld
```

Enable error disable recovery for COA

```
sonic-cli(config)# errdisable recovery cause coa
Note :- Err disable auto recovery for COA supports only on Campus builds.
```

Features this CLI belongs to

- ERRDISABLE

errdisable recovery interval

This command configures the error disable recovery interval in seconds. The default value is 300.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
errdisable recovery interval {{interval}}
no errdisable recovery interval
```

Parameters

Name	Description	Type
interval		Integer

Examples

Configure the error disable recovery interval

```
sonic-cli(config)# errdisable recovery interval 200
```

Features this CLI belongs to

- ERRDISABLE

es-activation-delay

This command specifies the ES activation delay.

Parent Commands (Modes)

```
evpn esi-multihoming
```

Syntax

```
es-activation-delay {{_es_activation_delay}}
no es-activation-delay
```

Parameters

Name	Description	Type
_es_activation_delay		Integer

evpn esi-multihoming

This command configures EVPN esi-multihoming.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
evpn esi-multihoming
no evpn esi-multihoming
```

evpn ethernet-segment

This command configures the Ethernet Segment (Type-0).

Parent Commands (Modes)

```
interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]
```

Syntax

```
evpn ethernet-segment {{es_id}}
no evpn ethernet-segment
```

Parameters

Name	Description	Type
es_id	nn:nn:nn:nn:nn:nn:nn:nn:nn:nn	String

evpn ethernet-segment auto-lacp

This command configures the Ethernet Segment (Type-1).

Parent Commands (Modes)

```
interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]
```

Syntax

```
evpn ethernet-segment auto-lacp
```

evpn ethernet-segment auto-system-mac

This command configures the Ethernet Segment (Type-3).

Parent Commands (Modes)

```
interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]
```

Syntax

```
evpn ethernet-segment auto-system-mac
```

extended-link-bandwidth

This command configures the Extended Link Bandwidth for BGP neighbors, or for BGP neighbors in a peer-group.

Parent Commands (Modes)

```
neighbor { {{ip}} | { interface { ethernet | portchannel | vlan } } }
peer-group {{template-str}}
```

Syntax

```
extended-link-bandwidth
no extended-link-bandwidth
```

Examples

Enable the extended-link-bandwidth for BGP neighbor 30.30.30.3

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 30.30.30.3
sonic(config-router-bgp-neighbor)# extended-link-bandwidth
```

Enable the extended-link-bandwidth for BGP peer-group PG_Ext

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# extended-link-bandwidth
```

external-ip

This command sets the external IPv4 address or loopback interface.

Parent Commands (Modes)

```
interface vxlan {{vxlan-if-name}}
```

Syntax

```
external-ip {{ExtIP}}
no external-ip
```

Parameters

Name	Description	Type
ExtIP	A.B.C.D or loopback(0..16383)	String

Examples

Configure the external IPv4 address or loopback interface

```
sonic(config)# interface vxlan vtep1
sonic(conf-if-vxlan-vtep1)# external-ip 1.1.1.2
sonic(conf-if-vxlan-vtep1)# external-ip Loopback1
```

fabric-external

This command configures a BGP neighbor (or BGP neighbors in a peer-group) as a fabric-external neighbor, enabling next-hop rewrite for a fabric-external neighbor in case of a multi-site configuration.

Parent Commands (Modes)

```
address-family l2vpn evpn
```

Syntax

```
fabric-external
no fabric-external
```

Examples

Configure neighbor 20.20.20.2 as fabric-external

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 20.20.20.2
sonic(config-router-bgp-neighbor)# remote-as 300
sonic(config-router-bgp-neighbor)# address-family l2vpn evpn
sonic(config-router-bgp-neighbor-af)# fabric-external
```

Configure neighbors in peer-group PG_Int as fabric-external

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Int
sonic(config-router-bgp-pg)# address-family l2vpn evpn
sonic(config-router-bgp-pg-af)# fabric-external
```

factory

This command sets the factory default configuration profile of a SONiC switch. This command removes the currently running switch configuration, creating a new startup configuration file using the input default configuration profile name. The newly created startup configuration is also applied as part of this command.

This command may result in a loss of switch connectivity, as it results in a restart of all SONiC application services.

Parent Commands (Modes)

```
configure terminal
```

Syntax

```
factory default profile {{config_profile}} [ confirm ]
```

Parameters

Name	Description	Type
config_profile	String	String

Examples

```
sonic# configure terminal
sonic(config)# factory default profile l2
```

fallback

This command configures the fallback mode for the portchannel.

Parent Commands (Modes)

```
interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]
```

Syntax

```
fallback
no fallback
```

fast-convergence

This command enables fast convergence for MCLAG.

Parent Commands (Modes)

```
mclag domain {{mclag-domain-id}}
```

Syntax

```
fast-convergence
no fast-convergence
```

Examples

Configure fast convergence for MCLAG domain 100

```
sonic-cli(config-mclag-domain-100)#fast-convergence
```

fast-external-failover

This command causes BGP to take down eBGP peers immediately when a link flaps, controlling how sensitive eBGP neighborship is to the underlying link failure.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }
```

Syntax

```
fast-external-failover
no fast-external-failover
```

Examples

Enable the fast external failover feature for BGP neighbors

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# fast-external-failover
```

fast-reboot

This command configures fast-reboot.

Syntax

```
fast-reboot [ force {{_force}} ] [ verbose {{_verbose}} ] [ ignore {{_ignore}} ] [
sbin-reboot {{_sbin_reboot}} ]
```

Parameters

Name	Description	Type
_force	[yes/no]	Select [yes no]
_verbose	[yes/no]	Select [yes no]
_ignore	[yes/no]	Select [yes no]
_sbin_reboot	[yes/no]	Select [yes no]

fast_rate

This command configures LACP fast rate mode for the portchannel.

Parent Commands (Modes)

```
interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]
```

Syntax

```
fast_rate
no fast_rate
```

fec

This command configures Forward Error Correction (FEC).

Parent Commands (Modes)

```
interface {{phy-if-name}}
interface range iface_range_num
```

Syntax

```
fec {{fec}}
no fec
```

Parameters

Name	Description	Type
fec	Forward Error Correction mode	Select [AUTO FC RS RS528 RS544 RS544_2xN none]

filter-list

This command defines the policy (route filtering) for a BGP neighbor or a BGP peer-group in the outbound and/or inbound direction.

Parent Commands (Modes)

```
address-family ipv4 unicast
address-family ipv6 unicast
```

Syntax

```
filter-list {{fname}} { in | out }
no filter-list {{fname}} { in | out }
```

Parameters

Name	Description	Type
fname	WORD	String

Examples

Configure filter-list fl_allow_remote in the inbound direction for neighbor 20.20.20.2

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 20.20.20.2
sonic(config-router-bgp-neighbor)# remote-as 300
sonic(config-router-bgp-neighbor)# address-family ipv4 unicast
sonic(config-router-bgp-neighbor-af)# filter-list fl_allow_remote in
```

Configure filter-list fl_allow_remote in the inbound direction for peer-group PG_Ext

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# address-family ipv4 unicast
sonic(config-router-bgp-pg-af)# filter-list fl_allow_remote in
```

fips self-test

This command runs a FIPS self-test.

Syntax

```
fips self-test
```

Examples

```
sonic# fips self-test
```

Features this CLI belongs to

- FIPS

flf dscp

This command configures a DSCP value for FLF deflection marking.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
flf dscp {{dscp-value}}
no flf dscp
```

Parameters

Name	Description	Type
dscp-value		Integer

flow-group (Interfaces)

This command attaches an existing flow group to an interface.

Parent Commands (Modes)

```
interface {{phy-if-name}}
```

Syntax

```
flow-group {{name}}
no flow-group {{name}}
```

Parameters

Name	Description	Type
name	WORD	String

Examples

Attach an existing flow group to an interface

```
sonic# configure terminal
sonic(config)# interface Ethernet 46
sonic(conf-if-Ethernet46)# flow-group f1
sonic(conf-if-Ethernet46)# end
sonic# show tam flowgroups
Flow Group Name    : DEMO
   Id              : 1
   Priority        : 100
   SRC MAC         : 11:22:33:44:55:66
   SRC IP          : 1.1.1.1/32
   DST IP          : 4.4.4.4/32
Packet Count       :
Flow Group Name    : f88
   Id              : 409
   Priority        : 100
   SRC IP          : 1.1.1.1/32
   DST IP          : 5.5.5.5/32
Packet Count       :
Flow Group Name    : f1
   Id              : 717
   Priority        : 100
   SRC MAC         : 00:00:00:00:00:01
   DST MAC         : 00:00:00:00:00:02
   SRC IP          : 3.3.3.3/32
   DST IP          : 4.4.4.4/32
   Ingress Intf    : Ethernet46
Packet Count       :
sonic#
```

flow-group (Telemetry)

This command configures a flow group by specifying a set of match criteria that defines a set of flows that are of interest.

Parent Commands (Modes)

```
tam
```

Syntax

```
flow-group {{name}} [ src-ip {{src_ip}} ] [ dst-ip {{dst_ip}} ] [ l4-src-port {{l4_src_
port}} ] [ l4-dst-port {{l4_dst_port}} ] [ priority {{priority_value}} ] [ protocol
{{protocol_value}} ] [ src-mac {{src_mac}} ] [ dst-mac {{dst_mac}} ] [ vlan-id {{vlan}}
] [ ethertype { ETHERTYPE_IPV4 | ETHERTYPE_IPV6 | ETHERTYPE_ARP | ETHERTYPE_VLAN |
ETHERTYPE_LLDP | ETHERTYPE_MPLS | ETHERTYPE_ROCE } ]
no flow-group {{name}}
```

Parameters

Name	Description	Type
name	WORD	String
src_ip	A.B.C.D/mask or A::B/mask	String
dst_ip	A.B.C.D/mask or A::B/mask	String
l4_src_port		Integer
l4_dst_port		Integer
priority_value		Integer
protocol_value	Transport Protocol Method	Select [UDP(IP_UDP) TCP(IP_TCP)]
src_mac	MACADDRESS	String
dst_mac	MACADDRESS	String
vlan		Integer

Examples

Configure a flow group by specifying match criteria

```
sonic(config-tam)# flow-group f9 type ipv4 src-ip 192.1.2.3 dst-ip 172.6.5.4
sonic# show tam flowgroups
Flow Group Name    : f9
   Id              : 60
   Priority        : 100
   SRC IP          : 192.1.2.3/32
   DST IP          : 172.6.5.4/32
Packet Count       : 5432
```

```
Flow Group Name    : DEMO
   Id              : 1
   Priority        : 100
   SRC IP          : 1.1.1.1/32
   DST IP          : 4.4.4.4/32
Packet Count       : 454
sonic#
```

forwarding-fbs

This command configures a key-profile for forwarding flow-based-services.

Parent Commands (Modes)

```
tcam
```

Syntax

```
forwarding-fbs { ingress | egress } key-profile { l2 | ipv4 | ipv6 | l2-ipv4 | l2-ipv6
| ipv4-ipv6 }
no forwarding-fbs { ingress | egress } key-profile
```

frequency

This command configures the frequency of probing for an IP SLA instance.

Parent Commands (Modes)

```
ip sla {{sla-id}}
```

Syntax

```
frequency {{freq-value}}
no frequency
```

Parameters

Name	Description	Type
freq-value		Integer

Examples

Configure the frequency of probing for an IP SLA instance

```
sonic(config)# ip sla 10
sonic(conf-ipsla-10)# frequency 45
```

Chapter 4:

Commands G to H

After login, type sonic-cli to be able to use the commands in this guide.

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gai preference-ipv4

This command configures GAI preference attributes.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
gai preference-ipv4
no gai preference-ipv4
```

Examples

Configure GAI preference attributes

```
sonic# configure
sonic(config)# gai preference-ipv4
```

graceful-restart

This command configures OSPFv2 or OSFPv3 Graceful Restart (RFC 3623).

Parent Commands (Modes)

```
router ospf [ vrf {{vrf-name}} ]

router ospfv3 [ vrf {{vrf-name}} ]
```

Syntax

```
graceful-restart { { [ grace-period {{grace-period-val}} ] } | { [ helper { { enable [
{{neighbor-ip}} ] } | [ strict-lsa-checking ] | [ planned-only ] | { [ supported-grace-
time {{supported-grace-time-val}} ] } } ] } } ]
no graceful-restart { { [ grace-period [ {{grace-period-val}} ] ] } | { [ helper { {
enable [ {{neighbor-ip}} ] } | [ strict-lsa-checking ] | [ planned-only ] | { [ sup-
ported-grace-time [ {{supported-grace-time-val}} ] ] } } ] } } ]
```

Parameters

Name	Description	Type
grace-period-val		Integer
neighbor-ip	A.B.C.D	String
supported-grace-time-val		Integer

Examples

Configure OSPFv2 Graceful Restart parameters

```
sonic-cli(config-router-ospf)# graceful-restart
sonic-cli(config-router-ospf)# graceful-restart grace-time 120
```

```
sonic-cli(config-router-ospf)# graceful-restart helper enable
sonic-cli(config-router-ospf)# graceful-restart helper enable 192.168.1.1
sonic-cli(config-router-ospf)# graceful-restart helper strict-lsa-checking
sonic-cli(config-router-ospf)# graceful-restart helper planned-only
sonic-cli(config-router-ospf)# graceful-restart helper supported-grace-time 120
```

Configure OSPFv3 Graceful Restart parameters

```
sonic-cli(config-router-ospfv3)# graceful-restart
sonic-cli(config-router-ospfv3)# graceful-restart grace-time 120
sonic-cli(config-router-ospfv3)# graceful-restart helper enable
sonic-cli(config-router-ospfv3)# graceful-restart helper enable 192.168.1.1
sonic-cli(config-router-ospfv3)# graceful-restart helper strict-lsa-checking
sonic-cli(config-router-ospfv3)# graceful-restart helper planned-only
sonic-cli(config-router-ospfv3)# graceful-restart helper supported-grace-time 120
```

Features this CLI belongs to

- OSPFv2
- OSPFv3

graceful-restart enable

This command enables BGP Graceful Restart globally in a BGP instance. Changing the Graceful Restart parameter does not take effect immediately; it requires all BGP neighbors to be reset to take effect. This is because the Graceful Restart capability must be negotiated with neighbors to make this feature functional.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }
```

Syntax

```
graceful-restart enable
no graceful-restart enable
```

Examples

Enable Graceful Restart for a BGP instance on the default VRF

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# graceful-restart enable
```

graceful-restart preserve-fw-state

This command instructs BGP to preserve the forwarding state during Graceful Restart for an instance of BGP.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }
```

Syntax

```
graceful-restart preserve-fw-state
no graceful-restart preserve-fw-state
```

Examples

Enable preservation of the forwarding state during Graceful Restart for a BGP instance on the default VRF

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# graceful-restart preserve-fw-state
```

graceful-restart restart-time

This command configures the restart timer interval (in seconds) for BGP. This is an optional parameter determining how long peer routers will wait to delete stale routes before a BGP open message is received. The default value is 120.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }
```

Syntax

```
graceful-restart restart-time {{restart-time}}
no graceful-restart restart-time
```

Parameters

Name	Description	Type
restart-time		Integer

Examples

Set the restart timer interval to 180 seconds for a BGP instance on the default VRF

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# graceful-restart restart-time 180
```

graceful-restart stalepath-time

This command configures the maximum time (in seconds) to hold onto the stale paths of a gracefully restarted peer. All stale paths are deleted after the expiration of this timer. This is an optional parameter. The default value is 360.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }
```

Syntax

```
graceful-restart stalepath-time {{stalepath-time}}
no graceful-restart stalepath-time
```

Parameters

Name	Description	Type
stalepath-time		Integer

Examples

Set the stale path timer interval to 300 seconds for a BGP instance on the default VRF

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# graceful-restart stalepath-time 300
```

graceful-shutdown

This command enables gracefully removing a BGP router (or one or more portchannels) from service. This command will instruct BGP to enter into graceful shutdown mode by resending routes with the GSHUT community to all its neighbors. This will enable all its neighbors to route traffic around it so that it can be taken out of service without impacting data forwarding.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num
```

Syntax

```
graceful-shutdown
no graceful-shutdown
```

Examples

Disable eBGP connected route check for router 65300

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# graceful-shutdown
```

green

This command configures the WRED minimum/maximum thresholds, as well as the drop probability for green-colored packets.

Parent Commands (Modes)

```
qos wred-policy {{name}}
```

Syntax

```
green minimum-threshold { {{min-threshold}} { maximum-threshold {{max-threshold}} {
drop-probability {{max-drop-rate}} } } }
```

Parameters

Name	Description	Type
min-threshold		Integer
max-threshold		Integer
max-drop-rate		Integer

Examples

Configure WRED thresholds for green-colored packets

```
sonic(conf-wred-wred-green)# random-detect color green minimum-threshold 100 maximum-
threshold 200 drop-probability 50
```

group

This command adds a dropcounter group.

Parent Commands (Modes)

```
dropcounters {{counter-name}}
```

Syntax

```
group {{group-str}}
no group
```

Parameters

Name	Description	Type
group-str	WORD	String

hardware

This command configures ASIC parameters.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
hardware
```

hostname

This command configures the hostname of the switch. For the hostname to take effect, you must exit and reenter the sonic-cli shell.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
hostname {{hostname-val}}
no hostname
```

Parameters

Name	Description	Type
hostname-val	WORD	String

Examples

Set the hostname to R1

```
sonic-cli(config)# hostname R1
sonic-cli(config)#
```

Chapter 5:

Commands I to J

After login, type sonic-cli to be able to use the commands in this guide.

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ipv6 dhcp-relay max-hop-count **575**
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ipv6 dhcp-relay vrf-select **578**
ipv6 drop-neighbor **579**
ipv6 enable **579**
ipv6 nd (Interfaces) **580**
ipv6 nd cache **582**
ipv6 nd dad **583**
ipv6 nd-proxy **583**
ipv6 nd-proxy rule prefix **584**
ipv6 neighbor **586**
ipv6 nht **586**
ipv6 ospfv3 advertise prefix-list **587**
ipv6 ospfv3 area **588**
ipv6 ospfv3 bfd **590**
ipv6 ospfv3 bfd profile **591**
ipv6 ospfv3 cost **592**
ipv6 ospfv3 dead-interval **593**
ipv6 ospfv3 hello-interval **594**
ipv6 ospfv3 mtu-ignore **595**
ipv6 ospfv3 network **596**
ipv6 ospfv3 passive **597**
ipv6 ospfv3 priority **598**
ipv6 ospfv3 retransmit-interval **599**
ipv6 ospfv3 transmit-delay **600**
ipv6 prefix-list **601**
ipv6 protocol **602**
ipv6 route **603**
ipv6 route vrf **604**
ipv6 route vrf mgmt **605**
ipv6 source binding **606**

ipv6 unreach-remote-neighbor-block **607**
ipv6 vrf **608**
ipv6-acl **608**

icmp-echo

This command configures the operation type as ICMP and destination IP for an IP SLA instance.

Parent Commands (Modes)

```
ip sla {{sla-id}}
```

Syntax

```
icmp-echo {{addr}}
no icmp-echo
```

Parameters

Name	Description	Type
addr	String	String

Examples

Set the operation type as ICMP for an IP SLA instance

```
sonic(config)# ip sla 10
sonic(conf-ipsla-10)# icmp-echo 30.30.1.2
```

idle-time

This command configures the idle time value for ARS.

Parent Commands (Modes)

```
ars object {{name}}
```

Syntax

```
idle-time {{idleTime}}
no idle-time
```

Parameters

Name	Description	Type
idleTime		Integer

Examples

Configure idle time value

```
sonic-cli(config-ars-object)# idle-time 20
```

Features this CLI belongs to

- ARS

ifa

This command configures the inband flow analyzer feature.

Parent Commands (Modes)

```
tam
```

Syntax

```
ifa
```

ignore server-key

This command configures the device to ignore the server key.

Parent Commands (Modes)

```
aaa server radius dynamic-author
```

Syntax

```
ignore server-key
no ignore server-key
```

Examples

Configure RADIUS to ignore the server-key

```
sonic-cli(config)# aaa server radius dynamic-author
sonic-cli(config-radius-da)# ignore server-key
sonic-cli(config-radius-da)#
```

ignore session-key

This command configures the device to ignore the session key. This command execution fails when the auth-type is set to "session-key" as the authentication can happen only based on the session-key attribute.

Parent Commands (Modes)

```
aaa server radius dynamic-author
```

Syntax

```
ignore session-key
no ignore session-key
```

Examples

Configure RADIUS to ignore the session-key

```
sonic-cli(config)# aaa server radius dynamic-author
sonic-cli(config-radius-da)# ignore session-key
sonic-cli(config-radius-da)#
```

image firmware cancel

This command cancels a pending firmware image update.

Syntax

```
image firmware cancel
```

image firmware install

This command stages a firmware image for update.

Syntax

```
image firmware install {{firmware-path}}
```

Parameters

Name	Description	Type
firmware-path	String	String

image gpg-key

This command adds a GPG key.

Syntax

```
image gpg-key key-server { {{keyserver-url}} key-id {{key-string}} }
```

Parameters

Name	Description	Type
keyserver-url	String	String
key-string	String	String

image install

This command installs an image.

Syntax

```
image install { cancel | {{img-path}} }
```

Parameters

Name	Description	Type
img-path	String	String

image patch install

This command installs a patch.

Syntax

```
image patch install {{patch-path}} [ {{skip-image-check}} ]
```

Parameters

Name	Description	Type
patch-path	String	String
skip-image-check	String	String

image patch rollback

This command rolls back a patch.

Syntax

```
image patch rollback [ {{patch-tag}} ]
```

Parameters

Name	Description	Type
patch-tag	String	String

image remove

This command removes an image.

Syntax

```
image remove { all | {{image}} }
```

Parameters

Name	Description	Type
image	String	String

image set-default

This command sets a default boot image.

Syntax

```
image set-default {{img-name}}
```

Parameters

Name	Description	Type
img-name	String	String

image verify

This command verifies an image.

Syntax

```
image verify { {{image_home_url}} | {{image_ftp_url}} | {{image_http_url}} | {{image_
https_url}} | {{image_scp_url}} | {{image_usb_url}} } { { gpg { signature { {{copy_
home_url}} | {{copy_ftp_url}} | {{copy_http_url}} | {{copy_https_url}} | {{copy_scp_
url}} | {{copy_usb_url}} } } } | { pki { signature { {{copy_home_url}} | {{copy_ftp_
url}} | {{copy_http_url}} | {{copy_https_url}} | {{copy_scp_url}} | {{copy_usb_url}} }
{ public-key { {{key_home_url}} | {{key_ftp_url}} | {{key_http_url}} | {{key_https_
url}} | {{key_scp_url}} | {{key_usb_url}} } } } } }
```

Parameters

Name	Description	Type
image_home_url	home:	String
image_ftp_url	ftp:	String
image_http_url	http:	String
image_https_url	https:	String
image_scp_url	scp:	String
image_usb_url	usb:	String
copy_home_url	home:	String
copy_ftp_url	ftp:	String
copy_http_url	http:	String
copy_https_url	https:	String

Name	Description	Type
copy_scp_url	scp:	String
copy_usb_url	usb:	String
key_home_url	home:	String
key_ftp_url	ftp:	String
key_http_url	http:	String
key_https_url	https:	String
key_scp_url	scp:	String
key_usb_url	usb:	String

import vrf

This command imports all routes or selective routes based on the route-map from another VRF.

Parent Commands (Modes)

```
address-family ipv4 unicast

address-family ipv6 unicast
```

Syntax

```
import vrf { { route-map {{route-map-name}} } | {{import-vrf-name}} }
no import vrf { { [ route-map {{route-map-name}} ] } | [ {{import-vrf-name}} ] } ]
```

Parameters

Name	Description	Type
route-map-name	WORD	String
import-vrf-name	Comma-separated words (without spaces)	String

Examples

Import the routes from another VRF under address-family "ipv4"

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# address-family ipv4 unicast
sonic(config-router-bgp-af)# import vrf Vrf1
                or
sonic(config-router-bgp-af)# import vrf route-map map1
```

instance

This command assigns VLANs to an MST instance.

Parent Commands (Modes)

```
spanning-tree mst configuration
```

Syntax

```
instance {{inst-id}} vlan-id
no instance {{inst-id}} [ vlan-id ]
```

Parameters

Name	Description	Type
inst-id	Instance ID	Integer

Examples

Assign VLAN 100 to MST instance 1

```
sonic-cli(config)# spanning-tree mst configuration
sonic-cli(config-mst)# instance 1 vlan 100
```

Features this CLI belongs to

- Multiple Spanning Tree Protocol

interface

This command configures interfaces.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
interface { {{phy-if-name}} | {{vlan-if-name}} | {{lo-if-name}} | {{mgmt-if-name}} | {
{{po-if-name}} { [ mode {{PoMode}} ] } { [ min-links {{min-links-value}} ] } [ fallback
] [ fast_rate ] } | {{phy-sub-if-name}} | {{po-sub-if-name}} }
no interface { {{vlan_range_num}} | {{po_range_num}} | {{phy-sub-if-name}} | {{lo-if-
name}} }
```

Parameters

Name	Description	Type
phy-if-name	EthernetNUM	
vlan-if-name	VlanNUM	
lo-if-name		
mgmt-if-name		
po-if-name	PortChannelNUM	
PoMode	PortChannel Mode	Select [active on]
min-links-value		Integer
phy-sub-if-name	EthernetX.Y	
po-sub-if-name	PortChannelX.Y	

interface CPU

This command runs CPU interface commands.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
interface CPU
```

interface allow-high-wattage-optics

This command enables/disables high-wattage optics on a physical port. By default, it is disabled on all ports.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
interface allow-high-wattage-optics port {{slotport}}
no interface allow-high-wattage-optics port {{slotport}}
```

Parameters

Name	Description	Type
slotport	Front-panel port (slot/port)	

Examples

Set high-wattage optics on a port

```
sonic# configure terminal
```

```
sonic(config)# interface allow-high-wattage-optics port 1/1
Overriding high power threshold on Port 1/1 could result in transceiver/equipment dam-
age. Please consult with vendor and documentation before proceeding. [Proceed y/N]:
sonic(config)# no interface allow-high-wattage-optics port 1/1
```

interface breakout

This command breaks out a port or undoes a breakout configuration.

Parent Commands (Modes)

```
configure terminal
```

Syntax

```
interface breakout port {{slotport}} mode { {{breakout_mode}} { [ total-lane-count
{{lanecount}} ] } [ {{owner}} ] }
no interface breakout port {{slotport}}
```

Parameters

Name	Description	Type
slotport	Front-panel port (slot/port)	
breakout_mode	Port breakout mode	Select [1x800G 2x400G 1x400G 4x200G 1x200G 2x200G 1x200G 8x100G 4x100G 2x100G 1x100G 8x50G 4x50G 2x50G 1x50G 2x40G 1x40G 8x25G 4x25G 2x25G 1x25G 8x10G 4x10G 2x10G 1x10G]
lanecount		Integer
owner	String	String

Examples

Configure breakout port

```
sonic# configure terminal
sonic(config)# interface breakout port 1/1 mode 4x25
```

```
Dynamic Port Breakout in-progress, use 'show interface breakout port 1/1' to check
status.
sonic(config)# no interface breakout port 1/1
Dynamic Port Breakout in-progress, use 'show interface breakout port 1/1' to check
status.
sonic-cli(config)# interface breakout port 1/31 mode 2x50G total-lane-count 4
Dynamic Port Breakout in-progress, use 'show interface breakout port 1/31' to check
status.
```

interface media-fec

This command configures Media Forward Error Correction (FEC) on a port or undoes Media FEC configuration.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
interface media-fec port {{slotport}} mode {{media-fec-mode}}
no interface media-fec port {{slotport}}
```

Parameters

Name	Description	Type
slotport	Front-panel port (slot/port)	
media-fec-mode	Media Forward Error Correction mode	Select [ieee custom]

Examples

Configure Media FEC

```
sonic# configure terminal
sonic(config)# interface media-fec port 1/1 mode custom
media-fec on port in-progress, use 'show interface interface-name' to check status.
sonic(config)# no interface media-fec port 1/1
edia-fec on port in-progress, use 'show interface interface-name' to check status.
```

interface port-locator

This command enables the Port Locator LED.

Syntax

```
interface port-locator [ timer {{timer_value}} ] [ {{port}} ]
no interface port-locator [ {{port}} ]
```

Parameters

Name	Description	Type
timer_value	Minutes	Integer
port	Interface Ethernet Range	

interface range

This command configures the interface range.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
interface range { iface_range_num | vlan_range_num | po_range_num | { create { vlan_
range_num | { po_range_num { [ mode {{PoMode}} ] } { [ min-links {{min-links-value}} ]
} [ fallback ] [ fast_rate ] } } } }
```

Parameters

Name	Description	Type
PoMode	PortChannel Mode	Select [active on]
min-links-value		Integer

interface transceiver diagnostics

This command configures the parameters for transceiver diagnostics on an interface.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
interface transceiver diagnostics { { loopback { [ host-side-input ] | [ host-side-out-
put ] | [ media-side-input ] | [ media-side-output ] ] } } | { pattern { [ checker-host
] | [ checker-media ] | [ generator-host ] | [ generator-media ] ] } } } [ {{phy-if-
name}} ]
no interface transceiver diagnostics { { loopback { [ host-side-input ] | [ host-side-
output ] | [ media-side-input ] | [ media-side-output ] ] } } | { pattern { [ checker-
host ] | [ checker-media ] | [ generator-host ] | [ generator-media ] ] } } } [ {{phy-
if-name}} ]
```

Parameters

Name	Description	Type
phy-if-name	Interface Ethernet Range	

Examples

Enable the media-side-loopback mode on an interface

```
sonic(config)# interface transceiver diagnostics loopback media-side-input Ethernet 112
```

Enable the media-side pattern generator and checker with FEC on an interface

```
sonic(config)# interface transceiver diagnostics pattern media fec Ethernet 80
```

Enable the media-side pattern generator and checker without FEC on an interface

```
sonic(config)# interface transceiver diagnostics pattern media Ethernet 80
```

interface vxlan

This command enters VXLAN configuration mode.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
interface vxlan {{vxlan-if-name}}
no interface vxlan {{vxlan-if-name}}
```

Parameters

Name	Description	Type
vxlan-if-name		String

Examples

Enter configuration mode for VXLAN

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

interface-naming

This command changes the interface naming mode and how the interface is named.

Parent Commands (Modes)

```
configure terminal
```

Syntax

```
interface-naming standard [ extended ]
no interface-naming standard
```

ip access-group (Interfaces)

This command applies IPv4 ACL to an interface or globally. An ACL must be created first, and must be of the IPv4 type to be applied. Only one ACL of a given type can be applied per interface (or globally) and per direction.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}
```

Syntax

```
ip access-group {{access-list-name}} { in | out }
no ip access-group {{access-list-name}} { in | out }
```

Parameters

Name	Description	Type
access-list-name	String (Max: 72 characters)	String

Examples

Apply IPv4 ACL to an interface

```
sonic(conf-if-po1)# ip access-group ipacl-example out
```

Apply IPv4 ACL globally

```
sonic(config)# ip access-group ipacl-example in
```

ip access-group (VTY)

This command configures IPv4 ACL.

Parent Commands (Modes)

```
line vty
```

Syntax

```
ip access-group {{access-list-name}} in
no ip access-group {{access-list-name}} in
```

Parameters

Name	Description	Type
access-list-name	String (Max: 72 characters)	String

ip access-list

This command creates an IPv4 ACL. An ACL name can be a maximum of 72 characters. The name must begin with A to Z, a to z, or 0 to 9. Underscores and hyphens can be used, except as the first character. An ACL name must be unique across all ACL types.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ip access-list {{access-list-name}}
no ip access-list {{access-list-name}}
```

Parameters

Name	Description	Type
access-list-name	String (Max: 72 characters)	String

Examples

Create IPv4 ACL

```
sonic(config)# ip access-list ipacl-example
```

ip address (Management Interfaces)

This command configures an IP address under the specified management interface.

Parent Commands (Modes)

```
interface {{mgmt-if-name}}
```

Syntax

```
ip address {{addr}} { { [ gwaddr {{gw_addr}} ] } | [ secondary ] ] }
no ip address [ {{addr}} { [ secondary ] ] } ]
```

Parameters

Name	Description	Type
addr	A.B.C.D/mask	String
gw_addr	A.B.C.D	String

ip address (Non-Management Interfaces)

This command configures an IP address under the specified non-management interface.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{vlan-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{lo-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}
```

Syntax

```
ip address {{addr}} { [ secondary ] ] }
no ip address [ {{addr}} { [ secondary ] ] } ]
```

Parameters

Name	Description	Type
addr	A.B.C.D/mask	String

ip anycast-address (Global)

This command enables/disables the IPv4 Static Anycast Gateway functionality. By default, the functionality is enabled.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ip anycast-address { enable | disable }
```

Examples

Enable IPv4 Static Anycast Gateway

```
sonic(config)# ip anycast-address enable
```

Disable IPv4 Static Anycast Gateway

```
sonic(config)# ip anycast-address disable
```

ip anycast-address (Interfaces)

This command configures the IPv4 Static Anycast Gateway address for an interface or for an Ethernet sub-interface.

Parent Commands (Modes)

```
interface {{vlan-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}
```

Syntax

```
ip anycast-address {{anycast-addr}}
```

```
no ip anycast-address {{anycast-addr}}
```

Parameters

Name	Description	Type
anycast-addr	A.B.C.D/mask	String

Examples

Configure the IPv4 Static Anycast Gateway address for an interface

```
sonic(conf-if-Vlan5)# ip anycast-address 50.0.0.1/24
```

Configure the IPv4 Static Anycast Gateway address for an Ethernet sub-interface

```
sonic(conf-if-Eth5.1)# ip anycast-address 50.0.0.1/24
```

ip anycast-mac-address

This command configures the MAC address for all Static Anycast Gateway addresses on the system. Set the Source MAC address to use for forwarding.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ip anycast-mac-address { {{anycast-mac}} | router-mac-for-forwarding }
no ip anycast-mac-address { {{anycast-mac}} | router-mac-for-forwarding }
```

Parameters

Name	Description	Type
anycast-mac	nn:nn:nn:nn:nn:nn	String

Examples

Configure the MAC address for all Static Anycast Gateway addresses on the system

```
sonic-cli(config)# ip anycast-mac-address 00:22:33:44:55:66
```

Set the Router MAC address as Source MAC for forwarding

```
sonic-cli(config)# ip anycast-mac-address router-mac-for-forwarding
```

ip arp (Global)

This command configures the time (in seconds) for an IPv4 ARP cache entry to time out.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ip arp timeout {{value}}
no ip arp timeout
```

Parameters

Name	Description	Type
value	Value in seconds	Integer

Examples

Configure IPv4 ARP timeout

```
sonic-cli(config)# ip arp timeout 200
```

ip arp (Interfaces)

This command configures the static ARP.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{vlan-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}
```

Syntax

```
ip arp {{static-ip}} {{neigh}}
no ip arp {{static-ip}} {{neigh}}
```

Parameters

Name	Description	Type
static-ip	A.B.C.D	String
neigh	nn:nn:nn:nn:nn:nn	String

Examples

Configure the static ARP

```
sonic-cli(config)# interface Ethernet 0
```

```
sonic-cli(conf-if-Ethernet0)# arp ip_addr mac
```

ip attached-host advertise

This command enables the attached-host advertise functionality on the interface and sets the admin-distance.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}
```

Syntax

```
ip attached-host advertise [ {{admin-distance}} ]
no ip attached-host advertise
```

Parameters

Name	Description	Type
admin-distance		Integer

Examples

Enable advertise-host and set admin-distance

```
sonic# configure terminal
sonic(conf-if-Ethernet0)# ip attached-host advertise
  {{0..250}}  Range 0 to 250. Default is 250.
sonic(conf-if-Ethernet0)# ip attached-host advertise 30
sonic(conf-if-Ethernet0)#
```

ip dhcp snooping

This command enables DHCPv4 snooping globally or on selected VLANs.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ip dhcp snooping [ {{vlan-range}} ]
no ip dhcp snooping [ {{vlan-range}} ]
```

Parameters

Name	Description	Type
vlan-range	Interface VLAN Range	

Examples

Enable DHCPv4 snooping

```
sonic-cli# configure terminal
sonic-cli(config)# ip dhcp snooping
sonic-cli(config)#
```

Disable DHCPv4 snooping

```
sonic-cli# configure terminal
sonic-cli(config)# no ip dhcp snooping
sonic-cli(config)#
```

Enable DHCPv4 snooping on a VLAN

```
sonic-cli# configure terminal
```

```
sonic-cli(config)# ip dhcp snooping Vlan 2
sonic-cli(config)#
```

Disable DHCPv4 snooping on a VLAN

```
sonic-cli# configure terminal
sonic-cli(config)# ip dhcp snooping Vlan 2
sonic-cli(config)#
```

Features this CLI belongs to

- DHCP Snooping

ip dhcp snooping trust

This command marks Trust Mode for DHCPv4 snooping on an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num
```

Syntax

```
ip dhcp snooping trust
no ip dhcp snooping trust
```

ip dhcp snooping verify mac-address

This command enables DHCPv4 snooping MAC verification.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ip dhcp snooping verify mac-address
no ip dhcp snooping verify mac-address
```

Examples

Enable DHCPv4 snooping MAC verification

```
sonic-cli# configure terminal
sonic-cli(config)# ip dhcp snooping verify mac-address
sonic-cli(config)#
```

Disable DHCPv4 snooping MAC verification

```
sonic-cli# configure terminal
sonic-cli(config)# no ip dhcp snooping verify mac-address
sonic-cli(config)#
```

Features this CLI belongs to

- DHCP Snooping

ip dhcp-relay

This command configures a DHCPv4 relay on an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}
```

```
interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ip dhcp-relay {{ipaddr1}} { { [ vrf {{vrfName}} ] } { [ {{ipaddr2}} { [ {{ipaddr3}} { [
{{ipaddr4}} { [ {{ipaddr5}} { [ {{ipaddr6}} { [ {{ipaddr7}} { [ {{ipaddr8}} { [
{{ipaddr9}} { [ {{ipaddr10}} { [ {{ipaddr11}} { [ {{ipaddr12}} { [ {{ipaddr13}} { [
{{ipaddr14}} { [ {{ipaddr15}} [ {{ipaddr16}} ] ] } ] } ] } ] } ] } ] } ] } ] } ] } ] }
] } ] } ] } ] } }
no ip dhcp-relay [ {{ipaddr1}} { [ {{ipaddr2}} { [ {{ipaddr3}} { [ {{ipaddr4}} { [
{{ipaddr5}} { [ {{ipaddr6}} { [ {{ipaddr7}} { [ {{ipaddr8}} { [ {{ipaddr9}} { [
{{ipaddr10}} { [ {{ipaddr11}} { [ {{ipaddr12}} { [ {{ipaddr13}} { [ {{ipaddr14}} { [
{{ipaddr15}} [ {{ipaddr16}} ] ] } ] } ] } ] } ] } ] } ] } ] } ] } ] } ] } ] } ] } ]
```

Parameters

Name	Description	Type
ipaddr1	A.B.C.D	String
vrfName	WORD	String
ipaddr2	A.B.C.D	String
ipaddr3	A.B.C.D	String
ipaddr4	A.B.C.D	String
ipaddr5	A.B.C.D	String
ipaddr6	A.B.C.D	String
ipaddr7	A.B.C.D	String
ipaddr8	A.B.C.D	String
ipaddr9	A.B.C.D	String
ipaddr10	A.B.C.D	String
ipaddr11	A.B.C.D	String

Name	Description	Type
ipaddr12	A.B.C.D	String
ipaddr13	A.B.C.D	String
ipaddr14	A.B.C.D	String
ipaddr15	A.B.C.D	String
ipaddr16	A.B.C.D	String

Examples

Configure IP DHCPv4 relay on an interface

```
sonic-cli(config)# interface Ethernet 12
sonic-cli(conf-if-Ethernet0)# ip dhcp-relay 9.0.0.9
```

Configure IP DHCPv4 relay on a range of interfaces

```
sonic-cli(config)# interface range Ethernet 48-51
%Info: Configuring only existing interfaces in range
sonic-cli(conf-if-range-eth**)# ip dhcp-relay 9.0.0.9
```

ip dhcp-relay circuit-id

This command configures the DHCPv4 relay circuit-id format for an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num
```

```
interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ip dhcp-relay circuit-id { {{circuitId1}} | {{circuitId2}} | {{circuitId3}} }
no ip dhcp-relay circuit-id
```

Parameters

Name	Description	Type
circuitId1		Select [%p]
circuitId2		Select [%h:%p]
circuitId3		Select [%i]

Examples

Configure DHCP relay circuit-id for an interface

```
sonic-cli(config)# interface Ethernet 12
sonic-cli(conf-if-Ethernet0)# ip dhcp-relay circuit-id %i
```

Configure DHCP relay circuit-id for a range of interfaces

```
sonic-cli(config)# interface Ethernet 48-51
%Info: Configuring only existing interfaces in range
sonic-cli(conf-if-range-eth**)# ip dhcp-relay circuit-id %i
```

ip dhcp-relay link-select

This command configures the link-selection sub-option for an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}
```

```
interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ip dhcp-relay link-select
no ip dhcp-relay link-select
```

Examples

Configure DHCP relay link selection for an interface

```
sonic-cli(config)# interface Ethernet 12
sonic-cli(conf-if-Ethernet0)# ip dhcp-relay link-select
```

Configure DHCP relay link selection for a range of interfaces

```
sonic-cli(config)# interface range Ethernet 48-51
%Info: Configuring only existing interfaces in range
sonic-cli(conf-if-range-eth**)# ip dhcp-relay link-select
```

ip dhcp-relay max-hop-count

This command configures the maximum hop count for the DHCP packet, for an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ip dhcp-relay max-hop-count {{hop-count}}
no ip dhcp-relay max-hop-count
```

Parameters

Name	Description	Type
hop-count		Integer

Examples

Configure DHCP relay max hop count for an interface

```
sonic-cli(config)# interface Ethernet 12
sonic-cli(conf-if-Ethernet0)# ip dhcp-relay max-hop-count 9
```

Configure DHCP relay max hop count for a range of interfaces

```
sonic-cli(config)# interface range Ethernet 48-51
%Info: Configuring only existing interfaces in range
sonic-cli(conf-if-range-eth**)# ip dhcp-relay max-hop-count 9
```

ip dhcp-relay policy-action

This command configures the policy for handling of DHCPv4 relay options, for an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ip dhcp-relay policy-action {{policyAction}}
no ip dhcp-relay policy-action
```

Parameters

Name	Description	Type
policyAction	String (Max: 8 characters)	String

Examples

Configure DHCP relay policy action for an interface

```
sonic-cli(config)# interface Ethernet 12
sonic-cli(conf-if-Ethernet0)# ip dhcp-relay policy-action REPLACE
```

Configure DHCP relay policy action for a range of interfaces

```
sonic-cli(config)# interface range Ethernet 48-51
%Info: Configuring only existing interfaces in range
sonic-cli(conf-if-range-eth**)# ip dhcp-relay policy-action REPLACE
```

ip dhcp-relay smart-relay

This command enables the DHCP smart relay mode for an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ip dhcp-relay smart-relay
no ip dhcp-relay smart-relay
```

Examples

Enable DHCP smart relay for an interface

```
sonic-cli(config)# interface Ethernet 12
sonic-cli(conf-if-Ethernet0)# ip dhcp-relay smart-relay
```

Enable DHCP smart relay for a range of interfaces

```
sonic-cli(config)# interface Ethernet 48-51
%Info: Configuring only existing interfaces in range
sonic-cli(conf-if-range-eth**)# ip dhcp-relay smart-relay
```

ip dhcp-relay source-interface

This command configures the source interface to be used for relaying the DHCP packets, for an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ip dhcp-relay source-interface { {{intfName}} | {{pchName}} | {{vlanName}} | {{loName}}
| {{Management}} }
```

```
no ip dhcp-relay source-interface
```

Parameters

Name	Description	Type
intfName	EthernetX.Y	
pchName	PortChannelNUM	
vlanName	VlanNUM	
loName		
Management		

Examples

Configure DHCP relay source for an interface

```
sonic-cli(config)# interface Ethernet 12
sonic-cli(conf-if-Ethernet0)# ip dhcp-relay source-interface Ethernet36
```

Configure DHCP relay source for a range of interfaces

```
sonic-cli(config)# interface range Ethernet 48-51
%Info: Configuring only existing interfaces in range
sonic-cli(conf-if-range-eth**)# ip dhcp-relay source-interface Ethernet36
```

ip dhcp-relay vrf-select

This command configures the VRF selection option for an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}
```

```
interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ip dhcp-relay vrf-select
no ip dhcp-relay vrf-select
```

Examples

Configure DHCP relay VRF selection for an interface

```
sonic-cli(config)# interface Ethernet 12
sonic-cli(conf-if-Ethernet0)# ip dhcp-relay vrf-select
```

Configure DHCP relay VRF selection for a range of interfaces

```
sonic-cli(config)# interface range Ethernet 48-51
%Info: Configuring only existing interfaces in range
sonic-cli(conf-if-range-eth**)# ip dhcp-relay vrf-select
```

ip drop-neighbor

This command configures the time (in seconds) for IPv4 drop-neighbor aging.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ip drop-neighbor aging-time {{value}}
no ip drop-neighbor aging-time
```

Parameters

Name	Description	Type
value	Value in seconds	Integer

Examples

Configure IPv4 drop-neighbor aging-time

```
sonic-cli(config)# ip drop-neighbor aging-time 200
```

ip forward-protocol udp enable

This command enables the IP helper relay functionality for specified UDP packets.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ip forward-protocol udp enable
no ip forward-protocol udp enable
```

Examples

Enable IP forwarding

```
sonic-cli# configure terminal
```

```
sonic-cli(config)# ip forward-protocol udp enable
sonic-cli(config)#
```

Disable IP forwarding

```
sonic-cli# configure terminal
sonic-cli(config)# no ip forward-protocol udp enable
sonic-cli(config)#
```

Features this CLI belongs to

- IP Helper

ip forward-protocol udp exclude

This command excludes a UDP port from the list of IP packets that have to be relayed.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ip forward-protocol udp exclude { {{port}} | {{port}} }
```

Parameters

Name	Description	Type
port	Well-known UDP ports	Select [tftp(69) dns(53) ntp(37) netbios-name-server(137) netbios-datagram-server(138) tacacs(49)]

Examples

Exclude a custom UDP port

```
sonic-cli# configure terminal
sonic-cli(config)# ip forward-protocol udp exclude 12200
sonic-cli(config)#
```

Exclude a well-known supported-by-default port

```
sonic-cli# configure terminal
sonic-cli(config)# ip forward-protocol udp exclude tftp
sonic-cli(config)#
```

Features this CLI belongs to

- IP Helper

ip forward-protocol udp include

This command includes a UDP port for which IP packets have to be relayed.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ip forward-protocol udp include { {{port}} | {{port}} }
```

Parameters

Name	Description	Type
port	Well-known UDP ports	Select [tftp(69) dns(53) ntp(37) netbios-name-server(137) netbios-datagram-server(138) tacacs(49)]

Examples

Include a custom UDP port

```
sonic-cli# configure terminal
sonic-cli(config)# ip forward-protocol udp include 12200
sonic-cli(config)#
```

Include a well-known supported-by-default port

```
sonic-cli# configure terminal
sonic-cli(config)# ip forward-protocol udp include tftp
sonic-cli(config)#
```

Features this CLI belongs to

- IP Helper

ip forward-protocol udp rate-limit

This command rate-limits CPU-bound packets.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ip forward-protocol udp rate-limit {{rate}}
no ip forward-protocol udp rate-limit
```

Parameters

Name	Description	Type
rate	600 to 10,000 pps (default 600 pps)	Integer

Examples

Configure rate limit

```
sonic-cli# configure terminal
sonic-cli(config)# ip forward-protocol udp rate-limit 1000
sonic-cli(config)#
```

Unconfigure rate limit

```
sonic-cli# configure terminal
sonic-cli(config)# no ip forward-protocol udp rate-limit
sonic-cli(config)#
```

Features this CLI belongs to

- IP Helper

ip helper-address

This command configures the IP Helper server address for an interface.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{vlan-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]
```

Syntax

```
ip helper-address {{addr}}
no ip helper-address {{addr}}
```

Parameters

Name	Description	Type
addr	A.B.C.D	String

Examples

Configure IP Helper server address for interface Ethernet0

```
sonic-cli# configure terminal
sonic-cli(config)# interface Ethernet0
sonic-cli(conf-if-Ethernet0)# ip helper-address 3.3.3.3
sonic-cli(conf-if-Ethernet0)#
```

Unconfigure IP Helper server address for interface Ethernet0

```
sonic-cli# configure terminal
sonic-cli(config)# interface Ethernet0
sonic-cli(conf-if-Ethernet0)# no ip helper-address 3.3.3.3
sonic-cli(conf-if-Ethernet0)#
```

Configure IP Helper server address for interface Vlan100

```
sonic-cli# configure terminal
sonic-cli(config)# interface Vlan100
sonic-cli(conf-if-Vlan100)# ip helper-address 3.3.3.3
sonic-cli(conf-if-Vlan100)#
```

Unconfigure IP Helper server address for interface Vlan100

```
sonic-cli# configure terminal
sonic-cli(config)# interface Vlan100
sonic-cli(conf-if-Vlan100)# no ip helper-address 3.3.3.3
sonic-cli(conf-if-Vlan100)#
```

Configure IP Helper server address for interface PortChannel100

```
sonic-cli# configure terminal
sonic-cli(config)# interface PortChannel100
sonic-cli(conf-if-PortChannel100)# ip helper-address 3.3.3.3
```

```
sonic-cli(conf-if-PortChannel100)#
```

Unconfigure IP Helper server address for interface PortChannel100

```
sonic-cli# configure terminal
sonic-cli(config)# interface PortChannel100
sonic-cli(conf-if-PortChannel100)# no ip helper-address 3.3.3.3
sonic-cli(conf-if-PortChannel100)#
```

Features this CLI belongs to

- IP Helper

ip helper-address vrf

This command configures an IP Helper server address in non-default VRF for an interface.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{vlan-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]
```

Syntax

```
ip helper-address vrf {{vrfname}} {{addr}}
no ip helper-address vrf {{vrfname}} {{addr}}
```

Parameters

Name	Description	Type
vrfname	VRF name (prefixed by Vrf, Max: 15 characters)	String
addr	A.B.C.D	String

Examples

Configure IP Helper server address for interface Ethernet0

```
sonic-cli# configure terminal
sonic-cli(config)# interface Ethernet0
sonic-cli(conf-if-Ethernet0)# ip helper-address vrf Vrf1 4.4.4.4
sonic-cli(conf-if-Ethernet0)#
```

Unconfigure IP Helper server address for interface Ethernet0

```
sonic-cli# configure terminal
sonic-cli(config)# interface Ethernet0
sonic-cli(conf-if-Ethernet0)# no ip helper-address vrf Vrf1 4.4.4.4
sonic-cli(conf-if-Ethernet0)#
```

Configure IP Helper server address for interface Vlan100

```
sonic-cli# configure terminal
sonic-cli(config)# interface Vlan100
sonic-cli(conf-if-Vlan100)# ip helper-address vrf Vrf1 4.4.4.4
sonic-cli(conf-if-Vlan100)#
```

Unconfigure IP Helper server address for interface Vlan100

```
sonic-cli# configure terminal
sonic-cli(config)# interface Vlan100
sonic-cli(conf-if-Vlan100)# no ip helper-address vrf Vrf1 4.4.4.4
sonic-cli(conf-if-Vlan100)#
```

Configure IP Helper server address for interface PortChannel100

```
sonic-cli# configure terminal
sonic-cli(config)# interface PortChannel100
sonic-cli(conf-if-PortChannel100)# ip helper-address vrf Vrf1 4.4.4.4
sonic-cli(conf-if-PortChannel100)#
```

Unconfigure IP Helper server address for interface PortChannel100

```
sonic-cli# configure terminal
sonic-cli(config)# interface PortChannel100
```

```
sonic-cli(conf-if-PortChannel100)# no ip helper-address vrf Vrf1 4.4.4.4
sonic-cli(conf-if-PortChannel100)#
```

Features this CLI belongs to

- IP Helper

ip igmp

This command enables IGMP operation.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ip igmp
no ip igmp
```

ip igmp join

This command configures IGMP.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ip igmp join {{mcastgrpaddr}} {{srcaddr}}
no ip igmp join {{mcastgrpaddr}} {{srcaddr}}
```

Parameters

Name	Description	Type
mcastgrpaddr	A.B.C.D	String
srcaddr	A.B.C.D	String

Examples

Configure IGMP

```
sonic-cli(config)# interface Ethernet 0
sonic-cli(conf-if-Ethernet0)# ip igmp join mcastgrpaddr srcaddr
```

ip igmp last-member-query-count

This command configures the IGMP last-member query count.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ip igmp last-member-query-count {{lmquerycount}}
no ip igmp last-member-query-count
```

Parameters

Name	Description	Type
lmquerycount	IGMP version 1..7 (Default: 2)	Integer

Examples

Configure IGMP

```
sonic-cli(config)# interface Ethernet 0
sonic-cli(conf-if-Ethernet0)# ip igmp last-member-query-count count
```

ip igmp last-member-query-interval

This command configures the IGMP last-member query interval.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ip igmp last-member-query-interval {{lmqueryinterval}}
no ip igmp last-member-query-interval
```

Parameters

Name	Description	Type
lmqueryinterval	IGMP version 1..255 (Default: 10)	Integer

Examples

Configure IGMP

```
sonic-cli(config)# interface Ethernet 0
sonic-cli(conf-if-Ethernet0)# ip igmp last-member-query-interval interval
```

ip igmp query-interval

This command configures the IGMP query interval.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ip igmp query-interval {{queryinterval}}
no ip igmp query-interval
```

Parameters

Name	Description	Type
queryinterval	IGMP version 1..1024 (Default: 125)	Integer

Examples

Configure IGMP

```
sonic-cli(config)# interface Ethernet 0
sonic-cli(conf-if-Ethernet0)# ip igmp query-interval interval
```

ip igmp query-max-response-time

This command configures the IGMP query response value.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ip igmp query-max-response-time {{querymaxrestime}}
no ip igmp query-max-response-time
```

Parameters

Name	Description	Type
querymaxrestime	IGMP version 1..250 (Default: 10)	Integer

Examples

Configure IGMP

```
sonic-cli(config)# interface Ethernet 0
sonic-cli(conf-if-Ethernet0)# ip igmp query-max-response-time time
```

ip igmp snooping

This command configures or unconfigures the IGMP snooping parameters on a VLAN.

Parent Commands (Modes)

```
interface {{vlan-if-name}}

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ip igmp snooping { [ querier ] | [ fast-leave ] | { [ query-interval {{query-interval-
val}} ] } | { [ last-member-query-interval {{last-mem-query-interval-val}} ] } | { [
query-max-response-time {{query-max-response-val}} ] } | { [ version {{igmps-version-
val}} ] } | { [ mrouter { interface {{mrouter-if-name}} } ] } | { [ static-group {
{{group-addr}} { interface {{grp-if-name}} } } ] } } ]
no ip igmp snooping { [ querier ] | [ fast-leave ] | [ query-interval ] | [ last-mem-
ber-query-interval ] | [ query-max-response-time ] | [ version ] | { [ mrouter { inter-
face {{mrouter-if-name}} } ] } | { [ static-group { {{group-addr}} { interface {{grp-
if-name}} } } ] } } ]
```

Parameters

Name	Description	Type
query-interval-val	Query Interval value (Default: 125 seconds)	Integer
last-mem-query-interval-val	Last Member Query Interval value (Default: 1000 ms)	Integer
query-max-response-val	Query Response Time (Default: 10 seconds)	Integer
igmps-version-val	IGMPS version 1..3 (Default: 2)	Integer
mrouter-if-name	Interface Type - Ranges	
group-addr	A.B.C.D	String
grp-if-name	Interface Type - Ranges	

Examples

Enable IGMP snooping on VLAN

```
sonic(config)# interface Vlan 200
sonic(conf-if-Vlan200)# ip igmp snooping
```

Disable IGMP snooping on VLAN

```
sonic(config)# interface Vlan 200
sonic(conf-if-Vlan200)# no ip igmp snooping
```

Enable IGMP querier on VLAN; by default, querier is disabled

```
sonic(config)# interface Vlan 200
sonic(conf-if-Vlan200)# ip igmp snooping querier
```

Disable IGMP querier on VLAN

```
sonic(config)# interface Vlan 200
sonic(conf-if-Vlan200)# no ip igmp snooping querier
```

Enable IGMP fast-leave on VLAN; by default, fast-leave is disabled

```
sonic(config)# interface Vlan 200
sonic(conf-if-Vlan200)# ip igmp snooping fast-leave
```

Disable IGMP fast-leave on VLAN

```
sonic(config)# interface Vlan 200
sonic(conf-if-Vlan200)# no ip igmp snooping fast-leave
```

Configure IGMP query-interval; default is 125 seconds and range is from 1 to 18000 seconds

```
sonic(config)# interface Vlan 200
sonic(conf-if-Vlan200)# ip igmp snooping query-interval 20
```

Unconfigure non-default IGMP query-interval configured; value set to default interval 125 seconds

```
sonic(config)# interface Vlan 200
sonic(conf-if-Vlan200)# no ip igmp snooping query-interval
```

Configure last member query interval; default is 1000 ms and range is from 100 to 25500 ms

```
sonic(config)# interface Vlan 200
sonic(conf-if-Vlan200)# ip igmp snooping last-member-query-interval 2000
```

Unconfigure non-default last member query interval configured; value set to default 1 second

```
sonic(config)# interface Vlan 200
sonic(conf-if-Vlan200)# no ip igmp snooping last-member-query-interval
```

Configure max response interval; default is 10 seconds and range is from 1 to 25 seconds

```
sonic(config)# interface Vlan 200
sonic(conf-if-Vlan200)# ip igmp snooping query-max-response-time 12
```

Unconfigure non-default max response interval configured; value set to default 10 seconds

```
sonic(config)# interface Vlan 200
sonic(conf-if-Vlan200)# no ip igmp snooping query-max-response-time
```

Configure IGMP version; default is Version2 and range is from 1 to 3

```
sonic(config)# interface Vlan 200
sonic(conf-if-Vlan200)# ip igmp snooping version 3
```

Unconfigure non-default IGMP version configured; value set to default Version2

```
sonic(config)# interface Vlan 200
sonic(conf-if-Vlan200)# no ip igmp snooping version
```

Configure static multicast router (mrouter) port

```
sonic(config)# interface Vlan 200
sonic(conf-if-Vlan200)# ip igmp snooping mrouter interface Ethernet4
```

Unconfigure static multicast router (mrouter) port

```
sonic(config)# interface Vlan 200
sonic(conf-if-Vlan200)# no ip igmp snooping mrouter interface Ethernet4
```

Configure static multicast group

```
sonic(config)# interface Vlan 200
sonic(conf-if-Vlan200)# ip igmp snooping static-group 225.0.0.1 interface PortChannel2
```

Unconfigure static multicast group

```
sonic(config)# interface Vlan 200
sonic(conf-if-Vlan200)#no ip igmp snooping static-group 225.0.0.1 interface PortChan-
nel2
```

ip igmp version

This command configures the IGMP version number.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num
```

```
interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ip igmp version {{version}}
no ip igmp version
```

Parameters

Name	Description	Type
version	IGMP version 2 or 3 (Default: 2)	Integer

Examples

Configure IGMP

```
sonic-cli(config)# interface Ethernet 0
sonic-cli(conf-if-Ethernet0)# ip igmp join version number
```

ip load-share hash algorithm

This command configures the IP ECMP load share hash algorithm.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ip load-share hash algorithm {{hash_algo}}
no ip load-share hash algorithm
```

Parameters

Name	Description	Type
hash_ algo	Hash algorithm choice	Select [CRC(CRC) XOR(XOR) CRC_32LO(CRC_32LO) CRC_32HI (CRC_32HI) CRC_CCITT(CRC_CCITT) CRC_XOR(CRC_XOR) JENKINS_HASH_LO(JENKINS_HASH_LO) JENKINS_HASH_HI (JENKINS_HASH_HI)]

Examples

Configure IP ECMP load share hash algorithm

```
sonic-cli(config)# ip load-share hash algorithm JENKINS_HASH_HI
```

ip load-share hash ingress-port

This command configures the IP ECMP load share hash ingress-port.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ip load-share hash ingress-port
no ip load-share hash ingress-port
```

Examples

Configure IP ECMP load share hash ingress-port

```
sonic-cli(config)# ip load-share hash ingress-port
```

ip load-share hash ipv4

This command configures the IPv4 ECMP load share hash.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ip load-share hash ipv4 { ipv4-src-ip | ipv4-dst-ip | ipv4-ip-proto | ipv4-l4-src-port
| ipv4-l4-dst-port | symmetric }
no ip load-share hash ipv4 { ipv4-src-ip | ipv4-dst-ip | ipv4-ip-proto | ipv4-l4-src-
port | ipv4-l4-dst-port | symmetric }
```

Examples

Configure IP ECMP load share hash

```
sonic-cli(config)# ip load-share hash ipv4 ipv4-src-ip
```

ip load-share hash ipv6

This command configures the IPv6 ECMP load share hash.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ip load-share hash ipv6 { ipv6-src-ip | ipv6-dst-ip | ipv6-next-hdr | ipv6-flow-label |
ipv6-l4-src-port | ipv6-l4-dst-port | symmetric }
```

```
no ip load-share hash ipv6 { ipv6-src-ip | ipv6-dst-ip | ipv6-next-hdr | ipv6-flow-
label | ipv6-l4-src-port | ipv6-l4-dst-port | symmetric }
```

Examples

Configure IP ECMP load share hash

```
sonic-cli(config)# ip load-share hash ipv6 ipv6-src-ip
```

ip load-share hash offset

This command configures the IP ECMP load share hash offset.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ip load-share hash offset { {{offset-val}} | flow-based }
no ip load-share hash offset [ flow-based ]
```

Parameters

Name	Description	Type
offset-val		Integer

Examples

Configure IP ECMP load share hash offset

```
sonic-cli(config)# ip load-share hash offset 4
```

ip load-share hash resilient

This command configures the IP ECMP load share resilient hash prefix.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ip load-share hash resilient { { nhg-optimization { threshold {{threshold-val}} } } | {
ip {{v4-addr-mask}} { [ vrf {{vrfname}} ] } { [ size {{size-val}} ] } { [ seed {{seed-
val}} ] } } | { ipv6 {{v6-addr-mask}} { [ vrf {{vrfname}} ] } { [ size {{size-val}} ] }
{ [ seed [ {{seed-val}} ] ] } } }
no ip load-share hash resilient { { nhg-optimization threshold } | { ip {{v4-addr-
mask}} { [ vrf {{vrfname}} ] } } | { ipv6 {{v6-addr-mask}} { [ vrf {{vrfname}} ] } } }
```

Parameters

Name	Description	Type
threshold-val		Integer
v4-addr-mask	A.B.C.D/mask	String
vrfname	WORD	String
size-val		Integer
seed-val	(0..4294967295)	Integer
v6-addr-mask	A::B/mask	String

Examples

Configure IP ECMP load share hash resilient v4-prefix

```
sonic-cli(config)# ip load-share hash resilient v4-prefix 1.1.1.1/24 vrf Vrf-1 size 64
seed 10
```

ip load-share hash roce

This command configures the IP ECMP load share hash RoCE QPN.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ip load-share hash roce qpn
no ip load-share hash roce qpn
```

Examples

Configure IP ECMP load share hash RoCE QPN

```
sonic-cli(config)# ip load-share hash roce qpn
```

ip load-share hash seed

This command configures the IP ECMP load share hash seed.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ip load-share hash seed {{seed-val}}
no ip load-share hash seed
```

Parameters

Name	Description	Type
seed-val	IP ECMP Load share seed value 0..16777215	Integer

Examples

Configure IP ECMP load share hash seed

```
sonic-cli(config)# ip load-share hash seed 200
```

ip load-share hash udf

This command configures the ECMP hash user-defined field.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ip load-share hash udf {{name}} { offset { {{offset-val}} { size { {{size-val}} { l3-
proto { {{l3-proto-val}} { [ l4-dst-port {{l4-dst-port-val}} ] } } } } } } }
no ip load-share hash udf {{name}}
```

Parameters

Name	Description	Type
name	WORD	String
offset-val		Integer
size-val		Integer
l3-proto-val		Integer
l4-dst-port-val	{{0..65535}}	Integer

Examples

Configure ECMP hash user-defined field

```
sonic-cli(config)# ip load-share hash udf fld1 offset 13 size 3 l3-proto 17 l4-dst-port
4791
```

```
sonic-cli(config)# ip load-share hash udf fld1 offset 13 size 3 l3-proto 17
```

ip name-server

This command configures the name server address.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ip name-server {{nameserver}} { [ vrf { mgmt } ] }
no ip name-server {{nameserver}}
```

Parameters

Name	Description	Type
nameserver	A.B.C.D/A::B	String

ip name-server source-interface

This command configures the source interface to pick the source IP, used for the DNS query.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ip name-server source-interface { Ethernet | Loopback | Management | PortChannel | Vlan
}
no ip name-server source-interface
```

ip nht

This command configures default route-based IPv4 next-hop resolution within the default VRF.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ip nht resolve-via-default
no ip nht resolve-via-default
```

Examples

IPv4 next-hop tracking command examples

```
sonic-cli(config)# ip nht resolve-via-default
```

Features this CLI belongs to

- Nexthop Tracking

ip ospf area

This command associates an interface (or range of interfaces) into an OSPFv2 area for an interface or a range of interfaces. An area identifier can be configured only when there is already a configured OSPFv2 router within the interface VRF, and there are no network commands configured within that router. The area identifier configuration on an interface will get auto-unconfigured while the OSPFv2 router gets unconfigured from the VRF.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{lo-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ip ospf area {{area-id}} [ {{ip-address}} ]
no ip ospf area [ {{ip-address}} ]
```

Parameters

Name	Description	Type
area-id	A.B.C.D or 0..4294967295	String
ip-address	A.B.C.D	String

Examples

Configure OSPFv2 interface area identifier

```
sonic-cli(config-router-ospf)# ip ospf area 19
sonic-cli(config-router-ospf)# ip ospf area 19.0.0.1
```

Features this CLI belongs to

- OSPFv2

ip ospf authentication

This command enables the OSPFv2 authentication type for OSPFv2 messages, for an interface or a range of interfaces. Authentication types can be clear-text authentication, message-digest authentication, or no authentication. The interface mode authentication type would override the router mode area authentication type. Based on the configured authentication type, the corresponding configured authentication key would be used for OPSFV2 message authentication.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{lo-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ip ospf authentication { { [ message-digest [ {{ip-address}} ] ] } | { [ null [ {{ip-
address}} ] ] } } ] [ {{ip-address}} ]
no ip ospf authentication { { [ message-digest [ {{ip-address}} ] ] } | { [ null [
{{ip-address}} ] ] } } ] [ {{ip-address}} ]
```

Parameters

Name	Description	Type
ip-address	A.B.C.D	String

Examples

Enable OSPFv2 authentication

```
sonic-cli(config-router-ospf)# ip ospf authentication
sonic-cli(config-router-ospf)# ip ospf authentication message-digest
sonic-cli(config-router-ospf)# ip ospf authentication null
```

Features this CLI belongs to

- OSPFv2

ip ospf authentication-key

This command configures the OSPFv2 clear-text authentication key for an interface or a range of interfaces. The clear-text authentication key can be up to eight characters long.

The actual user-provided password will be displayed as an encrypted string in show configuration command displays, and saved as an encrypted string in the configuration file. It is recommended to use only an actual password and not to use an encrypted string as a password.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{lo-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
```

```
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ip ospf authentication-key {{authkey}} { { [ encrypted [ {{ip-address}} ] ] } [ {{ip-address}} ] }
no ip ospf authentication-key [ {{ip-address}} ]
```

Parameters

Name	Description	Type
authkey	String	String
ip-address	A.B.C.D	String

Examples

Enable OSPFv2 authentication

```
sonic-cli(config-router-ospf)# ip ospf authentication-key pa$$woRd
```

Features this CLI belongs to

- OSPFv2

ip ospf bfd

This command configures the OSPFv2 interface (or range of interfaces) BFD. Enabling BFD will establish a BFD session between the OSPF neighbors. Any failure in BFD session will bring down the OSPFv2 session.

Parent Commands (Modes)

```
interface {{phy-if-name}}
```

```
interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{lo-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ip ospf bfd
no ip ospf bfd
```

Examples

Configure OSPFv2 interface BFD

```
sonic-cli(config-router-ospf)# ip ospf bfd
```

Features this CLI belongs to

- OSPFv2

ip ospf bfd profile

This command configures the OSPFv2 interface (or range of interfaces) BFD profile. Enabling the profile will also enable BFD on the interface, if not enabled.

Parent Commands (Modes)

```
interface {{phy-if-name}}
```

```
interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{lo-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ip ospf bfd profile {{profilename}}
no ip ospf bfd profile
```

Parameters

Name	Description	Type
profilename	WORD	String

Examples

Configure OSPFv2 interface BFD profile

```
sonic-cli(config-router-ospf)# ip ospf bfd profile ospf
```

Features this CLI belongs to

- OSPFv2

ip ospf cost

This command configures the OSPFv2 interface (or range of interfaces) cost.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{lo-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ip ospf cost {{interface-cost}} [ {{ip-address}} ]
no ip ospf cost [ {{ip-address}} ]
```

Parameters

Name	Description	Type
interface-cost		Integer
ip-address	A.B.C.D	String

Examples

Configure OSPFv2 interface cost

```
sonic-cli(config-router-ospf)# ip ospf cost 38
```

Features this CLI belongs to

- OSPFv2

ip ospf dead-interval

This command configures the OSPFv2 adjacency dead interval.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{lo-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ip ospf dead-interval { { [ {{deadinterval}} [ {{ip-address}} ] ] } | { [ minimal {
hello-multiplier { {{hellomultiplier}} [ {{ip-address}} ] } } ] } }
no ip ospf dead-interval { [ {{ip-address}} ] | { [ minimal { [ hello-multiplier [
{{ip-address}} ] ] } ] } } ]
```

Parameters

Name	Description	Type
deadinterval		Integer
ip-address	A.B.C.D	String
hellomultiplier		Integer

ip ospf hello-interval

This command configures the OSPFv2 interface (or range of interfaces) neighbor hello interval.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{lo-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ip ospf hello-interval {{hellointerval}} [ {{ip-address}} ]
no ip ospf hello-interval [ {{ip-address}} ]
```

Parameters

Name	Description	Type
hellointerval		Integer
ip-address	A.B.C.D	String

Examples

Configure OSPFv2 interface neighbor hello interval

```
sonic-cli(config-router-ospf)# ip ospf hello-interval 20
```

Features this CLI belongs to

- OSPFv2

ip ospf message-digest-key

This command configures the OSPFv2 message-digest authentication key for an interface or a range of interfaces. The message-digest authentication key can be up to 16 characters long.

The actual user-provided password will be displayed as an encrypted string in show configuration command displays, and saved as an encrypted string in the configuration file. It is recommended to use only an actual password, and not to use an encrypted string as a password.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{lo-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ip ospf message-digest-key {{keyid}} { md5 { {{md5key}} { [ encrypted [ {{ip-address}}
] ] } [ {{ip-address}} ] } }
no ip ospf message-digest-key {{keyid}} { md5 [ {{ip-address}} ] }
```

Parameters

Name	Description	Type
keyid		Integer
md5key	String	String
ip-address	A.B.C.D	String

Examples

Enable OSPFv2 authentication

```
sonic-cli(config-router-ospf)# ip ospf message-digest-key 10 md5 mDpa$$woRd
sonic-cli(config-router-ospf)# ip ospf message-digest-key 19 md5 mDpa$$woRd
```

Features this CLI belongs to

- OSPFv2

ip ospf mtu-ignore

This command disables OSPFv2 MTU mismatch detection. By default, MTU mismatch detection is enabled.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{lo-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ip ospf mtu-ignore [ {{ip-address}} ]
no ip ospf mtu-ignore [ {{ip-address}} ]
```

Parameters

Name	Description	Type
ip-address	A.B.C.D	String

Examples

Disable OSPFv2 MTU mismatch detection

```
sonic-cli(config-router-ospf)# ip ospf mtu-ignore
```

Features this CLI belongs to

- OSPFv2

ip ospf network

This command configures the OSPFv2 interface (or range of interfaces) network type. The Broadcast and Point-to-Point networks types are supported. By default, the network type is broadcast.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{lo-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ip ospf network { broadcast | point-to-point }
no ip ospf network
```

Examples

Configure OSPFv2 interface network type

```
sonic-cli(config-router-ospf)# ip ospf network point-to-point
sonic-cli(config-router-ospf)# ip ospf network broadcast
```

Features this CLI belongs to

- OSPFv2

ip ospf priority

This command configures the OSPFv2 adjacency router priority.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{lo-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ip ospf priority {{priorityval}} [ {{ip-address}} ]
no ip ospf priority [ {{ip-address}} ]
```

Parameters

Name	Description	Type
priorityval		Integer
ip-address	A.B.C.D	String

Examples

Configure OSPFv2 adjacency router priority

```
sonic-cli(config-router-ospf)# ip ospf priority 19
```

Features this CLI belongs to

- OSPFv2

ip ospf retransmit-interval

This command configures the OSPFv2 interface (or range of interfaces) LSA retransmit interval.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{lo-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num
```

```
interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ip ospf retransmit-interval {{retransmitinterval}} [ {{ip-address}} ]
no ip ospf retransmit-interval [ {{ip-address}} ]
```

Parameters

Name	Description	Type
retransmitinterval		Integer
ip-address	A.B.C.D	String

Examples

Configure OSPFv2 interface LSA retransmit interval

```
sonic-cli(config-router-ospf)# ip ospf retransmit-interval 35
```

Features this CLI belongs to

- OSPFv2

ip ospf transmit-delay

This command configures the OSPFv2 interface (or range of interfaces) LSA transmit delay interval.

Parent Commands (Modes)

```
interface {{phy-if-name}}
```

```
interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{lo-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ip ospf transmit-delay {{transmitdelay}} [ {{ip-address}} ]
no ip ospf transmit-delay [ {{ip-address}} ]
```

Parameters

Name	Description	Type
transmitdelay		Integer
ip-address	A.B.C.D	String

Examples

Configure OSPFv2 interface LSA transmit delay interval

```
sonic-cli(config-router-ospf)# ip ospf transmit-delay 35
```

Features this CLI belongs to

- OSPFv2

ip pim

The following PIM (IPv4) global configurations are executed in configuration-view. All these commands can be executed per VRF. If VRF is not specified, then it will be executed in the default VRF context. Once PIM global configurations are done on a particular non-default VRF, that VRF cannot be deleted from the system until the relevant PIM configurations are cleared.

- Join Prune Interval: Configure the frequency of join/prune messages on the specified interface.
- Keep Alive Timer: Period after the last (S,G) data packet during which the (S,G) Join state will exist even in the absence of (S,G) Join messages.
- SSM Prefix-list configuration: Apart from the standard PIM-SSM multicast range (232.0.0.0/8), the user can qualify other multicast group addresses as the PIM-SSM range using an IP-prefix-list. The user must create the corresponding IP-prefix-list using the existing "ip prefix-list" CLI command and then associate that prefix-list to the PIM through this CLI command. This IP-prefix-list cannot be deleted from the system until after the removal of any PIM global configuration referring to the prefix list.
- ECMP: If a PIM has the choice of ECMP next-hops for a particular RPF, the PIM will cause (S,G) flows to be spread out amongst the next-hops. If this command is not specified, then the first next-hop found will be used.
- Static RP: PIM-ASM builds a shared tree, through which the receivers learn about sources. The rendezvous point, which is the root of this shared tree, receives multicast traffic from the source and forwards it to the receiver. This command allows static configuration of the RP. For PIM-ASM to work, the RP must be configured on all nodes in the network.
- spt-threshold infinity configuration: By default, the router moves to the shortest path tree (SPT) from the shared path tree on the first multicast data packet reception. The user can change this default behavior with the help of this command. The "ip pim spt-threshold infinity" configuration prevents the router from moving to the shortest path tree from the shared tree while receiving data from any multicast group.
- spt-threshold infinity prefix-list configuration: When this configuration is applied on a multicast router, the router will not move to the shortest path tree to receive data from specific multicast groups.

Parent Commands (Modes)

```
configure session
```

```
configure terminal
```

Syntax

```
ip pim [ vrf {{vrf-name}} ] { { ecmp [ rebalance ] } | { join-prune-interval {{jpi}} }
| { keep-alive-timer {{kat}} } | { rp-address { {{rp-addr}} { { [ prefix-list {{rp-
pln}} ] } ] } } } | { ssm { prefix-list {{pln}} } } | { spt-threshold { infinity { [
prefix-list {{sptlist}} ] } } } }
no ip pim [ vrf {{vrf-name}} ] { { ecmp [ rebalance ] } | jpi | kat | { rp-address {
{{rp-addr}} { [ prefix-list ] ] } } } | { ssm pln } | { spt-threshold infinity } }
```

Parameters

Name	Description	Type
vrf-name	WORD	String
jpi		Integer
kat		Integer
rp-addr	A.B.C.D	String
rp-pln	String	String
pln	String	String
sptlist	String	String

Examples

List of PIM global-level commands

```
sonic# configure terminal
sonic(config)#
sonic(config)# ip pim
  vrf                   VRF name
  join-prune-interval   Configure Join Prune Interval
  keep-alive-timer      Configure Keep Alive timer
  rp-address            Configure PIM RP
  spt-threshold         Shortest path tree switchover
  ssm                   Configure SSM
  ecmp                  Enable ECMP
sonic(config)# ip pim vrf Vrf1
  join-prune-interval   Configure Join Prune Interval
  keep-alive-timer      Configure Keep Alive timer
  rp-address            Configure PIM RP
  spt-threshold         Shortest path tree switchover
  ssm                   Configure SSM
  ecmp                  Enable ECMP
sonic(config)# no ip pim
```

```
  vrf                  VRF name
  join-prune-interval  Set Join Prune Interval to default
  keep-alive-timer     Set Keep Alive timer to default
  rp-address           Remove PIM RP
  spt-threshold        Shortest path tree switchover
  ssm                  Remove SSM configuration
  ecmp                 Disable ECMP
sonic(config)# no ip pim vrf Vrf1
  join-prune-interval  Set Join Prune Interval to default
  keep-alive-timer     Set Keep Alive timer to default
  rp-address           Remove PIM RP
  spt-threshold        Shortest path tree switchover
  ssm                  Remove SSM configuration
  ecmp                 Disable ECMP
```

Configure IP PIM [vrf {{vrf-name}}] join-prune-interval {{value : (60 to 600 seconds)}}

```
sonic(config)# ip pim join-prune-interval
      {{0..600}}  Range 60-600 seconds
  ------------------------------------------------------
  sonic(config)# ip pim join-prune-interval 70
  sonic(config)#
  ------------------------------------------------------
  sonic(config)# ip pim vrf Vrf1 join-prune-interval 75
  sonic(config)#
```

Configure IP PIM [vrf {{vrf-name}}] keep-alive-timer {{value : (31 to 60000 seconds)}}

```
  sonic(config)# ip pim keep-alive-timer
      {{31..60000}}  Range 31-60000 seconds
  sonic(config)#
  sonic(config)# ip pim keep-alive-timer 35
  sonic(config)# ip pim vrf Vrf1 keep-alive-timer 45
  sonic(config)#
```

Configure IP PIM [vrf {{vrf-name}}] ssm prefix-list {{prefix-list-name}}

```
sonic(config)# ip pim ssm
  prefix-list  Configure prefix list name
sonic(config)# ip pim ssm prefix-list
  String  Prefix list name
sonic(config)# ip pim ssm prefix-list pim_ssm_pfx_list
sonic(config)# ip pim vrf Vrf1 ssm prefix-list pim_ssm_pfx_list
sonic(config)#
```

Configure IP PIM ECMP

```
sonic(config)# ip pim ecmp
sonic(config)# ip pim vrf Vrf1 ecmp
sonic(config)#
```

Configure IP PIM ECMP rebalance

```
sonic(config)# ip pim ecmp rebalance
sonic(config)# ip pim vrf Vrf1 ecmp rebalance
sonic(config)#
```

Configure IP PIM [vrf {{vrf-name}}] rp-address {{rp-addr}}

```
sonic(config)# ip pim rp-address
  A.B.C.D  IPv4 address of the PIM Rendezvous point
sonic(config)# ip pim rp-address pim_rp_address
sonic(config)# ip pim vrf Vrf1i rp-address pim_rp_address
sonic(config)#
```

Configure IP PIM [vrf {{vrf-name}}] rp-address {{rp-addr}} prefix-list {{prefix-list-name}}

```
sonic(config)# ip pim rp-address
  A.B.C.D  IPv4 address of the PIM Rendezvous point
sonic(config)# ip pim rp-address pim_rp_address
  prefix-list  Corresponding prefix list for this RP
sonic(config)# ip pim rp-address pim_rp_address prefix-list
  String  Prefix list name
sonic(config)# ip pim rp-address pim_rp_address prefix-list pim_rp_prfx_list
sonic(config)# ip pim vrf Vrf1i rp-address pim_rp_address prefix-list pim_rp_prfx_list
sonic(config)#
```

Configure IP PIM [vrf {{vrf-name}}] spt-threshold infinity prefix-list {{prefix-list-name}}

```
sonic(config)# ip pim spt-threshold
  infinity Disables shortest path tree switchover
sonic(config)# ip pim spt-threshold infinity
  prefix-list  Disables shortest path tree switchover for a specific multicast group
sonic(config)# ip pim spt-threshold infinity
sonic(config)# ip pim vrf Vrf1 spt-threshold infinity
sonic(config)# ip pim spt-threshold infinity prefix-list spt_prefix_list
sonic(config)# ip pim vrf Vrf1 spt-threshold infinity prefix-list spt_prefix_list
```

ip pim bfd

This command enables BFD processing for PIM on the given interface or range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface {{lo-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ip pim bfd
no ip pim bfd
```

Examples

Enable BFD on interface Vlan100

```
sonic# configure terminal
sonic(config)# interface Vlan 100
sonic(conf-if-Vlan100)# ip pim bfd
sonic(conf-if-Vlan100)#
```

ip pim bfd profile

This command enables a BFD profile for PIM on the given interface or range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface {{lo-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ip pim bfd profile {{profilename}}
no ip pim bfd profile
```

Parameters

Name	Description	Type
profilename	WORD	String

Examples

Enable BFD profile on interface Vlan100

```
sonic# configure terminal
sonic(config)# interface Vlan 100
sonic(conf-if-Vlan100)# ip pim bfd profile pim
sonic(conf-if-Vlan100)#
```

ip pim drpriority

This command configures the DR Priority for the PIM interface or range of interfaces. This command allows the user to set a node's priority for becoming the DR on a network to which the interface is attached. A higher value means a higher chance of being elected.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface {{lo-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ip pim drpriority {{drprio}}
no ip pim drpriority
```

Parameters

Name	Description	Type
drprio	1..4294967295	Integer

Examples

Set DR priority value of interface Vlan100 to 10

```
sonic# configure terminal
sonic(config)# interface Vlan 100
sonic(conf-if-Vlan100)# ip pim drpriority
  {{1..4294967295}}  Range 1_4294967295
sonic(conf-if-Vlan100)# ip pim drpriority 10
sonic(conf-if-Vlan100)#
```

ip pim hello

This command configures the periodic interval for hello messages to keep the PIM neighbor session alive. This configuration internally configures the default hold-time (3.5 x hello-interval); the period to keep the PIM neighbor session alive without receiving hello messages from that particular neighbor.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface {{lo-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ip pim hello {{hello}}
no ip pim hello
```

Parameters

Name	Description	Type
hello		Integer

Examples

Set the hello interval of interface Vlan100 to 30

```
sonic# configure terminal
sonic(conf-if-Vlan100)# ip pim hello
  {{1..180}}  Range 1 to 180 in seconds
sonic(conf-if-Vlan100)# ip pim hello 30
sonic(conf-if-Vlan100)#
```

ip pim sparse-mode

This command enables PIM sparse-mode on the given interface or range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface {{lo-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ip pim sparse-mode
no ip pim sparse-mode
```

Examples

Enable PIM sparse-mode on interface Vlan100

```
sonic# configure terminal
sonic(config)# interface Vlan 100
sonic(conf-if-Vlan100)# ip pim sparse-mode
sonic(conf-if-Vlan100)#
```

ip prefix-list

This command builds a prefix-list.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ip prefix-list {{prefix-name}} { seq { {{seq-no}} { { permit { {{ipv4-prefix}} { [ ge
{{ge-min-prefix-length}} ] } { [ le {{le-max-prefix-length}} ] } } } | { deny { {{ipv4-
prefix}} { [ ge {{ge-min-prefix-length}} ] } { [ le {{le-max-prefix-length}} ] } } } }
} }
no ip prefix-list {{prefix-name}} { [ seq { {{seq-no}} { { permit { {{ipv4-prefix}} { [
ge {{ge-min-prefix-length}} ] } { [ le {{le-max-prefix-length}} ] } } } | { deny {
{{ipv4-prefix}} { [ ge {{ge-min-prefix-length}} ] } { [ le {{le-max-prefix-length}} ] }
} } } } ] }
```

Parameters

Name	Description	Type
prefix-name	WORD	String

Name	Description	Type
seq-no	1..4294967295	Integer
ipv4-prefix	A.B.C.D/mask	String
ge-min-prefix-length		Integer
le-max-prefix-length		Integer

ip protocol

This command filters routing info exchanged between zebra and protocol.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ip protocol { any | bgp | connected | kernel | ospf | static | table } route-map
{{routemap}} [ vrf {{vrf-name}} ]
no ip protocol { any | bgp | connected | kernel | ospf | static | table } [ vrf {{vrf-
name}} ]
```

Parameters

Name	Description	Type
routemap	String	String
vrf-name	WORD	String

Examples

Run the IPv4 protocol route-map command

```
sonic-cli(config)# ip protocol ospf route-map rmap1
```

Features this CLI belongs to

- IP PROTOCOL

ip proxy-arp

This command configures for Proxy ARP mode on an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{vlan-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface range iface_range_num

interface range create vlan_range_num
interface range vlan_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}
```

Syntax

```
ip proxy-arp enable { remote-only | all }
no ip proxy-arp enable
```

Examples

Configure IPv4 proxy mode

```
sonic-cli(config)# interface Ethernet 0
sonic-cli(conf-if-Ethernet0)# ip proxy-arp enable remote-only
```

Features this CLI belongs to

- IPv4 proxy-arp

ip reserve

This command configures the value to reserve host table entries for local hosts.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ip reserve local-neigh {{value}}
no ip reserve local-neigh
```

Parameters

Name	Description	Type
value	Number of reserved local neighbors	Integer

Examples

Configure IP reserve local-neigh

```
sonic-cli(config)# ip reserve local-neigh
```

ip rest

This command configures parameters for REST.

Parent Commands (Modes)

```
configure terminal
```

Syntax

```
ip rest { { authentication {{client-auth}} } | { log-level {{level}} } | { request-
limit {{limit}} } | { read-timeout {{timeout}} } | { security-profile {{security_pro-
file}} } | { port { {{port_num}} | shutdown } } | { api-timeout {{apitime}} } | {
cipher-suite {{ciphersuite}} } | { vrf { mgmt } } }
no ip rest { authentication | log-level | request-limit | read-timeout | security-pro-
file | { port [ shutdown ] } | api-timeout | cipher-suite | vrf }
```

Parameters

Name	Description	Type
client-auth	Authentication Types	String
level		Integer
limit	(0..4294967295)	Integer
timeout	(0..4294967295)	Integer
security_profile	WORD	String
port_num		Integer
apitime	(0..4294967295)	Integer
ciphersuite	String	String

ip route

This command specifies a static route.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ip route {{prefix}} { { interface { {{ifname}} { { [ nexthop-vrf { {{next-hop-vrf}} { [
tag { {{tag-val}} [ {{pref}} ] } ] } [ {{pref}} ] { [ weight { {{weight-val}} [
{{pref}} ] } ] } } ] } | { [ tag { {{tag-val}} [ {{pref}} ] } ] } | [ {{pref}} ] | { [
weight { {{weight-val}} [ {{pref}} ] } ] } ] } } | { blackhole { [ tag { {{tag-val}}
[ {{pref}} ] } ] } [ {{pref}} ] } | { {{next-hop-addr}} { { [ interface { {{ifname}} {
{ [ nexthop-vrf { {{next-hop-vrf}} { [ tag { {{tag-val}} { [ track { {{trackid}} [
{{pref}} ] } ] } [ {{pref}} ] } ] } [ {{pref}} ] { [ track { {{trackid}} [ {{pref}} ] }
] } { [ weight { {{weight-val}} [ {{pref}} ] } ] } } ] } | { [ track { {{trackid}} [
{{pref}} ] } ] } | { [ tag { {{tag-val}} { [ track { {{trackid}} [ {{pref}} ] } ] } [
{{pref}} ] } ] } | [ {{pref}} ] | { [ weight { {{weight-val}} [ {{pref}} ] } ] } ] } }
] } | { [ tag { {{tag-val}} { [ track { {{trackid}} [ {{pref}} ] } ] } [ {{pref}} ] } ]
} | [ {{pref}} ] | { [ track { {{trackid}} [ {{pref}} ] } ] } | { [ weight { {{weight-
val}} [ {{pref}} ] } ] } | { [ nexthop-vrf { {{next-hop-vrf}} { [ tag { {{tag-val}} { [
track { {{trackid}} [ {{pref}} ] } ] } [ {{pref}} ] } ] } [ {{pref}} ] { [ track {
{{trackid}} [ {{pref}} ] } ] } { [ weight { {{weight-val}} [ {{pref}} ] } ] } } ] } ] }
} }
no ip route {{prefix}} { { interface { {{ifname}} { [ nexthop-vrf {{next-hop-vrf}} ] }
} } | blackhole | { {{next-hop-addr}} { { [ interface { {{ifname}} { [ nexthop-vrf
{{next-hop-vrf}} ] } } ] } | { [ nexthop-vrf {{next-hop-vrf}} ] } ] } } }
```

Parameters

Name	Description	Type
prefix	A.B.C.D/mask	String
ifname	Interface Type - Ranges	
next-hop-vrf	WORD	String
tag-val	1..4294967295	Integer
pref		Integer
weight-val		Integer
next-hop-addr	A.B.C.D	String
trackid		Integer

ip route vrf

This command configures the IP route for a VRF instance.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ip route vrf {{vrfname}} { {{prefix}} { { interface { {{ifname}} { { [ nexthop-vrf {
{{next-hop-vrf}} { [ tag { {{tag-val}} [ {{pref}} ] } ] } [ {{pref}} ] { [ weight {
{{weight-val}} [ {{pref}} ] } ] } } ] } | { [ tag { {{tag-val}} [ {{pref}} ] } ] } | [
{{pref}} ] | { [ weight { {{weight-val}} [ {{pref}} ] } ] } ] } } } | { blackhole { [
tag { {{tag-val}} [ {{pref}} ] } ] } [ {{pref}} ] } | { {{next-hop-addr}} { { [ inter-
face { {{ifname}} { { [ nexthop-vrf { {{next-hop-vrf}} { [ tag { {{tag-val}} { [ track
{ {{trackid}} [ {{pref}} ] } ] } [ {{pref}} ] } ] } [ {{pref}} ] { [ track {
{{trackid}} [ {{pref}} ] } ] } { [ weight { {{weight-val}} [ {{pref}} ] } ] } } ] } | {
[ track { {{trackid}} [ {{pref}} ] } ] } | { [ tag { {{tag-val}} { [ track {
{{trackid}} [ {{pref}} ] } ] } [ {{pref}} ] } ] } | [ {{pref}} ] | { [ weight {
{{weight-val}} [ {{pref}} ] } ] } ] } } ] } | { [ tag { {{tag-val}} { [ track {
{{trackid}} [ {{pref}} ] } ] } [ {{pref}} ] } ] } | [ {{pref}} ] | { [ track {
{{trackid}} [ {{pref}} ] } ] } | { [ weight { {{weight-val}} [ {{pref}} ] } ] } | { [
nexthop-vrf { {{next-hop-vrf}} { [ tag { {{tag-val}} { [ track { {{trackid}} [ {{pref}}
] } ] } [ {{pref}} ] } ] } [ {{pref}} ] { [ track { {{trackid}} [ {{pref}} ] } ] } { [
weight { {{weight-val}} [ {{pref}} ] } ] } } ] } ] } } } }
no ip route vrf {{vrfname}} { {{prefix}} { { interface { {{ifname}} { [ nexthop-vrf
{{next-hop-vrf}} ] } } } | blackhole | { {{next-hop-addr}} { { [ interface { {{ifname}}
{ [ nexthop-vrf {{next-hop-vrf}} ] } } ] } | { [ nexthop-vrf {{next-hop-vrf}} ] } ] } }
} }
```

Parameters

Name	Description	Type
vrfname	VRF name (prefixed by Vrf, Max: 15 characters)	String
prefix	A.B.C.D/mask	String
ifname	Interface Type - Ranges	
next-hop-vrf	WORD	String
tag-val	1..4294967295	Integer
pref		Integer
weight-val		Integer
next-hop-addr	A.B.C.D	String
trackid		Integer

ip route vrf mgmt

This command configures the IP Route for a management VRF.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ip route vrf mgmt {{prefix}} { { interface { {{ifname}} { { [ nexthop-vrf { {{next-hop-
vrf}} { [ tag { {{tag-val}} [ {{pref}} ] } ] } [ {{pref}} ] { [ weight { {{weight-val}}
[ {{pref}} ] } ] } } ] } | { [ tag { {{tag-val}} [ {{pref}} ] } ] } | [ {{pref}} ] | {
[ weight { {{weight-val}} [ {{pref}} ] } ] } ] } } | { blackhole { [ tag { {{tag-
val}} [ {{pref}} ] } ] } [ {{pref}} ] } | { {{next-hop-addr}} { { [ interface {
{{ifname}} { { [ nexthop-vrf { {{next-hop-vrf}} { [ tag { {{tag-val}} { [ track {
{{trackid}} [ {{pref}} ] } ] } [ {{pref}} ] } ] } [ {{pref}} ] { [ track { {{trackid}}
[ {{pref}} ] } ] } { [ weight { {{weight-val}} [ {{pref}} ] } ] } } ] } | { [ track {
{{trackid}} [ {{pref}} ] } ] } | { [ tag { {{tag-val}} { [ track { {{trackid}} [
{{pref}} ] } ] } [ {{pref}} ] } ] } | [ {{pref}} ] | { [ weight { {{weight-val}} [
{{pref}} ] } ] } ] } } ] } | { [ tag { {{tag-val}} { [ track { {{trackid}} [ {{pref}} ]
} ] } [ {{pref}} ] } ] } | [ {{pref}} ] | { [ track { {{trackid}} [ {{pref}} ] } ] } |
{ [ weight { {{weight-val}} [ {{pref}} ] } ] } | { [ nexthop-vrf { {{next-hop-vrf}} { [
tag { {{tag-val}} { [ track { {{trackid}} [ {{pref}} ] } ] } [ {{pref}} ] } ] } [
{{pref}} ] { [ track { {{trackid}} [ {{pref}} ] } ] } { [ weight { {{weight-val}} [
{{pref}} ] } ] } } ] } ] } } }
no ip route vrf mgmt {{prefix}} { { interface { {{ifname}} { [ nexthop-vrf {{next-hop-
vrf}} ] } } } | blackhole | { {{next-hop-addr}} { { [ interface { {{ifname}} { [
nexthop-vrf {{next-hop-vrf}} ] } } ] } | { [ nexthop-vrf {{next-hop-vrf}} ] } ] } } }
```

Parameters

Name	Description	Type
prefix	A.B.C.D/mask	String
ifname	Interface Type - Ranges	
next-hop-vrf	WORD	String
tag-val	1..4294967295	Integer
pref		Integer
weight-val		Integer
next-hop-addr	A.B.C.D	String
trackid		Integer

ip sla

This command configures an IP SLA instance.

Parent Commands (Modes)

```
configure session
```

```
configure terminal
```

Syntax

```
ip sla {{sla-id}}
no ip sla {{sla-id}}
```

Parameters

Name	Description	Type
sla-id		Integer

Examples

Configure IP SLA instance

```
sonic(config)# ip sla 10
sonic(conf-ipsla-10)#
```

ip source binding

This command creates a static DHCPv4 snooping binding entry.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ip source binding {{ip-address}} { {{mac-address}} { vlan { {{phy-if-name}} | PortChan-
nel } } }
no ip source binding {{ip-address}} { {{mac-address}} { vlan { {{phy-if-name}} |
PortChannel } } }
```

Parameters

Name	Description	Type
ip-address	A.B.C.D	String
mac-address	nn:nn:nn:nn:nn:nn	String
phy-if-name	EthernetNUM	

ip ssh

This command configures the maximum authentication retries for an SSH server.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ip ssh { { max-auth-retries {{value}} } | { disable-forwarding {{value}} } | { permit-
root-login {{value}} } | { permit-user-environment {{value}} } | { permit-user-rc
{{value}} } | { x11-forwarding {{value}} } | { ciphers {{value}} } | { kexalgorithms
{{value}} } | { macs {{value}} } | { hostkeyalgorithms {{value}} } | { disable-pass-
word-authentication {{value}} } | { disable-publickey-authentication {{value}} } }
no ip ssh { max-auth-retries | disable-forwarding | permit-root-login | permit-user-
environment | permit-user-rc | x11-forwarding | ciphers | kexalgorithms | macs |
hostkeyalgorithms | disable-password-authentication | disable-publickey-authentication
}
```

Parameters

Name	Description	Type
value		Integer

Examples

Configure SSH settings

```
sonic(config)#ip ssh max-auth-retries 5
```

sonic(config)#ip ssh disable-forwarding true
sonic(config)#ip ssh permit-root-login true
sonic(config)# ip ssh permit-user-environment true
sonic(config)# ip ssh permit-user-rc true
sonic(config)# ip ssh x11-forwarding true
sonic(config)# ip ssh ciphers aes128-ctr,aes192-ctr
sonic(config)#ip ssh kexalgorithms curve25519-sha256,curve25519-sha256@libssh.org
sonic(config)#ip ssh macs umac-128-etm@openssh.com,hmac-sha2-256-etm@openssh.com
sonic(config)#ip ssh hostkeyalgorithms ecdsa-sha2-nistp256,rsa-sha2-256,rsa-sha2-512
sonic(config)# ip ssh disable-password-authentication true
sonic(config)# ip ssh disable-publickey-authentication true

ip ssh client

This command configures the ciphers used for the SSH client.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ip ssh client { { ciphers {{value}} } | { kexalgorithms {{value}} } | { macs {{value}}
} }
no ip ssh client { ciphers | kexalgorithms | macs }
```

Parameters

Name	Description	Type
value	String	String

Examples

Configure allowed ciphers for the SSH client

```
sonic(config)# ip ssh client ciphers aes128-ctr,aes192-ctr
```

```
sonic(config)#ip ssh client kexalgorithms curve25519-sha256,curve25519-
sha256@libssh.org
```

```
sonic(config)#ip ssh client macs umac-128-etm@openssh.com,hmac-sha2-256-etm@openssh.com
```

ip telemetry

This command configures the parameters for telemetry.

Parent Commands (Modes)

```
configure session
```

```
configure terminal
```

Syntax

```
ip telemetry { { authentication {{client-auth}} } | { log-level {{level}} } | { jwt-
refresh {{refresh_seconds}} } | { jwt-valid {{validity}} } | { security-profile {{secur-
ity_profile}} } | { port {{port_num}} } | { api-timeout {{apitime}} } | { vrf { mgmt }
} }
no ip telemetry { authentication | log-level | jwt-refresh | jwt-valid | security-pro-
file | port | api-timeout | vrf }
```

Parameters

Name	Description	Type
client-auth	Authentication Types	String
level		Integer
refresh_seconds	(0..4294967295)	Integer
validity	(0..4294967295)	Integer
security_profile	WORD	String
port_num		Integer
apitime	(0..4294967295)	Integer

ip unnumbered

This command configures an IPv4 unnumbered interface by borrowing the IPv4 address from the donor interface.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{vlan-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}
```

Syntax

```
ip unnumbered {{donor-interface}}
no ip unnumbered
```

Parameters

Name	Description	Type
donor-interface		

Examples

Configure an IPv4 unnumbered interface

```
sonic-cli(config)# interface Ethernet 0
sonic-cli(conf-if-Ethernet0)# ip unnumbered Loopback1
```

Features this CLI belongs to

- IPv4 Unnumbered Interface

ip unreach-remote-neighbor-block

This command blocks the download of IPv4 unreachable remote neighbors to hardware.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ip unreach-remote-neighbor-block
no ip unreach-remote-neighbor-block
```

Examples

Configure blocking of IPv4 unreachable remote neighbors

```
sonic-cli(config)#ip unreach-remote-nbr-block
```

ip vrf

This command configures a data VRF. Configure the next-hop resolution via the default route.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ip vrf {{vrf-name}} { [ nht resolve-via-default ] }
no ip vrf {{vrf-name}} { [ nht resolve-via-default ] }
```

Parameters

Name	Description	Type
vrf-name	WORD	String

Examples

Configure a data VRF

```
sonic# configure terminal
sonic(config)# ip vrf Vrf_red
sonic(config)# ip vrf Vrf_red nht resolve-via-default
```

ip vrf forwarding

This command assigns an interface to a VRF. VRF is data/mgmt VRF, and the interface can be an Ethernet, loopback, portchannel, or VLAN interface.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface {{vlan-if-name}}

interface range create vlan_range_num
interface range vlan_range_num

interface {{lo-if-name}}
```

Syntax

```
ip vrf forwarding { mgmt | {{vrf-name}} }
no ip vrf forwarding { mgmt | {{vrf-name}} }
```

Parameters

Name	Description	Type
vrf-name	WORD	String

Examples

Assign interface to VRF

```
sonic(config)# interface Ethernet 8
sonic(conf-if-Ethernet8)# ip vrf forwarding Vrf_red
```

```
sonic(config)# interface Loopback 8
sonic(conf-if-lo8)# ip vrf forwarding Vrf_red
sonic(config)# interface PortChannel 8
sonic(conf-if-po8)# ip vrf forwarding Vrf_red
sonic(config)# interface Vlan 8
sonic(conf-if-Vlan8)# ip vrf forwarding Vrf_red
sonic(config)# interface Vlan 100
sonic(conf-if-Vlan8)# ip vrf forwarding mgmt
```

ip vrf mgmt

This command configures a management VRF.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ip vrf mgmt
no ip vrf mgmt
```

Examples

Configure management VRF

```
sonic# configure terminal
sonic(config)# ip vrf mgmt
```

ip-acl

This command configures the key-profile for IP access control.

Parent Commands (Modes)

```
tcam
```

Syntax

```
ip-acl { ingress | egress } key-profile pac
no ip-acl { ingress | egress } key-profile
```

ipv6 access-group (Interfaces)

This command applies IPv6 ACL to an interface or globally. The ACL must be created first, and must be of the IPv6 type to be applied. Only one ACL of a given type can be applied per interface and per direction.

Parent Commands (Modes)

```
interface {{phy-if-name}}interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links
{{min-links-value}} ] } [ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

configure session
configure terminal
```

Syntax

```
ipv6 access-group {{access-list-name}} { in | out }
no ipv6 access-group {{access-list-name}} { in | out }
```

Parameters

Name	Description	Type
access-list-name	String (Max: 72 characters)	String

Examples

Apply IPv6 ACL to an interface

```
sonic(conf-if-Eth1/1)# ipv6 access-group ipv6acl-example in
```

Apply IPv6 ACL globally

```
sonic(config)# ipv6 access-group ipv6acl-example out
```

ipv6 access-group (VTY)

This command configures an Internet Protocol v6 (IPv6) ACL. The ACL name can be a maximum of 72 characters. The name must begin with A to Z, a to z, or 0 to 9. Underscores and hyphens can be used, except as the first character. The ACL name must be unique across all ACL types.

Parent Commands (Modes)

```
line vty
```

Syntax

```
ipv6 access-group {{access-list-name}} in
no ipv6 access-group {{access-list-name}} in
```

Parameters

Name	Description	Type
access-list-name	String (Max: 72 characters)	String

ipv6 access-list

Create IPv6 ACL.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ipv6 access-list {{access-list-name}}
no ipv6 access-list {{access-list-name}}
```

Parameters

Name	Description	Type
access-list-name	String (Max: 72 characters)	String

Examples

Create IPv6 ACL

```
sonic(config)# ipv6 access-list ipv6acl-example
```

ipv6 address (Management Interfaces)

Configure an IPv6 address under the management interface.

Parent Commands (Modes)

```
interface {{mgmt-if-name}}
```

Syntax

```
ipv6 address {{addr}} [ gwaddr {{gw_addr}} ] [ eui-64 ]
no ipv6 address [ {{addr}} ]
```

Parameters

Name	Description	Type
addr	A::B/mask	String
gw_addr	A::B	String

ipv6 address (Management Interfaces)

Configure an IPv6 address under the management interface.

Parent Commands (Modes)

```
interface {{lo-if-name}}
```

Syntax

```
ipv6 address {{addr}}
no ipv6 address [ {{addr}} ]
```

Parameters

Name	Description	Type
addr	A::B/mask	String

ipv6 address (Non-Management Interfaces)

Configure an IPv6 address under the non-management interface.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{phy-sub-if-name}}
```

```
interface {{po-sub-if-name}}

interface {{lo-if-name}}
```

Syntax

```
ipv6 address {{addr}} [ eui-64 ]
no ipv6 address [ {{addr}} ]
```

Parameters

Name	Description	Type
addr	A::B/mask	String

ipv6 address autoconfig

This command enables IPv6 stateless address auto-configuration.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{mgmt-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{lo-if-name}}

interface range iface_range_num

interface range create vlan_range_num
interface range vlan_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}
```

Syntax

```
ipv6 address autoconfig
no ipv6 address autoconfig
```

ipv6 anycast-address (Global)

This command enables/disables the IPv6 Static Anycast Gateway functionality. By default, it is enabled.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ipv6 anycast-address { enable | disable }
```

Examples

Enable IPv6 Static Anycast Gateway

```
sonic(config)# ipv6 anycast-address enable
```

Disable IPv6 Static Anycast Gateway

```
sonic(config)# ipv6 anycast-address disable
```

ipv6 anycast-address (Interfaces)

This command configures the IPv6 Static Anycast Gateway address for an interface or an Ethernet sub-interface.

Parent Commands (Modes)

```
interface {{vlan-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}
```

Syntax

```
ipv6 anycast-address {{anycast-addr}}
no ipv6 anycast-address {{anycast-addr}}
```

Parameters

Name	Description	Type
anycast-addr	A::B/mask	String

Examples

Configure IPv6 Static Anycast Gateway address for an interface

```
sonic(conf-if-Vlan5)# ipv6 anycast-address 50::1/64
```

Configure IPv6 Static Anycast Gateway address for an Ethernet sub-interface

```
sonic(conf-if-Eth5.1)# ipv6 anycast-address 50::1/64
```

ipv6 attached-host advertise

This command enables the attached-host advertise functionality on the interface and sets the admin-distance.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}
```

Syntax

```
ipv6 attached-host advertise [ {{admin-distance}} ]
no ipv6 attached-host advertise
```

Parameters

Name	Description	Type
admin-distance		Integer

Examples

Enable advertise-host and set admin-distance

```
sonic# configure terminal
sonic(conf-if-Ethernet0)# ipv6 attached-host advertise
  {{0..250}}  Range 0 to 250. Default is 250.
sonic(conf-if-Ethernet0)# ipv6 attached-host advertise 30
sonic(conf-if-Ethernet0)#
```

ipv6 dhcp snooping

This command enables DHCPv6 snooping globally or on selected VLANs.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ipv6 dhcp snooping [ {{vlan-range}} ]
no ipv6 dhcp snooping [ {{vlan-range}} ]
```

Parameters

Name	Description	Type
vlan-range	Interface VLAN Range	

Examples

Enable DHCPv6 snooping

```
sonic-cli# configure terminal
sonic-cli(config)# ipv6 dhcp snooping
sonic-cli(config)#
```

Disable DHCPv6 snooping

```
sonic-cli# configure terminal
sonic-cli(config)# no ipv6 dhcp snooping
sonic-cli(config)#
```

Enable DHCPv6 snooping on a VLAN

```
sonic-cli# configure terminal
sonic-cli(config)# ipv6 dhcp snooping Vlan 2
sonic-cli(config)#
```

Disable DHCPv6 snooping on a VLAN

```
sonic-cli# configure terminal
sonic-cli(config)# no ipv6 dhcp snooping Vlan 2
sonic-cli(config)#
```

Features this CLI belongs to

- DHCP Snooping

ipv6 dhcp snooping trust

This command marks Trust mode for DHCPv6 snooping on an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num
```

Syntax

```
ipv6 dhcp snooping trust
no ipv6 dhcp snooping trust
```

ipv6 dhcp snooping verify mac-address

This command enables DHCPv6 snooping MAC address verification.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ipv6 dhcp snooping verify mac-address
```

```
no ipv6 dhcp snooping verify mac-address
```

Examples

Enable DHCPv6 snooping MAC address verification

```
sonic-cli# configure terminal
sonic-cli(config)# ipv6 dhcp snooping verify mac-address
sonic-cli(config)#
```

Disable DHCPv6 snooping MAC address verification

```
sonic-cli# configure terminal
sonic-cli(config)# no ipv6 dhcp snooping verify mac-address
sonic-cli(config)#
```

Features this CLI belongs to

- DHCP Snooping

ipv6 dhcp-relay

This command configures DHCPv6 relay on an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ipv6 dhcp-relay {{ipaddr1}} { { [ vrf {{vrfName}} ] } { [ {{ipaddr2}} { [ {{ipaddr3}} {
[ {{ipaddr4}} { [ {{ipaddr5}} { [ {{ipaddr6}} { [ {{ipaddr7}} { [ {{ipaddr8}} { [
{{ipaddr9}} { [ {{ipaddr10}} { [ {{ipaddr11}} { [ {{ipaddr12}} { [ {{ipaddr13}} { [
{{ipaddr14}} { [ {{ipaddr15}} [ {{ipaddr16}} ] ] } ] } ] } ] } ] } ] } ] } ] } ] } ] }
] } ] } ] } ] } }
no ipv6 dhcp-relay [ {{ipaddr1}} { [ {{ipaddr2}} { [ {{ipaddr3}} { [ {{ipaddr4}} { [
{{ipaddr5}} { [ {{ipaddr6}} { [ {{ipaddr7}} { [ {{ipaddr8}} { [ {{ipaddr9}} { [
{{ipaddr10}} { [ {{ipaddr11}} { [ {{ipaddr12}} { [ {{ipaddr13}} { [ {{ipaddr14}} { [
{{ipaddr15}} [ {{ipaddr16}} ] ] } ] } ] } ] } ] } ] } ] } ] } ] } ] } ] } ] } ] } ]
```

Parameters

Name	Description	Type
ipaddr1	A::B	String
vrfName	WORD	String
ipaddr2	A::B	String
ipaddr3	A::B	String
ipaddr4	A::B	String
ipaddr5	A::B	String
ipaddr6	A::B	String
ipaddr7	A::B	String
ipaddr8	A::B	String
ipaddr9	A::B	String
ipaddr10	A::B	String
ipaddr11	A::B	String
ipaddr12	A::B	String
ipaddr13	A::B	String
ipaddr14	A::B	String
ipaddr15	A::B	String
ipaddr16	A::B	String

Examples

Configure IP DHCPv6 relay on an interface

```
sonic-cli(config)# interface Ethernet 12
```

```
sonic-cli(conf-if-Ethernet0)# ipv6 dhcp-relay 9000::1
```

Configure IP DHCPv6 relay on a range of interfaces

```
sonic-cli(config)# interface range Ethernet 48-51
%Info: Configuring only existing interfaces in range
sonic-cli(conf-if-range-eth**)# ipv6 dhcp-relay 9000::1
```

ipv6 dhcp-relay max-hop-count

This command configures the maximum hop count for the DHCPv6 packet.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ipv6 dhcp-relay max-hop-count {{hop-count}}
no ipv6 dhcp-relay max-hop-count
```

Parameters

Name	Description	Type
hop-count		Integer

Examples

Configure the DHCPv6 relay max-hop-count on an interface

```
sonic-cli(config)# interface Ethernet 12
sonic-cli(conf-if-Ethernet0)# ipv6 dhcp-relay max-hop-count 9
```

Configure the DHCPv6 relay max-hop-count on a range of interfaces

```
sonic-cli(config)# interface range Ethernet 48-51
%Info: Configuring only existing interfaces in range
sonic-cli(conf-if-range-eth**)# ipv6 dhcp-relay max-hop-count 9
```

ipv6 dhcp-relay source-interface

This command configures the source IPv6 address to use for relaying the DHCPv6 packets.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

For a single source address

```
ipv6 dhcp-relay source-interface { {{intfName}} | {{pchName}} | {{vlanName}} |
{{loName}} | {{Management}} }
```

```
no ipv6 dhcp-relay source-interface
```

For a range of source addresses

```
ipv6 dhcp-relay source-interface { {{intfName}} | {{pchName}} | {{vlanName}} |
{{loName}} }
no ipv6 dhcp-relay source-interface
```

Parameters

For a single source address

Name	Description	Type
intfName	EthernetX.Y	
pchName	PortChannelNUM	
vlanName	VlanNUM	
loName		
Management		

For a range of source addresses

Name	Description	Type
intfName	EthernetX.Y	
pchName	PortChannelNUM	
vlanName	VlanNUM	
loName		

Examples

Configure the DHCP relay source IP on an interface

```
sonic-cli(config)# interface Ethernet 12
sonic-cli(conf-if-Ethernet0)# ipv6 dhcp-relay source-interface Ethernet36
```

Configure the DHCP relay source IP on a range of interfaces

```
sonic-cli(config)# interface range Ethernet 48-51
```

```
%Info: Configuring only existing interfaces in range
sonic-cli(conf-if-range-eth**)# ipv6 dhcp-relay source-interface Ethernet36
```

ipv6 dhcp-relay vrf-select

This command configures the VRF selection option.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ipv6 dhcp-relay vrf-select
no ipv6 dhcp-relay vrf-select
```

Examples

Configure the DHCP relay VRF selection on an interface

```
sonic-cli(config)# interface Ethernet 12
sonic-cli(conf-if-Ethernet0)# ipv6 dhcp-relay vrf-select
```

Configure the DHCP relay VRF selection on a range of interfaces

```
sonic-cli(config)# interface range Ethernet 48-51
%Info: Configuring only existing interfaces in range
sonic-cli(conf-if-range-eth**)# ipv6 dhcp-relay vrf-select
```

ipv6 drop-neighbor

This command configures the time (in seconds) for IPv6 drop-neighbor aging.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ipv6 drop-neighbor aging-time {{value}}
no ipv6 drop-neighbor aging-time
```

Parameters

Name	Description	Type
value	Value in seconds	Integer

Examples

Configure the IPv6 drop-neighbor aging-time

```
sonic-cli(config)# ipv6 drop-neighbor aging-time 200
```

ipv6 enable

This command enables IPv6.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{mgmt-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{lo-if-name}}

interface range iface_range_num

interface range create vlan_range_num
interface range vlan_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}
```

Syntax

```
ipv6 enable
no ipv6 enable
```

ipv6 nd (Interfaces)

This command suppresses sending router advertisement (RA) messages. By default, sending router advertisement messages is suppressed. The no form of this command enables sending RA messages.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}
```

```
interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ipv6 nd { [ suppress-ra ] | [ managed-config-flag ] | [ other-config-flag ] | [ home-
agent-config-flag ] | [ ra-fast-retrans ] | [ adv-interval-option ] | { [ dnssl {
{{SUFFIX}} { [ {{lifetime_interval}} ] | [ infinite ] ] } } ] } | { [ home-agent-life-
time {{home-agent-lifetime-interval}} ] } | { [ home-agent-preference {{home-agent-pref-
erence-interval}} ] } | { [ mtu {{mtu-value}} ] } | { [ prefix { {{ra-prefix}} { { [
{{lifetime_interval}} { {{preferred_lifetime_interval}} | infinite } ] } | { [ infinite
{ {{preferred_lifetime_interval}} | infinite1 } ] } ] } { [ router-address ] | { [ off-
link [ no-autoconfig ] ] } | { [ no-autoconfig [ off-link ] ] } ] } } ] } | { [ ra-hop-
limit {{hop-limit-value}} ] } | { [ ra-interval { {{ra-interval-sec}} | { msec {{msec-
interval}} } } ] } | { [ min-ra-interval { {{min-ra-interval-sec}} | { msec {{msec-
interval}} } } ] } | { [ ra-lifetime {{ra-lifetime-value}} ] } | { [ ra-retrans-inter-
val {{ra-retrans-value}} ] } | { [ rdnss { {{rdnss-prefix}} { [ {{lifetime_interval}} ]
| [ infinite ] ] } } ] } | { [ reachable-time {{reachable-time-value}} ] } | { [
router-preference { high | low | medium } ] } }
no ipv6 nd { [ suppress-ra ] | [ managed-config-flag ] | [ other-config-flag ] | [
home-agent-config-flag ] | [ ra-fast-retrans ] | [ adv-interval-option ] | { [ dnssl
{{SUFFIX}} ] } | [ home-agent-lifetime ] | [ home-agent-preference ] | [ mtu ] | { [
prefix {{ra-prefix}} ] } | [ ra-hop-limit ] | { [ ra-interval { [ msec ] ] } } ] } | { [
min-ra-interval { [ msec ] ] } } ] } | [ ra-lifetime ] | [ ra-retrans-interval ] | { [
rdnss {{rdnss-prefix}} ] } | [ reachable-time ] | [ router-preference ] }
```

Parameters

Name	Description	Type
SUFFIX	String	String
lifetime_interval	(0..4294967295)	Integer
home-agent-lifetime-interval	(0..65520)	Integer
home-agent-preference-interval	(0..65535)	Integer
mtu-value	(0..65535)	Integer
ra-prefix	X:X::X:X/M	String
preferred_lifetime_interval	(0..4294967295)	Integer
hop-limit-value	(0..255)	Integer
ra-interval-sec	(1..1800)	Integer

Name	Description	Type
msec-interval	(70..1800000)	Integer
min-ra-interval-sec	(1..1350)	Integer
ra-lifetime-value	(0..9000)	Integer
ra-retrans-value	(0..4294967295)	Integer
rdnss-prefix	X:X::X:X	String
reachable-time-value	0..3600000	Integer

Examples

Enable suppressing router advertisement messages

```
sonic(conf-if-Ethernet46)# ipv6 nd suppress-ra
```

Features this CLI belongs to

- ND

ipv6 nd cache

This command configures the time (in seconds) for an IPv6 ND cache entry to expire.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ipv6 nd cache { expire {{value}} }
no ipv6 nd cache expire
```

Parameters

Name	Description	Type
value	Value in seconds	Integer

Examples

Configure IPv6 ND timeout

```
sonic-cli(config)# ipv6 nd cache expire 500
```

ipv6 nd dad

This command enables or disables Duplicated Address Detection.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{mgmt-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface range iface_range_num

interface range create vlan_range_num
interface range vlan_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}
```

Syntax

```
ipv6 nd dad { enable | disable | disable-ipv6-on-dad-failure }
```

ipv6 nd-proxy

This command configures nd-proxy on an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface range iface_range_num

interface range create vlan_range_num
interface range vlan_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}
```

Syntax

```
ipv6 nd-proxy enable { remote-only | all }
no ipv6 nd-proxy enable
```

Examples

Configure nd-proxy on an interface

```
sonic-cli(config)# interface Ethernet 0
sonic-cli(conf-if-Ethernet0)# ipv6 nd-proxy enable remote-only
```

Features this CLI belongs to

- IPv6 nd-proxy

ipv6 nd-proxy rule prefix

This command configures an ND proxy prefix subnet on an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface range iface_range_num

interface range create vlan_range_num
interface range vlan_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}
```

Syntax

```
ipv6 nd-proxy rule prefix {{addr}}
no ipv6 nd-proxy rule prefix {{addr}}
```

Parameters

Name	Description	Type
addr	A::B/mask	String

Examples

Configure an ND proxy on an interface

```
sonic-cli(config)# interface Ethernet 0
sonic-cli(conf-if-Ethernet0)# ipv6 nd-proxy rule prefix 40:1::/64
```

Features this CLI belongs to

- IPv6 nd-proxy

ipv6 neighbor

This command configures static ND.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}
```

Syntax

```
ipv6 neighbor {{static-ip}} {{neigh}}
no ipv6 neighbor {{static-ip}} {{neigh}}
```

Parameters

Name	Description	Type
static-ip	A::B	String
neigh	nn:nn:nn:nn:nn:nn	String

Examples

Configure static ND

```
sonic-cli(config)# interface Ethernet 0
sonic-cli(conf-if-Ethernet0)# ip neighbor ip_addr mac
```

ipv6 nht

This command configures default route-based IPv6 next-hop resolution within the default VRF.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ipv6 nht resolve-via-default
no ipv6 nht resolve-via-default
```

Examples

Enable IPv6 next-hop tracking

```
sonic-cli(config)# ipv6 nht resolve-via-default
```

Features this CLI belongs to

- Nexthop Tracking

ipv6 ospfv3 advertise prefix-list

This command configures the OSPFv3 interface advertise prefix list.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{lo-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num
```

```
interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ipv6 ospfv3 advertise prefix-list {{prefixlistname}}
no ipv6 ospfv3 advertise prefix-list
```

Parameters

Name	Description	Type
prefixlistname	String	String

Examples

Configure OSPFv3 interface cost

```
sonic-cli(config-router-ospfv3)# ipv6 ospfv3 advertise prefix-list abc
```

Features this CLI belongs to

- OSPFv3

ipv6 ospfv3 area

This command associates an interface into an OSPFv3 area. An area identifier can be configured only when there is already a configured OSPFv3 router within the interface VRF and there are no network commands configured within that router. Area identifier configuration on an interface will get auto-unconfigured while the OSPFv3 router gets unconfigured from the VRF.

Parent Commands (Modes)

```
interface {{phy-if-name}}
```

```
interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{lo-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ipv6 ospfv3 area {{area-id}}
no ipv6 ospfv3 area
```

Parameters

Name	Description	Type
area-id	A.B.C.D or 0..4294967295	String

Examples

Configure OSPFv3 interface area identifier

```
sonic-cli(config-router-ospfv3)# ipv6 ospfv3 area 19
sonic-cli(config-router-ospfv3)# ipv6 ospfv3 area 19.0.0.1
```

Features this CLI belongs to

- OSPFv3

ipv6 ospfv3 bfd

This command configures the OSPFv3 interface BFD. Enabling BFD will establish a BFD session between the OSPF neighbors. Any failure in the BFD session will bring down the OSPFv3 session.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{lo-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ipv6 ospfv3 bfd
no ipv6 ospfv3 bfd
```

Examples

Configure OSPFv3 interface BFD

```
sonic-cli(config-router-ospfv3)# ipv6 ospfv3 bfd
```

Features this CLI belongs to

- OSPFv3

ipv6 ospfv3 bfd profile

This command configures the OSPFv3 interface BFD profile. Enabling the profile will also enable BFD on the interface, if not enabled.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{lo-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ipv6 ospfv3 bfd profile {{profilename}}
no ipv6 ospfv3 bfd profile
```

Parameters

Name	Description	Type
profilename	WORD	String

Examples

Configure OSPFv3 interface BFD profile

```
sonic-cli(config-router-ospfv3)# ipv6 ospfv3 bfd profile ospf
```

Features this CLI belongs to

- OSPFv3

ipv6 ospfv3 cost

This command configures the OSPFv3 interface cost.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{lo-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ipv6 ospfv3 cost {{interface-cost}}
no ipv6 ospfv3 cost
```

Parameters

Name	Description	Type
interface-cost		Integer

Examples

Configure the OSPFv3 interface cost

```
sonic-cli(config-router-ospfv3)# ipv6 ospfv3 cost 38
```

Features this CLI belongs to

- OSPFv3

ipv6 ospfv3 dead-interval

This command configures the OSPFv3 neighbor dead interval.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{lo-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ipv6 ospfv3 dead-interval {{deadinterval}}
no ipv6 ospfv3 dead-interval
```

Parameters

Name	Description	Type
deadinterval		Integer

ipv6 ospfv3 hello-interval

This command configures the OSPFv3 interface neighbor hello interval.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{lo-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ipv6 ospfv3 hello-interval {{hellointerval}}
no ipv6 ospfv3 hello-interval
```

Parameters

Name	Description	Type
deadinterval		Integer

Examples

Configure the OSPFv3 interface neighbor hello interval

```
sonic-cli(config-router-ospfv3)# ipv6 ospfv3 hello-interval 20
```

Features this CLI belongs to

- OSPFv3

ipv6 ospfv3 mtu-ignore

This command disables OSPFv3 MTU mismatch detection. By default, MTU mismatch detection is enabled.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{lo-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ipv6 ospfv3 mtu-ignore
no ipv6 ospfv3 mtu-ignore
```

Examples

Disable OSPFv3 MTU mismatch detection

```
sonic-cli(config-router-ospfv3)# ipv6 ospfv3 mtu-ignore
```

Features this CLI belongs to

- OSPFv3

ipv6 ospfv3 network

This command configures the OSPFv3 interface network type. The Broadcast and Point-to-Point network types are supported. By default, the network type is broadcast.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{lo-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ipv6 ospfv3 network { broadcast | point-to-point }
no ipv6 ospfv3 network
```

Examples

Configure OSPFv3 interface network type

```
sonic-cli(config-router-ospfv3)# ipv6 ospfv3 network point-to-point
sonic-cli(config-router-ospfv3)# ipv6 ospfv3 network broadcast
```

Features this CLI belongs to

- OSPFv3

ipv6 ospfv3 passive

Use this command to configure one or more OSPFv3 interfaces as passive; no adjacency will be formed on the specified interface or range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{lo-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ipv6 ospfv3 passive
no ipv6 ospfv3 passive
```

Examples

Configure OSPFv3 interface as passive

```
sonic-cli(config-router-ospfv3)# ipv6 ospfv3 passive
```

Features this CLI belongs to

- OSPFv3

ipv6 ospfv3 priority

This command configures OSPFv3 adjacency router priority.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{lo-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ipv6 ospfv3 priority {{priorityval}}
no ipv6 ospfv3 priority
```

Parameters

Name	Description	Type
priorityval		Integer

Examples

Configure OSPFv3 adjacency router priority

```
sonic-cli(config-router-ospfv3)# ipv6 ospfv3 priority 19
```

Features this CLI belongs to

- OSPFv3

ipv6 ospfv3 retransmit-interval

This command configures the OSPFv3 interface LSA retransmit interval.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{lo-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ipv6 ospfv3 retransmit-interval {{retransmitinterval}}
no ipv6 ospfv3 retransmit-interval
```

Parameters

Name	Description	Type
retransmitinterval		Integer

Examples

Configure the OSPFv3 interface LSA retransmit interval

```
sonic-cli(config-router-ospfv3)# ipv6 ospfv3 retransmit-interval 35
```

Features this CLI belongs to

- OSPFv3

ipv6 ospfv3 transmit-delay

This command configures the OSPFv3 interface LSA transmit delay interval.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{lo-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num
```

```
interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
ipv6 ospfv3 transmit-delay {{transmitdelay}}
no ipv6 ospfv3 transmit-delay
```

Parameters

Name	Description	Type
transmitdelay		Integer

Examples

Configure the OSPFv3 interface LSA transmit delay interval

```
sonic-cli(config-router-ospfv3)# ipv6 ospfv3 transmit-delay 35
```

Features this CLI belongs to

- OSPFv3

ipv6 prefix-list

This command builds a prefix-list.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ipv6 prefix-list {{prefix-name}} { seq { {{seq-no}} { { permit { {{ipv6-prefix}} { [ ge
{{ge-min-prefix-length}} ] } { [ le {{le-max-prefix-length}} ] } } } | { deny { {{ipv6-
prefix}} { [ ge {{ge-min-prefix-length}} ] } { [ le {{le-max-prefix-length}} ] } } } }
} }
no ipv6 prefix-list {{prefix-name}} { [ seq { {{seq-no}} { { permit { {{ipv6-prefix}} {
[ ge {{ge-min-prefix-length}} ] } { [ le {{le-max-prefix-length}} ] } } } | { deny {
{{ipv6-prefix}} { [ ge {{ge-min-prefix-length}} ] } { [ le {{le-max-prefix-length}} ] }
} } } } ] }
```

Parameters

Name	Description	Type
prefix-name	WORD	String
seq-no	1..4294967295	Integer
ipv6-prefix	A::B/mask	String
ge-min-prefix-length		Integer
le-max-prefix-length		Integer

ipv6 protocol

This command filters routing info exchanged between zebra and protocol.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ipv6 protocol { any | bgp | connected | kernel | static | table } route-map
{{routemap}} [ vrf {{vrf-name}} ]
no ipv6 protocol { any | bgp | connected | kernel | static | table } [ vrf {{vrf-name}}
]
```

Parameters

Name	Description	Type
routemap	String	String
vrf-name	WORD	String

Examples

Filter routing info between zebra and protocol

```
sonic-cli(config)# ipv6 protocol any route-map rmap1
```

Features this CLI belongs to

- IP PROTOCOL

ipv6 route

This command specifies a static route.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ipv6 route {{prefix}} { { interface { {{ifname}} { { [ nexthop-vrf { {{next-hop-vrf}} {
[ tag { {{tag-val}} [ {{pref}} ] } ] } [ {{pref}} ] { [ weight { {{weight-val}} [
{{pref}} ] } ] } } ] } | { [ tag { {{tag-val}} [ {{pref}} ] } ] } | [ {{pref}} ] | { [
weight { {{weight-val}} [ {{pref}} ] } ] } ] } } | { blackhole { [ tag { {{tag-val}}
[ {{pref}} ] } ] } [ {{pref}} ] } | { {{next-hop-addr}} { { [ interface { {{ifname}} {
{ [ nexthop-vrf { {{next-hop-vrf}} { [ tag { {{tag-val}} { [ track { {{trackid}} [
{{pref}} ] } ] } [ {{pref}} ] } ] } [ {{pref}} ] { [ track { {{trackid}} [ {{pref}} ] }
] } { [ weight { {{weight-val}} [ {{pref}} ] } ] } } ] } | { [ track { {{trackid}} [
{{pref}} ] } ] } | { [ tag { {{tag-val}} { [ track { {{trackid}} [ {{pref}} ] } ] } [
{{pref}} ] } ] } | [ {{pref}} ] | { [ weight { {{weight-val}} [ {{pref}} ] } ] } ] } }
] } | { [ tag { {{tag-val}} { [ track { {{trackid}} [ {{pref}} ] } ] } [ {{pref}} ] } ]
} | [ {{pref}} ] | { [ track { {{trackid}} [ {{pref}} ] } ] } | { [ weight { {{weight-
val}} [ {{pref}} ] } ] } | { [ nexthop-vrf { {{next-hop-vrf}} { [ tag { {{tag-val}} { [
track { {{trackid}} [ {{pref}} ] } ] } [ {{pref}} ] } ] } [ {{pref}} ] { [ track {
{{trackid}} [ {{pref}} ] } ] } { [ weight { {{weight-val}} [ {{pref}} ] } ] } } ] } ] }
} }
```

```
no ipv6 route {{prefix}} { { interface { {{ifname}} { [ nexthop-vrf {{next-hop-vrf}} ]
} } } | blackhole | { {{next-hop-addr}} { { [ interface { {{ifname}} { [ nexthop-vrf
{{next-hop-vrf}} ] } } ] } | { [ nexthop-vrf {{next-hop-vrf}} ] } ] } } }
```

Parameters

Name	Description	Type
prefix	A::B/mask	String
ifname	Interface Type - Ranges	
next-hop-vrf	WORD	String
tag-val	1..4294967295	Integer
pref		Integer
weight-val		Integer
next-hop-addr	A::B	String
trackid		Integer

ipv6 route vrf

This command configures the IP route for a VRF instance.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ipv6 route vrf {{vrfname}} { {{prefix}} { { interface { {{ifname}} { { [ nexthop-vrf {
{{next-hop-vrf}} { [ tag { {{tag-val}} [ {{pref}} ] } ] } [ {{pref}} ] { [ weight {
{{weight-val}} [ {{pref}} ] } ] } } ] } | { [ tag { {{tag-val}} [ {{pref}} ] } ] } | [
{{pref}} ] | { [ weight { {{weight-val}} [ {{pref}} ] } ] } ] } } | { blackhole { [
tag { {{tag-val}} [ {{pref}} ] } ] } [ {{pref}} ] } | { {{next-hop-addr}} { { [ inter-
face { {{ifname}} { { [ nexthop-vrf { {{next-hop-vrf}} { [ tag { {{tag-val}} { [ track
{ {{trackid}} [ {{pref}} ] } ] } [ {{pref}} ] } ] } [ {{pref}} ] { [ track {
{{trackid}} [ {{pref}} ] } ] } { [ weight { {{weight-val}} [ {{pref}} ] } ] } } ] } | {
[ track { {{trackid}} [ {{pref}} ] } ] } | { [ tag { {{tag-val}} { [ track {
{{trackid}} [ {{pref}} ] } ] } [ {{pref}} ] } ] } | [ {{pref}} ] | { [ weight {
{{weight-val}} [ {{pref}} ] } ] } ] } } ] } | { [ tag { {{tag-val}} { [ track {
{{trackid}} [ {{pref}} ] } ] } [ {{pref}} ] } ] } | [ {{pref}} ] | { [ track {
{{trackid}} [ {{pref}} ] } ] } | { [ weight { {{weight-val}} [ {{pref}} ] } ] } | { [
nexthop-vrf { {{next-hop-vrf}} { [ tag { {{tag-val}} { [ track { {{trackid}} [ {{pref}}
] } ] } [ {{pref}} ] } ] } [ {{pref}} ] { [ track { {{trackid}} [ {{pref}} ] } ] } { [
weight { {{weight-val}} [ {{pref}} ] } ] } } ] } ] } } } }
no ipv6 route vrf {{vrfname}} { {{prefix}} { { interface { {{ifname}} { [ nexthop-vrf
{{next-hop-vrf}} ] } } } | blackhole | { {{next-hop-addr}} { { [ interface { {{ifname}}
{ [ nexthop-vrf {{next-hop-vrf}} ] } } ] } | { [ nexthop-vrf {{next-hop-vrf}} ] } ] } }
} }
```

Parameters

Name	Description	Type
vrfname	VRF name (prefixed by Vrf, Max: 15 characters)	String
prefix	A::B/mask	String
ifname	Interface Type - Ranges	
next-hop-vrf	WORD	String
tag-val	1..4294967295	Integer
pref		Integer
weight-val		Integer
next-hop-addr	A::B	String
trackid		Integer

ipv6 route vrf mgmt

This command configures the IP route for a management VRF.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ipv6 route vrf mgmt {{prefix}} { { interface { {{ifname}} { { [ nexthop-vrf { {{next-
hop-vrf}} { [ tag { {{tag-val}} [ {{pref}} ] } ] } [ {{pref}} ] { [ weight { {{weight-
val}} [ {{pref}} ] } ] } } ] } | { [ tag { {{tag-val}} [ {{pref}} ] } ] } | [ {{pref}}
] | { [ weight { {{weight-val}} [ {{pref}} ] } ] } } } | { blackhole { [ tag {
{{tag-val}} [ {{pref}} ] } ] } [ {{pref}} ] } | { {{next-hop-addr}} { { [ interface {
{{ifname}} { { [ nexthop-vrf { {{next-hop-vrf}} { [ tag { {{tag-val}} { [ track {
{{trackid}} [ {{pref}} ] } ] } [ {{pref}} ] } ] } [ {{pref}} ] { [ track { {{trackid}}
[ {{pref}} ] } ] } { [ weight { {{weight-val}} [ {{pref}} ] } ] } } ] } | { [ track {
{{trackid}} [ {{pref}} ] } ] } | { [ tag { {{tag-val}} { [ track { {{trackid}} [
{{pref}} ] } ] } [ {{pref}} ] } ] } | [ {{pref}} ] | { [ weight { {{weight-val}} [
{{pref}} ] } ] } ] } } ] } | { [ tag { {{tag-val}} { [ track { {{trackid}} [ {{pref}} ]
} ] } [ {{pref}} ] } ] } | [ {{pref}} ] | { [ track { {{trackid}} [ {{pref}} ] } ] } |
{ [ weight { {{weight-val}} [ {{pref}} ] } ] } | { [ nexthop-vrf { {{next-hop-vrf}} { [
tag { {{tag-val}} { [ track { {{trackid}} [ {{pref}} ] } ] } [ {{pref}} ] } ] } [
{{pref}} ] { [ track { {{trackid}} [ {{pref}} ] } ] } { [ weight { {{weight-val}} [
{{pref}} ] } ] } } ] } ] } } }
no ipv6 route vrf mgmt {{prefix}} { { interface { {{ifname}} { [ nexthop-vrf {{next-
hop-vrf}} ] } } } | blackhole | { {{next-hop-addr}} { { [ interface { {{ifname}} { [
nexthop-vrf {{next-hop-vrf}} ] } } ] } | { [ nexthop-vrf {{next-hop-vrf}} ] } ] } } }
```

Parameters

Name	Description	Type
prefix	A::B/mask	String
ifname	Interface Type - Ranges	
next-hop-vrf	WORD	String
tag-val	1..4294967295	Integer
pref		Integer
weight-val		Integer
next-hop-addr	A::B	String
trackid		Integer

ipv6 source binding

This command creates a static DHCPv6 snooping binding entry.

Parent Commands (Modes)

```
configure session
```

```
configure terminal
```

Syntax

```
ipv6 source binding {{ip-address}} { {{mac-address}} { vlan { {{phy-if-name}} |
PortChannel } } }
no ipv6 source binding {{ip-address}} { {{mac-address}} { vlan { {{phy-if-name}} |
PortChannel } } }
```

Parameters

Name	Description	Type
ip-address	A::B	String
mac-address	nn:nn:nn:nn:nn:nn	String
phy-if-name	EthernetNUM	

ipv6 unreach-remote-neighbor-block

This command blocks the download of IPv6 unreachable remote neighbors to hardware.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ipv6 unreach-remote-neighbor-block
no ipv6 unreach-remote-neighbor-block
```

Examples

Configure blocking of IPv6 unreachable remote neighbors

```
sonic-cli(config)#ipv6 unreach-remote-nbr-block
```

ipv6 vrf

This command configures IPv6 next-hop resolution via the default route.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ipv6 vrf {{vrf-name}} { nht resolve-via-default }
no ipv6 vrf {{vrf-name}} { nht resolve-via-default }
```

Parameters

Name	Description	Type
vrf-name	WORD	String

Examples

Configure a data VRF

```
sonic# configure terminal
sonic(config)# ipv6 vrf Vrf_red nht resolve-via-default
```

ipv6-acl

This command configures the key-profile for IPv6 access control.

Parent Commands (Modes)

```
tcam
```

Syntax

```
ipv6-acl { ingress | egress } key-profile pac
no ipv6-acl { ingress | egress } key-profile
```

Chapter 6:

Commands K to L

After login, type sonic-cli to be able to use the commands in this guide.

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kdump enable

This command enables or disables the KDUMP operation. These commands require a reboot to complete. Use the command "kdump enable" to enable the KDUMP operation. Use the command "no kdump" to disable the KDUMP operation.

Parent Commands (Modes)

```
configure terminal
```

Syntax

```
kdump enable
```

Examples

```
sonic# configure terminal
sonic(config)# kdump enable
Kdump configuration changes will be applied after the system reboots.
Save SONiC configuration using 'write memory' before issuing the reboot command.
sonic(config)# no kdump
Kdump configuration changes will be applied after the system reboots.
Save SONiC configuration using 'write memory' before issuing the reboot command.
```

Features this CLI belongs to

- KDUMP

kdump memory

This command sets or resets to default the amount of memory reserved for KDUMP. These commands require a reboot to complete. Use the commands "kdump memory {{X}}" or "no kdump memory" to set or reset to default the amount of memory reserved for KDUMP.

Parent Commands (Modes)

```
configure terminal
```

Syntax

```
kdump memory {{kdump_memory}}
no kdump memory
```

Parameters

Name	Description	Type
kdump_memory		String

Examples

```
sonic# configure terminal
sonic(config)# kdump memory 512M
Kdump updated memory will be only operational after the system reboots.
Save SONiC configuration using 'write memory' before issuing the reboot command.
sonic(config)# no kdump memory
Kdump updated memory will be only operational after the system reboots.
Save SONiC configuration using 'write memory' before issuing the reboot command.
```

Features this CLI belongs to

- KDUMP

kdump num-dumps

This command sets or resets to default value the maximum number of kernel core files stored locally. These commands typically require a reboot to complete. Use the commands "kdump num-dumps {{X}}" or "no kdump num-dumps" to set or reset to default the maximum number of kernel core files stored locally.

Parent Commands (Modes)

```
configure terminal
```

Syntax

```
kdump num-dumps {{kdump_num_dumps}}
no kdump num-dumps
```

Parameters

Name	Description	Type
kdump_num_dumps	Maximum number of kernel core files stored locally	Integer

Examples

```
sonic# configure terminal
sonic(config)# kdump num-dumps 5
sonic(config)# no kdump num-dumps
```

Features this CLI belongs to

- KDUMP

keepalive-interval

This command configures the default MCLAG keepalive interval in seconds.

Parent Commands (Modes)

```
mclag domain {{mclag-domain-id}}
```

Syntax

```
keepalive-interval {{KA}}
```

Parameters

Name	Description	Type
KA	Keepalive interval in seconds	Integer

Examples

Configure the MCLAG session interval to 10 for MCLAG domain 100

```
sonic-cli(config-mclag-domain-100)#keepalive-interval 10
```

key config-key password-encrypt

This command is to used to configure a user-selected passphrase, which is used to derive the primary encryption key. In the absence of a user-configured passphrase, the system derives a unique default key.

It is important to note that the configuration cannot be copied/migrated from one box to another, unless the same primary encryption key passphrase is configured on both devices.

Parent Commands (Modes)

```
configure terminal
```

Syntax

```
key config-key password-encrypt
no key config-key password-encrypt [ override ]
```

Examples

Take the primary encryption key passphrase interactively from the user

```
sonic#configure
sonic(conf)#key config-key password-encrypt
New key:
```

```
Old key:
Primary encryption key updated successfully.
```

l2-nexthop-group

This command enables L2 nexthop-group configuration.

Parent Commands (Modes)

```
switch-resource
```

Syntax

```
l2-nexthop-group
no l2-nexthop-group
```

Examples

Enable L2 nexthop-group configuration

```
sonic(config)# l2-nexthop-group enable
```

lacp individual

This command enables LACP individual for one or more portchannels.

Parent Commands (Modes)

```
interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num
```

Syntax

```
lacp individual
no lacp individual
```

lacp individual timeout

This command configures LACP individual timeout for one or more portchannels.

Parent Commands (Modes)

```
interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num
```

Syntax

```
lacp individual timeout {{timeout}}
no lacp individual timeout
```

Parameters

Name	Description	Type
timeout		Integer

ldap-server

This command configures the time limit for the LDAP global server.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ldap-server { { timelimit {{timelimit_val}} } | { bind-timelimit {{bind_timelimit_val}}
} | { idle-timelimit {{idle_timelimit_val}} } | { retry {{retry_val}} } | { port
{{port_val}} } | { scope {{scope_val}} } | { version {{ldap_version_val}} } | { base
{{ldap_base_val}} } | { ssl {{ssl_val}} } | { binddn {{binddn_val}} } | { bindpw {
{{bindpw_val}} [ encrypted ] } } | { security-profile {{security_profile}} } | { pam-
filter {{pam_filter_val}} } | { pam-login-attribute {{pam_login_val}} } | { pam-group-
dn {{pam_group_val}} } | { pam-member-attribute {{pam_member_val}} } | { sudoers-base
{{sudoers_val}} } | { sudoers-search-filter {{sudoers_search_val}} } | { nss-base-
passwd {{nss_base_passwd_val}} } | { nss-base-group {{nss_base_group_val}} } | { nss-
base-shadow {{nss_base_shadow_val}} } | { nss-base-netgroup {{nss_base_netgroup_val}} }
| { nss-base-sudoers {{nss_sudoers_val}} } | { nss-initgroups-ignoreusers {{nss-init-
groups_val}} } | { nss-skipmembers {{nss_skipmembers_val}} } }
no ldap-server { timelimit | bind-timelimit | idle-timelimit | retry | port | scope |
version | base | ssl | binddn | bindpw | pam-filter | security-profile | pam-login-
attribute | pam-group-dn | pam-member-attribute | sudoers-base | sudoers-search-filter
| nss-base-passwd | nss-base-group | nss-base-shadow | nss-base-netgroup | nss-base-
sudoers | nss-initgroups-ignoreusers | nss-skipmembers }
```

Parameters

Name	Description	Type
timelimit_val		Integer
bind_timelimit_val		Integer
idle_timelimit_val		Integer
retry_val		Integer
port_val		Integer
scope_val		Select [sub(sub) one(one) base(base)]
ldap_version_val		Integer
ldap_base_val	Base distinguished name	String
ssl_val		Select [on(on) off(off) start_tls(start_tls)]
binddn_val	Distinguished name to bind	String
bindpw_val	Credentials to bind (Valid Chars: ASCII printable except SPACE)	String
security_profile	String	String
pam_filter_val	PAM filter name	String
pam_login_val	PAM login attribute (Default: uid)	String
pam_group_val	PAM group distinguished name	String
pam_member_val	PAM member attribute value	String

Name	Description	Type
sudoers_val	Sudo base distinguished name	String
sudoers_search_val	Sudo Search Filter name	String
nss_base_passwd_val	NSS search base for password map	String
nss_base_group_val	NSS search base group	String
nss_base_shadow_val	NSS search base for shadow map	String
nss_base_netgroup_val	NSS search base for netgroup map	String
nss_sudoers_val	NSS search base for sudoers map	String
nss-initgroups_val	Init groups ignore users value	String
nss_skipmembers_val	Boolean choice	Select [true(1) false(0)]

Examples

Configure LDAP server global settings

```
sonic-cli(config)# ldap-server timelimit 13
```

```
sonic-cli(config)# ldap-server bind-timelimit 10
```

```
sonic-cli(config)# ldap-server idle-timelimit 12
```

```
sonic-cli(config)# ldap-server retry 8
```

```
sonic-cli(config)# ldap-server port 81
```

```
sonic-cli(config)# ldap-server scope sub
```

```
sonic-cli(config)# ldap-server version 2
```

```
sonic-cli(config)# ldap-server base basetest
```

```
sonic-cli(config)# ldap-server ssl on
```

```
sonic-cli(config)# ldap-server binddn dnname
```

```
sonic-cli(config)# ldap-server bindpw testpasswd
```

```
sonic-cli(config)# ldap-server security-profile testprofile
```

```
sonic-cli(config)# ldap-server pam-filter testfilter
```

```
sonic-cli(config)# ldap-server pam-login-attribute loginattrstring
```

```
sonic-cli(config)# ldap-server pam-group-dn grpdn
```

```
sonic-cli(config)# ldap-server pam-member-attribute attrstring
```

```
sonic-cli(config)# ldap-server sudoers-base dnqrystr
```

```
sonic-cli(config)# ldap-server nss-base-passwd dnsearchstr
```

```
sonic-cli(config)# ldap-server nss-base-group grpmap
```

```
sonic-cli(config)# ldap-server nss-base-shadow grpmap
```

```
sonic-cli(config)# ldap-server nss-base-netgroup netgrpstr
```

```
sonic-cli(config)# ldap-server nss-base-sudoers sudomap
```

```
sonic-cli(config)# ldap-server nss-initgroups-ignoreusers grpstr
```

```
sonic-cli(config)# ldap-server sudoers-search-filter testfilter
```

```
sonic-cli(config)# ldap-server nss-skipmembers true
```

ldap-server host

This command configures the host for LDAP server.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ldap-server host {{host_val}} [ use-type {{use_type_val}} ] [ port {{server_port_val}}
] [ priority {{priority_val}} ] [ ssl {{ssl_val}} ] [ retry {{retry_val}} ]
no ldap-server host {{host_val}} { [ use-type ] | [ port ] | [ priority ] | [ ssl ] | [
retry ] } ]
```

Parameters

Name	Description	Type
host_val	WORD	String
use_type_val		Select [all(all) nss(nss) sudo(sudo) pam(pam) nss_sudo(nss_sudo) nss_pam(nss_pam) sudo_pam(sudo_pam)]
server_port_val		Integer
priority_val		Integer

Name	Description	Type
ssl_val		Select [on(on) off(off) start_tls(start_tls)]
retry_val		Integer

Examples

Configure LDAP server individual settings

```
sonic-cli(config)# ldap-server host 4.5.6.7 use-type nss port 300 priority 12 ssl on
retry 5
```

ldap-server map

This command configures the LDAP server map.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ldap-server map { { [ attribute {{attribute_from_val}} { to {{attribute_to_val}} } ] }
| { [ objectclass {{objectclass_from_val}} { to {{objectclass_to_val}} } ] } | { [
default-attribute-value {{default_from_val}} { to {{default_to_val}} } ] } | { [ over-
ride-attribute-value {{override_from_val}} { to {{override_to_val}} } ] } | { [ remote-
groups-override-to-sonic-roles {{override_from_val}} { to {{override_to_val}} } ] } }
no ldap-server map { { [ attribute {{attribute_from_val}} ] } | { [ objectclass
{{objectclass_from_val}} ] } | { [ default-attribute-value {{default_from_val}} ] } | {
[ override-attribute-value {{override_from_val}} ] } | { [ remote-groups-override-to-
sonic-roles {{override_from_val}} ] } }
```

Parameters

Name	Description	Type
attribute_from_val	Attribute map key	String
attribute_to_val	Attribute map value	String
objectclass_from_val	Objectclass map key	String

Name	Description	Type
objectclass_to_val	Objectclass map value	String
default_from_val	Default attribute map key	String
default_to_val	Default attribute map value	String
override_from_val	Override attribute value map key	String
override_to_val	Override attribute value map value	String

Examples

Configure LDAP server group mapping

```
sonic-cli(config)# ldap-server map objectclass objkey to objectVal
```

ldap-server nss

This command configures a time limit for the LDAP NSS server.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ldap-server nss { { timelimit {{timelimit_val}} } | { bind-timelimit {{bind_timelimit_
val}} } | { idle-timelimit {{idle_timelimit_val}} } | { retry {{retry_val}} } | { port
{{port_val}} } | { scope {{scope_val}} } | { version {{ldap_version_val}} } | { base
{{ldap_base_val}} } | { ssl {{ssl_val}} } | { binddn {{binddn_val}} } | { bindpw {
{{bindpw_val}} [ encrypted ] } } | { nss-base-passwd {{nss_base_passwd_val}} } | { nss-
base-group {{nss_base_group_val}} } | { nss-base-shadow {{nss_base_shadow_val}} } | {
nss-base-netgroup {{nss_base_netgroup_val}} } | { nss-base-sudoers {{nss_sudoers_val}}
} | { nss-initgroups-ignoreusers {{nss-initgroups_val}} } }
no ldap-server nss { timelimit | bind-timelimit | idle-timelimit | retry | port | scope
| version | base | ssl | binddn | bindpw | nss-base-passwd | nss-base-group | nss-base-
shadow | nss-base-netgroup | nss-base-sudoers | nss-initgroups-ignoreusers }
```

Parameters

Name	Description	Type
timelimit_val		Integer
bind_timelimit_val		Integer
idle_timelimit_val		Integer
retry_val		Integer
port_val		Integer
scope_val		Select [sub(sub) one(one) base(base)]
ldap_version_val		Integer
ldap_base_val	Base distinguished name	String
ssl_val		Select [on(on) off(off) start_tls(start_tls)]
binddn_val	Distinguished name to bind	String
bindpw_val	Credentials to bind (Valid Chars: ASCII printable except SPACE)	String
nss_base_passwd_val	NSS search base for password map	String
nss_base_group_val	NSS search base group	String
nss_base_shadow_val	NSS search base for shadow map	String
nss_base_netgroup_val	NSS search base for netgroup map	String
nss_sudoers_val	NSS search base for sudoers map	String
nss-initgroups_val	Init groups ignore users value	String

Examples

Configure LDAP server global NSS settings

```
sonic-cli(config)# ldap-server nss timelimit 13
```

```
sonic-cli(config)# ldap-server nss bind-timelimit 10
```

```
sonic-cli(config)# ldap-server nss idle-timelimit 12
```

```
sonic-cli(config)# ldap-server nss retry 8
```

```
sonic-cli(config)# ldap-server nss port 81
```

```
sonic-cli(config)# ldap-server nss scope sub
```

```
sonic-cli(config)# ldap-server nss version 2
```

```
sonic-cli(config)# ldap-server nss base basetest
```

```
sonic-cli(config)# ldap-server nss ssl on
```

```
sonic-cli(config)# ldap-server nss binddn dnname
```

```
sonic-cli(config)# ldap-server nss bindpw testpasswd
```

```
sonic-cli(config)# ldap-server nss nss-base-passwd dnsearchstr
```

```
sonic-cli(config)# ldap-server nss nss-base-group grpmap
```

```
sonic-cli(config)# ldap-server nss nss-base-shadow grpmap
```

```
sonic-cli(config)# ldap-server nss nss-base-netgroup netgrpstr
```

```
sonic-cli(config)# ldap-server nss nss-base-sudoers sudomap
```

```
sonic-cli(config)# ldap-server nss nss-initgroups-ignoreusers grpstr
```

ldap-server pam

This command configures a time limit for the LDAP PAM server.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ldap-server pam { { timelimit {{timelimit_val}} } | { bind-timelimit {{bind_timelimit_
val}} } | { retry {{retry_val}} } | { port {{port_val}} } | { scope {{scope_val}} } | {
version {{ldap_version_val}} } | { base {{ldap_base_val}} } | { ssl {{ssl_val}} } | {
binddn {{binddn_val}} } | { bindpw { {{bindpw_val}} [ encrypted ] } } | { pam-filter
{{pam_filter_val}} } | { pam-login-attribute {{pam_login_val}} } | { pam-group-dn
{{pam_group_val}} } | { pam-member-attribute {{pam_member_val}} } | { nss-base-passwd
{{nss_base_passwd_val}} } }
no ldap-server pam { timelimit | bind-timelimit | retry | port | scope | version | base
| ssl | binddn | bindpw | pam-filter | pam-login-attribute | pam-group-dn | pam-member-
attribute | nss-base-passwd }
```

Parameters

Name	Description	Type
timelimit_val		Integer
bind_timelimit_val		Integer
retry_val		Integer
port_val		Integer
scope_val		Select [sub(sub) one(one) base(base)]
ldap_version_val		Integer
ldap_base_val	Base distinguished name	String
ssl_val		Select [on(on) off(off) start_tls(start_tls)]

Name	Description	Type
binddn_val	Distinguished name to bind	String
bindpw_val	Credentials to bind (Valid Chars: ASCII printable except SPACE)	String
pam_filter_val	PAM filter name	String
pam_login_val	PAM login attribute (Default: uid)	String
pam_group_val	PAM group distinguished name	String
pam_member_val	PAM member attribute value	String
nss_base_passwd_val	NSS search base for password map	String

Examples

Configure LDAP server global PAM settings

```
sonic-cli(config)# ldap-server pam timelimit 13
```

```
sonic-cli(config)# ldap-server pam bind-timelimit 10
```

```
sonic-cli(config)# ldap-server pam retry 8
```

```
sonic-cli(config)# ldap-server pam port 81
```

```
sonic-cli(config)# ldap-server pam scope sub
```

```
sonic-cli(config)# ldap-server pam version 2
```

```
sonic-cli(config)# ldap-server pam base basetest
```

```
sonic-cli(config)# ldap-server pam ssl on
```

```
sonic-cli(config)# ldap-server pam binddn dnname
```

```
sonic-cli(config)# ldap-server pam bindpw testpasswd
```

```
sonic-cli(config)# ldap-server pam pam-filter testfilter
```

```
sonic-cli(config)# ldap-server pam pam-login-attribute loginattrstring
```

```
sonic-cli(config)# ldap-server pam pam-group-dn grpdn
```

```
sonic-cli(config)# ldap-server pam pam-member-attribute attrstring
```

```
sonic-cli(config)# ldap-server pam nss-base-passwd dnsearchstr
```

ldap-server source-interface

This command configures the source-interface to be used for LDAP packets.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ldap-server source-interface { Ethernet | Loopback | Management | PortChannel | Vlan |
SubInterface }
no ldap-server source-interface
```

Examples

Configure LDAP server global PAM settings

```
sonic(config)# ldap-server source-interface Loopback 3
sonic(config)#
```

ldap-server sudo

This command configures a time limit for the LDAP sudo server.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ldap-server sudo { { timelimit {{timelimit_val}} } | { bind-timelimit {{bind_timelimit_
val}} } | { retry {{retry_val}} } | { port {{port_val}} } | { version {{ldap_version_
val}} } | { base {{ldap_base_val}} } | { ssl {{ssl_val}} } | { binddn {{binddn_val}} }
| { bindpw { {{bindpw_val}} [ encrypted ] } } | { sudoers-base {{sudoers_val}} } | {
sudoers-search-filter {{sudoers_search_val}} } }
no ldap-server sudo { timelimit | bind-timelimit | retry | port | version | base | ssl
| binddn | bindpw | sudoers-base | sudoers-search-filter }
```

Parameters

Name	Description	Type
timelimit_val		Integer
bind_timelimit_val		Integer
retry_val		Integer
port_val		Integer
ldap_version_val		Integer
ldap_base_val	Base distinguished name	String
ssl_val		Select [on(on) off(off) start_tls(start_tls)]

Name	Description	Type
binddn_val	Distinguished name to bind	String
bindpw_val	Credentials to bind (Valid Chars: ASCII printable except SPACE)	String
sudoers_val	Sudo base distinguished name	String
sudoers_search_val	Sudo Search Filter name	String

Examples

Configure LDAP server global sudo settings

```
sonic-cli(config)# ldap-server sudo timelimit 13
```

```
sonic-cli(config)# ldap-server sudo bind-timelimit 10
```

```
sonic-cli(config)# ldap-server sudo retry 8
```

```
sonic-cli(config)# ldap-server sudo port 81
```

```
sonic-cli(config)# ldap-server sudo scope sub
```

```
sonic-cli(config)# ldap-server sudo version 2
```

```
sonic-cli(config)# ldap-server sudo base basetest
```

```
sonic-cli(config)# ldap-server sudo ssl on
```

```
sonic-cli(config)# ldap-server sudo binddn dnname
```

```
sonic-cli(config)# ldap-server sudo bindpw testpasswd
```

```
sonic-cli(config)# ldap-server sudo sudoers-base dnqrystr
```

```
sonic-cli(config)# ldap-server sudoers-search-filter testfilter
```

ldap-server vrf

This command configures a VRF to be used for the LDAP server connection.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ldap-server vrf {{vrf_name}}
no ldap-server vrf
```

Parameters

Name	Description	Type
vrf_name	WORD	String

Examples

Configure an LDAP communication VRF

```
sonic(config)# ldap-server vrf Vrf1
sonic(config)#
```

license

This command configures license installation.

Syntax

```
license install {{file_url}}
```

Parameters

Name	Description	Type
file_url	File to be installed	

line vty

This command configures the virtual terminal line interface.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
line vty
```

link state track (Global)

Create a link state tracking group. The link state tracking group name can be a maximum of 63 characters. The name must begin with A to Z, a to z, or 0 to 9. Underscores and hyphens can be used, except as the first character.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
link state track {{grp-name}}
no link state track {{grp-name}}
```

Parameters

Name	Description	Type
grp-name	Name	String

Examples

Create a link state tracking group named FooBar

```
sonic(config)# link state track FooBar
```

link state track (Interfaces)

This command configures upstream or downstream interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}
```

Syntax

```
link state track {{grp-name}} { upstream | downstream }
no link state track { {{grp-name}} | upstream | downstream } { upstream | downstream }
```

Parameters

Name	Description	Type
grp-name	Name	String

Examples

Configure upstream or downstream interfaces

```
sonic(conf-if-Vlan100)# link state track FooBar upstream
sonic(conf-if-Ethernet4)# link state track FooBar downstream
```

link-error-disable

This command configures link-error-disable.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
link-error-disable [ flap-threshold { {{flaps}} { sampling-interval { {{window}} {
recovery-interval {{interval}} } } } } ]
no link-error-disable
```

Parameters

Name	Description	Type
flaps		Integer
window		Integer
interval		Integer

listen limit

This command sets a listen limit for BGP for dynamic BGP neighbors.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }
```

Syntax

```
listen limit {{lmt-val}}
```

Parameters

Name	Description	Type
lmt-val		Integer

Examples

Create a listen limit

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# listen limit 123
```

listen range

This command creates a listen range for BGP for dynamic BGP neighbors. BGP will accept connections from any peers in the specified prefix. Configuration from the specified peer-group is used to configure these peers.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }
```

Syntax

```
listen range {{addr}} { peer-group {{pgname}} }
```

Parameters

Name	Description	Type
addr	A.B.C.D/mask or A::B/mask	String
pgname	WORD	String

Examples

Create a listen range of 192.168.0.0/16

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# listen range 192.168.0.0/16 peer-group PG_Ext
```

lldp

This command configures LLDP frame Reception and Transmission mode at the global or interface level.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num

configure session
configure terminal
```

Syntax

```
lldp {{mode}}
no lldp {{mode}}
```

Parameters

Name	Description	Type
mode	Mode type	Select [receive transmit]

Examples

Configure LLDP mode globally

```
sonic-cli(config)# lldp receive
        or
sonic-cli(config)# lldp transmit
```

Configure LLDP mode for an interface

```
sonic-cli(config)# interface Ethernet 0
sonic-cli(conf-if-Ethernet0)# lldp receive
```

Features this CLI belongs to

- LLDP

lldp enable

This command enables LLDP at the global or interface level.

Parent Commands (Modes)

```
configure session
configure terminal

interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
lldp enable
no lldp enable
```

Examples

Enable LLDP globally

```
sonic-cli(config)# lldp enable
```

Enable LLDP for an interface

```
sonic-cli(config)# interface Ethernet 0
sonic-cli(conf-if-Ethernet0)# lldp enable
```

Features this CLI belongs to

- LLDP

lldp med-tlv-select

This command selects which LLDP-MED TLVs to advertise.

Parent Commands (Modes)

```
interface {{phy-if-name}}
```

```
interface range iface_range_num
```

Syntax

```
lldp med-tlv-select {{tlv}}
no lldp med-tlv-select {{tlv}}
```

Parameters

Name	Description	Type
tlv	MED TLV type	Select [network-policy power-management]

Examples

Enable LLDP-MED TLV advertisement

```
sonic-cli(config)# interface Ethernet 0
sonic-cli(conf-if-Ethernet0)# lldp med-tlv-select network-policy
```

Features this CLI belongs to

- LLDP-MED

lldp multiplier

This command configures the LLDP multiplier value that is used to determine the timeout interval (i.e. hello-time x multiplier value) after which the LLDP neighbor entry is deleted. The default value is 4.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
lldp multiplier {{multiplier}}
no lldp multiplier
```

Parameters

Name	Description	Type
multiplier		Integer

Examples

Configure LLDP multiplier

```
sonic-cli(config)# lldp multiplier 6
```

Features this CLI belongs to

- LLDP

lldp system-description

This command configures the LLDP system description.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
lldp system-description {{system_description}}
no lldp system-description
```

Parameters

Name	Description	Type
system_description	Line	String

Examples

Configure the LLDP system description

```
sonic-cli(config)# lldp system-description "Broadcom Sonic"
```

Features this CLI belongs to

- LLDP

lldp system-name

This command configures the LLDP system name.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
lldp system-name {{system_name}}
no lldp system-name
```

Parameters

Name	Description	Type
system_name	String	String

Examples

Configure the LLDP system name

```
sonic-cli(config)# lldp system-name "BroadcomSonic"
```

Features this CLI belongs to

- LLDP

lldp timer

This command configures the LLDP hello time in seconds. This is the time interval at which periodic hellos are exchanged. The default value is 30.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
lldp timer {{hello-time}}
no lldp timer
```

Parameters

Name	Description	Type
hello-time		Integer

Examples

Configure the LLDP hello time

```
sonic-cli(config)# lldp timer 10
```

Features this CLI belongs to

- LLDP

lldp tlv-select (Global)

This command enables global LLDP TLV advertisement.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
lldp tlv-select {{tlv}}
no lldp tlv-select {{tlv}}
```

Parameters

Name	Description	Type
tlv	TLV type	Select [management-address system-capabilities]

Examples

Configure LLDP TLV advertisement

```
sonic-cli(config)# lldp tlv-select system-capabilities
sonic-cli(config)# lldp tlv-select management-address
```

Features this CLI belongs to

- LLDP

lldp tlv-select (Interfaces)

This command enables LLDP TLV advertisement on an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
lldp tlv-select { power-management | port-vlan-id | vlan-name | link-aggregation | max-
frame-size }
no lldp tlv-select { power-management | port-vlan-id | vlan-name | link-aggregation |
max-frame-size }
```

Examples

Enable LLDP 802.1/3 TLV advertisement

```
sonic-cli(config)# interface Ethernet 0
sonic-cli(conf-if-Ethernet0)# lldp tlv-select link-aggregation
sonic-cli(conf-if-Ethernet0)# lldp tlv-select max-frame-size
sonic-cli(conf-if-Ethernet0)# lldp tlv-select port-vlan-id
sonic-cli(conf-if-Ethernet0)# lldp tlv-select power-management
        sonic-cli(conf-if-Ethernet0)# lldp tlv-select vlan-name
```

Features this CLI belongs to

- LLDP-MED

lldp tlv-set

This command configures an IPv4 or IPv6 management address that will be used to advertise by LLDP on an interface.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
lldp tlv-set management-address { { ipv4 {{address}} } | { ipv6 {{address}} } }
no lldp tlv-set management-address { ipv4 | ipv6 }
```

Parameters

Name	Description	Type
address	A.B.C.D	String

Examples

Configure IPv4/IPv6 management address

```
sonic-cli(config)# interface Ethernet 0
sonic-cli(conf-if-Ethernet0)# lldp tlv-set management-address ipv4 10.1.1.1
```

Features this CLI belongs to

- LLDP

lldp vlan-name-tlv

This command configures a vlan-list to be used for vlan-name TLV advertisement by LLDP on an interface.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
lldp vlan-name-tlv { { allowed { Vlan {{vlan-range}} } } | { max-tlv-count {{tlv-
count}} } }
no lldp vlan-name-tlv { { allowed { Vlan {{vlan-range}} } } | max-tlv-count }
```

Parameters

Name	Description	Type
vlan-range	{{1..4094}}	String
tlv-count		Integer

Examples

Configure vlan-list for vlan-name TLV advertisement

```
sonic-cli(config)# interface Ethernet 0
sonic-cli(conf-if-Ethernet0)# lldp vlan-name-tlv allowed Vlan 10,20-25
sonic-cli(conf-if-Ethernet0)# lldp vlan-name-tlv max-tlv-count 5
```

Features this CLI belongs to

- LLDP-MED

load-current-max-val

This command configures the maximum current load threshold value.

Parent Commands (Modes)

```
ars profile {{name}}
```

Syntax

```
load-current-max-val {{loadCurrentMaxVal}}
no load-current-max-val
```

Parameters

Name	Description	Type
loadCurrentMaxVal		Integer

Examples

Configure the maximum current load threshold value

```
sonic-cli(config-ars-profile)# load-current-max-val 10
```

Features this CLI belongs to

- ARS

load-current-min-val

This command configures the minimum current load threshold value.

Parent Commands (Modes)

```
ars profile {{name}}
```

Syntax

```
load-current-min-val {{loadCurrentMinVal}}
no load-current-min-val
```

Parameters

Name	Description	Type
loadCurrentMinVal		Integer

Examples

Configure the minimum current load threshold value

```
sonic-cli(config-ars-profile)# load-current-min-val 10
```

Features this CLI belongs to

- ARS

load-future-max-val

This command configures the maximum future load threshold value.

Parent Commands (Modes)

```
ars profile {{name}}
```

Syntax

```
load-future-max-val {{loadFutureMaxVal}}
no load-future-max-val
```

Parameters

Name	Description	Type
loadFutureMaxVal		Integer

Examples

Configure the maximum future load threshold value

```
sonic-cli(config-ars-profile)# load-future-max-val 10
```

Features this CLI belongs to

- ARS

load-future-min-val

This command configures the minimum future load threshold value.

Parent Commands (Modes)

```
ars profile {{name}}
```

Syntax

```
load-future-min-val {{loadFutureMinVal}}
no load-future-min-val
```

Parameters

Name	Description	Type
loadFutureMinVal		Integer

Examples

Configure the minimum future load threshold value

```
sonic-cli(config-ars-profile)# load-future-min-val 10
```

Features this CLI belongs to

- ARS

load-future-weight

This command configures the weight, in percent, for future port load quality measurement.

Parent Commands (Modes)

```
ars port-profile {{name}}
```

Syntax

```
load-future-weight {{loadFutureWeight}}
no load-future-weight
```

Parameters

Name	Description	Type
loadFutureWeight		Integer

Examples

Configure the weight in percent for future port load quality

```
sonic-cli(config-ars-profile)# load-future-weight 10
```

Features this CLI belongs to

- ARS

load-past-max-val

This command configures the maximum past load threshold value.

Parent Commands (Modes)

```
ars profile {{name}}
```

Syntax

```
load-past-max-val {{loadPastMaxVal}}
no load-past-max-val
```

Parameters

Name	Description	Type
loadPastMaxVal		Integer

Examples

Configure the maximum past load threshold value

```
sonic-cli(config-ars-profile)# load-past-max-val 10
```

Features this CLI belongs to

- ARS

load-past-min-val

This command configures the minimum past load threshold value.

Parent Commands (Modes)

```
ars profile {{name}}
```

Syntax

```
load-past-min-val {{loadPastMinVal}}
no load-past-min-val
```

Parameters

Name	Description	Type
loadPastMinVal		Integer

Examples

Configure the minimum past load threshold value

```
sonic-cli(config-ars-profile)# load-past-min-val 10
```

Features this CLI belongs to

- ARS

load-past-weight

This command configures the weight, in percent, for past port load quality measurement.

Parent Commands (Modes)

```
ars port-profile {{name}}
```

Syntax

```
load-past-weight {{loadPastWeight}}
no load-past-weight
```

Parameters

Name	Description	Type
loadPastWeight		Integer

Examples

Configure the weight in percent for past port load quality

```
sonic-cli(config-ars-profile)# load-past-weight 10
```

Features this CLI belongs to

- ARS

load-scaling-factor

This command configures the port load scaling factor value for ARS.

Parent Commands (Modes)

```
ars port-profile {{name}}
```

Syntax

```
load-scaling-factor { 0 | 1 | 2.5 | 4 | 5 | 10 | 20 | 40 | 80 }
no load-scaling-factor
```

Examples

Configure the port load scaling factor value

```
sonic-cli(config-ars-port-profile)# load-scaling-factor 20
```

Features this CLI belongs to

- ARS

local-as

This command specifies the local AS number for a BGP neighbor (or neighbors in a peer-group) and control how the local AS number is prepended to the AS-path of incoming and outgoing routes.

With no modifiers, the specified local-as is prepended to the received AS-path when receiving routing updates from the peer or group, and prepended to the outgoing AS-path (after the process local AS) when transmitting local routes to the peer or group. If the no-prepend CLI

option is specified, then the supplied local-as is not prepended to the received AS-path. If the replace-as CLI option is specified, then only the supplied local-as is prepended to the AS-path when transmitting local-route updates to this peer or group.

Note that replace-as can only be specified if no-prepend is selected. This command is only allowed for eBGP peers.

Parent Commands (Modes)

```
neighbor { {{ip}} | { interface { ethernet | portchannel | vlan } } }

peer-group {{template-str}}
```

Syntax

```
local-as {{asnum}} { [ no-prepend [ replace-as ] ] }
no local-as
```

Parameters

Name	Description	Type
asnum	0.1..65535.65535 or 1..4294967295	String

Examples

Configure local AS and enable no-prepend for BGP neighbor 30.30.30.3

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 30.30.30.3
sonic(config-router-bgp-neighbor)# local-as 65200 no-prepend
```

Configure local AS and enable no-prepend for BGP peer-group PG_Ext

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# local-as 65200 non-prepend
```

locator-led chassis off

This command disables the Locator Chassis LED.

Syntax

```
locator-led chassis off
```

locator-led chassis on

This command enables the Locator Chassis LED.

Syntax

```
locator-led chassis on [ timer {{timer_value}} ]
```

Parameters

Name	Description	Type
timer_value	Minutes	Integer

log-adjacency-changes

This command enables OSPFv2 or OSPFv3 adjacency state logs.

Parent Commands (Modes)

```
router ospf [ vrf {{vrf-name}} ]

router ospfv3 [ vrf {{vrf-name}} ]
```

Syntax

```
log-adjacency-changes [ detail ]
no log-adjacency-changes [ detail ]
```

Examples

Enable OSPFv2 adjacency state logs

```
sonic-cli(config-router-ospf)# log-adjacency-changes
sonic-cli(config-router-ospf)# log-adjacency-changes detail
```

Enable OSPFv3 adjacency state logs

```
sonic-cli(config-router-ospfv3)# log-adjacency-changes
sonic-cli(config-router-ospfv3)# log-adjacency-changes detail
```

Features this CLI belongs to

- OSPFv2
- OSPFv3

log-neighbor-changes

This command enables the logging of a neighbor's up/down state transition events, along with the reason codes for down events.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }
```

Syntax

```
log-neighbor-changes
no log-neighbor-changes
```

Examples

Enable logging up/down events for a BGP neighbor

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# log-neighbor-changes
```

logger

This command enables entering messages into the system log.

Syntax

```
logger {{message}}
```

Parameters

Name	Description	Type
message	String	String

logging security-profile

This command configures the security profile for the system log.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
logging security-profile {{security_profile}}
no logging security-profile
```

Parameters

Name	Description	Type
security_profile	String	String

Examples

Configure the logging security profile

```
sonic# configure
sonic(config)# logging security-profile logsec
```

logging server

This command configures remote system log server to forward system log messages.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
logging server {{host}} [ message-type { audit | auditd-system | event | log } ] [
remote-port {{vrport}} ] [ protocol { tcp | tls | udp } ] [ source-interface { Ethernet
| Loopback | Management | PortChannel | Vlan | SubInterface } ] [ vrf { mgmt | {{vrf-
name}} } ] [ severity {{sev_type}} ]
no logging server {{host}} { [ remote-port ] | [ source-interface ] | [ vrf ] | [ sever-
ity ] | [ protocol ] } ]
```

Parameters

Name	Description	Type
host	WORD	String
vrport	Port	Integer
vrf-name	VRF name (prefixed by Vrf, Max: 15 characters)	String
sev_type	Debug info notice warning error critical alert emergency	Select [debug info notice warning error critical alert emergency]

Examples

Configure the logging destination server

```
sonic(config)# logging server 20.1.1.1 severity DEBUG source-interface Ethernet 2 vrf
Vrf1
sonic(config)#
```

login concurrent-session

This command configures the login concurrent session limit.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
login concurrent-session limit {{connection-limit}}
no login concurrent-session limit
```

Parameters

Name	Description	Type
connection-limit		Integer

Examples

Configure the login concurrent session limit

```
sonic# configure
sonic(config)# login concurrent-session limit 2
```

login exec-timeout

This command configures the login session timeout.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
login exec-timeout {{exec-timeout-value}}
no login exec-timeout
```

Parameters

Name	Description	Type
exec-timeout-value		Integer

Examples

Configure the login session timeout

```
sonic# configure
sonic(config)# login exec-timeout 60
```

login lockout

This command configures login lockout attributes.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
login lockout { console-exempt | { max-retries {{max retry limit}} } | { period {{lock-
out period}} } }
no login lockout { console-exempt | max-retries | period }
```

Parameters

Name	Description	Type
max retry limit		Integer
lockout period		Integer

Examples

Configure login password attributes and lockout attributes

```
sonic# configure
sonic(config)# login lockout max-retries 10
```

login password-attribute

This command configures the login password attribute.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
login password-attribute { { character-restriction { { lower {{lower case limit}} } | {
numeric {{Numerals limit}} } | { special-char {{Special Characters limit}} } | { upper
{{Upper case limit}} } } } | { min-length {{min-len}} } }
no login password-attribute character-restriction { upper | lower | special-char |
numeric }
```

Parameters

Name	Description	Type
lower case limit		Integer

Name	Description	Type
Numerals limit		Integer
Special Characters limit		Integer
Upper case limit		Integer
min-len		Integer

Examples

Configure the login password attribute

```
sonic# configure
sonic(config)# login password-attribute character-restriction lower 3
sonic(config)# login password-attribute character-restriction upper 4
sonic(config)# login password-attribute min-length 10
```

ls

This command displays the files of the given directory.

Syntax

```
ls {{folder-name}}
```

Parameters

Name	Description	Type
folder-name	Folder names	

Examples

Display ls information

```
sonic# ls config:/
-------------------------------------------------------------------------
Date(Last Modified)      Size(Bytes)         Filename
-------------------------------------------------------------------------
2021-08-09 19:47         41                  asic_config_checksum
2021-08-09 21:42         20830               config_db.json
2020-09-17 01:48         437                 config_db_version_registry.json
```

```
2021-08-09 19:50         1456           constants.yml
2021-08-09 21:14         15739          copp_config.json
```

Chapter 7:

Commands M to N

After login, type sonic-cli to be able to use the commands in this guide.

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mab

This command enables MAC-based Authentication Bypass (MAB) on a specified port or range of ports.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
mab [ auth-type { chap | eap-md5 | pap } ]
no mab
```

mab request format attribute 1 groupsize

This command sets configuration parameters that are used to format attribute 1 for MAB requests to the RADIUS server. RADIUS attribute 1 is the username, which is often the client MAC address.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
mab request format attribute 1 groupsize {{groupsize}} { separator { {{separator_type}}
{ [ lowercase ] | [ uppercase ] ] } } }
```

Parameters

Name	Description	Type
groupsize		Select [1(1) 2(2) 4(4) 12(12)]
separator_type		Select [-(-) :(:) .(.)]

Examples

Configure MAB request group size

```
sonic(config)# mab request format attribute 1 groupsize {1 | 2 | 4 | 12} separator {- |
: | .} [lowercase | uppercase]
```

mab timeout server-timeout

This command sets the time period (in seconds) after which the access device sends a RADIUS Access-Request packet to the authentication server. If no response is received when this timer expires, the MAB authentication fails.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
mab timeout server-timeout {{time-period}}
no mab timeout server-timeout
```

Parameters

Nam	Description	Type
time-period		Integer

Examples

Configure the MAB server timeout

```
sonic-cli(conf-if-Eth1/1/1)# mab timeout server-timeout
```

mac access-group (Interfaces)

This command applies a MAC ACL to an interface or globally. An ACL must be created first, and must be of the MAC type to be applied. Only one ACL of a given type can be applied per interface and per direction.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

configure session
configure terminal
```

Syntax

```
mac access-group {{access-list-name}} { in | out }
no mac access-group {{access-list-name}} { in | out }
```

Parameters

Name	Description	Type
access-list-name	String (Max: 72 characters)	String

Examples

Apply MAC ACL to an interface

```
sonic(conf-if-Vlan100)# mac access-group macacl-example in
```

Apply MAC ACL globally

```
sonic(config)# mac access-group macacl-example in
```

mac access-group (VTY)

This command configures a MAC ACL.

Parent Commands (Modes)

```
line vty
```

Syntax

```
mac access-group {{access-list-name}} in
no mac access-group {{access-list-name}} in
```

Parameters

Name	Description	Type
access-list-name	String (Max: 72 characters)	String

mac access-list

This command creates a MAC ACL. An ACL name can be a maximum of 72 characters. The name must begin with A to Z, a to z, or 0 to 9. Underscores and hyphens can be used, except as the first character. The ACL name must be unique across all ACL types.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
mac access-list {{access-list-name}}
no mac access-list {{access-list-name}}
```

Parameters

Name	Description	Type
access-list-name	String (Max: 72 characters)	String

Examples

Create MAC ACL

```
sonic(config)# mac access-list macacl-example
```

mac address-table

This command configures a MAC address-table.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
mac address-table {{mac-address}} { vlan { {{phy-if-name}} | PortChannel } }
no mac address-table {{mac-address}} vlan
```

Parameters

Name	Description	Type
mac-address	nn:nn:nn:nn:nn:nn	String
phy-if-name	EthernetNUM	

mac address-table aging-time

This command configures the MAC aging time.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
mac address-table aging-time {{mac-time}}
no mac address-table aging-time
```

Parameters

Name	Description	Type
mac-time		Integer

mac address-table dampening-interval

This command configures the MAC move dampening threshold interval.

Parent Commands (Modes)

```
configure terminal
```

Syntax

```
mac address-table dampening-interval {{interval-value}}
no mac address-table dampening-interval
```

Parameters

Name	Description	Tpe
interval-value		Integer

mac address-table dampening-threshold

This command configures the MAC move dampening threshold.

Parent Commands (Modes)

```
configure terminal
```

Syntax

```
mac address-table dampening-threshold {{threshold-value}}
no mac address-table dampening-threshold
```

Parameters

Name	Description	Type
threshold-value		Integer

mac-holdtime

This command specifies the MAC holdtime.

Parent Commands (Modes)

```
evpn esi-multihoming
```

Syntax

```
mac-holdtime {{_mac_holdtime}}
```

```
no mac-holdtime
```

Parameters

Name	Description	Type
_mac_holdtime		Integer

map

This command configures VNI-VLAN mappings and VNI-VRF mappings.

Parent Commands (Modes)

```
interface vxlan {{vxlan-if-name}}
```

Syntax

```
map vni { {{vnid}} { { vid { [ count [ {{numvid}} ] ] } } | { vrf {{vrf-name}} } } }
no map vni { {{vnid}} { { vid { [ count [ {{numvid}} ] ] } } | { vrf {{vrf-name}} } } }
```

Parameters

Name	Description	Type
vnid		Integer
numvid		Integer
vrf-name	WORD	String

Examples

Configure VNI-VLAN and VNI-VRF mappings

```
sonic(config)# interface vxlan vtep1
sonic(conf-if-vxlan-vtep1)# map vni 100 vlan 100 count 2
sonic(conf-if-vxlan-vtep1)# map vni 100 vrf vrf1
```

match access-group

This command configures a class-map match ACL.

Parent Commands (Modes)

```
class-map {{fbs-class-name}} match-type { acl | { fields match-all } | copp }
```

Syntax

```
match access-group { mac | ip | ipv6 } {{access-list-name}}
no match access-group
```

Parameters

Name	Description	Type
access-list-name	String (Max: 72 characters)	String

Examples

Configure class-map match access-group attributes

```
sonic(config)# class-map class_ip_acl match-type acl
sonic(config-class-map)# match access-group ip ip_acl1
```

match as-path

This command sets the routing policy match criteria AS-path.

Parent Commands (Modes)

```
route-map {{route-map-name}} { permit | deny } {{seq-nu}}
```

Syntax

```
match as-path {{as-path-name}}
no match as-path
```

Parameters

Name	Description	Type
as-path-name	WORD	String

match community

This command sets the routing policy match criteria to BGP community.

Parent Commands (Modes)

```
route-map {{route-map-name}} { permit | deny } {{seq-nu}}
```

Syntax

```
match community {{community-name}}
no match community
```

Parameters

Name	Description	Type
community-name	WORD	String

match dei

This command configures a class-map match packet criteria DEI.

Parent Commands (Modes)

```
class-map {{fbs-class-name}} match-type { acl | { fields match-all } | copp }
```

Syntax

```
match dei {{dei-val}}
no match dei
```

Parameters

Name	Description	Type
dei-val	0..1	Integer

Examples

Configure class-map match packet criteria DEI

```
sonic(config)# class-map class1_fields match-type fields match-all
sonic(config-class-map)# match dei 0
```

match destination-address

This command configures a class-map match packet destination-address.

Parent Commands (Modes)

```
class-map {{fbs-class-name}} match-type { acl | { fields match-all } | copp }
```

Syntax

```
match destination-address { { mac { { {{destination-mac-addr}} {{destination-mac-mask}}
} | { destination-mac-host {{destination-mac-addr}} } } } | { ip { {{destination-ip-pre-
fix}} | { destination-ip-host {{destination-ip}} } } } | { ipv6 { {{destination-ip-pre-
fix}} | { destination-ip-host {{destination-ip}} } } } }
```

```
no match destination-address { mac | ip | ipv6 }
```

Parameters

Name	Description	Type
destination-mac-addr	MACADDRESS	String
destination-mac-mask	MACADDRESS	String
destination-ip-prefix	A.B.C.D/mask	String
destination-ip	A.B.C.D	String

Examples

Configure class-map match packet destination-address

```
sonic(config)# class-map class1_fields match-type fields match-all
sonic(config-class-map)# match destination-address ip 2.1.1.1/32
```

match dscp

This command configures a class-map match DSCP.

Parent Commands (Modes)

```
class-map {{fbs-class-name}} match-type { acl | { fields match-all } | copp }
```

Syntax

```
match dscp { default | cs1 | cs2 | cs3 | cs4 | cs5 | cs6 | cs7 | af11 | af12 | af13 |
af21 | af22 | af23 | af31 | af32 | af33 | af41 | af42 | af43 | ef | voice-admit |
{{dscp-val}} }
no match dscp
```

Parameters

Name	Description	Type
dscp-val		Integer

Examples

Configure class-map match DSCP

```
sonic(config)# class-map class1_fields match-type fields match-all
sonic(config-class-map)# match dscp cs1
```

match ethertype

This command configures class-map match packet criteria ethertype.

Parent Commands (Modes)

```
class-map {{fbs-class-name}} match-type { acl | { fields match-all } | copp }
```

Syntax

```
match ethertype { ethertype-ip | ethertype-ipv6 | ethertype-arp | {{ETHERTYPE}} }
no match ethertype
```

Parameters

Name	Description	Type
ETHERTYPE	0x600..0xffff	String

Examples

Configure class-map match packet ethertype

```
sonic(config)# class-map class1_fields match-type fields match-all
sonic(config-class-map)# match ethertype ip
```

match evpn

This command sets the routing policy match criteria to BGP EVPN.

Parent Commands (Modes)

```
route-map {{route-map-name}} { permit | deny } {{seq-nu}}
```

Syntax

```
match evpn { default-route | { route-type { ead | macip | multicast | es | prefix } } |
{ vni {{vni-number}} } }
no match evpn { default-route | { route-type { ead | macip | multicast | es | prefix }
} | { vni {{vni-number}} } }
```

Parameters

Name	Description	Type
vni-number		Integer

match ext-community

This command sets the routing policy match criteria to BGP extended community.

Parent Commands (Modes)

```
route-map {{route-map-name}} { permit | deny } {{seq-nu}}
```

Syntax

```
match ext-community {{community-name}}
no match ext-community
```

Parameters

Name	Description	Type
community-name	WORD	String

match icmp-code

Updates class-map ICMP or ICMPv6 code match.

Parent Commands (Modes)

```
class-map {{fbs-class-name}} match-type { acl | { fields match-all } | copp }
```

Syntax

```
match icmp-code {{icmp-code-val}}
no match icmp-code
```

Parameters

Name	Description	Type
icmp-code-val		Integer

Examples

Set or update ICMP/ICMPv6 code match

```
sonic(config)# class-map class1_fields match-type fields match-all
sonic(config-class-map)# match ip protocol icmp
sonic(config-class-map)# match icmp-code 50
```

match icmp-type

Updates class-map ICMP or ICMPv6 type match.

Parent Commands (Modes)

```
class-map {{fbs-class-name}} match-type { acl | { fields match-all } | copp }
```

Syntax

```
match icmp-type {{icmp-type-val}}
no match icmp-type
```

Parameters

Name	Description	Type
icmp-type-val		Integer

Examples

Set or update ICMP/ICMPv6 type match

```
sonic(config)# class-map class1_fields match-type fields match-all
sonic(config-class-map)# match ip protocol icmp
sonic(config-class-map)# match icmp-type 8
```

match interface

This command sets the routing policy match criteria to interface.

Parent Commands (Modes)

```
route-map {{route-map-name}} { permit | deny } {{seq-nu}}
```

Syntax

```
match interface { {{phy-if-name}} | {{Loopback}} | PortChannel | {{Vlan}} }
no match interface
```

Parameters

Name	Description	Type
phy-if-name	EthernetX.Y	
Loopback		
Vlan	VlanNUM	

match ip address prefix-list

This command sets the routing policy match criteria to IPv4 prefix-list.

Parent Commands (Modes)

```
route-map {{route-map-name}} { permit | deny } {{seq-nu}}
```

Syntax

```
match ip address prefix-list {{prefix-list-name}}
no match ip address prefix-list
```

Parameters

Name	Description	Type
prefix-list-name	WORD	String

match ip next-hop prefix-list

This command sets the routing policy match criteria to next-hop prefix-list.

Parent Commands (Modes)

```
route-map {{route-map-name}} { permit | deny } {{seq-nu}}
```

Syntax

```
match ip next-hop prefix-list {{match-hop}}
no match ip next-hop prefix-list
```

Parameters

Name	Description	Type
match-hop	WORD	String

match ip protocol

This command updates class-map match IP attributes.

Parent Commands (Modes)

```
class-map {{fbs-class-name}} match-type { acl | { fields match-all } | copp }
```

Syntax

```
match ip protocol { {{ip-protocol-val}} | icmp | icmpv6 | tcp | udp }
no match ip protocol
```

Parameters

Name	Description	Type
ip-protocol-val		Integer

Examples

Configure class-map match IP attributes

```
sonic(config)# class-map class1_fields match-type fields match-all
sonic(config-class-map)# match ip protocol tcp
```

match ipv6 address prefix-list

This command sets the routing policy match criteria to IPv6 prefix-list.

Parent Commands (Modes)

```
route-map {{route-map-name}} { permit | deny } {{seq-nu}}
```

Syntax

```
match ipv6 address prefix-list {{prefix-list-name}}
no match ipv6 address prefix-list
```

Parameters

Name	Description	Type
prefix-list-name	WORD	String

match l4-port

This command configures a class-map match L4 source port. Match on the source port is allowed only when the IP protocol is set to TCP or UDP.

Parent Commands (Modes)

```
class-map {{fbs-class-name}} match-type { acl | { fields match-all } | copp }
```

Syntax

```
match l4-port { source | destination } { { eq {{eq-port-val}} } | { range {{begin-port-
val}} {{end-port-val}} } }
no match l4-port { source | destination }
```

Parameters

Name	Description	Type
eq-port-val		Integer
begin-port-val		Integer
end-port-val		Integer

Examples

Configure the class-map match L4 source port

```
sonic(config)# class-map class1_fields match-type fields match-all
sonic(config-class-map)# match l4-port source eq 10
```

match local-preference

This command sets the routing policy match criteria to local-preference.

Parent Commands (Modes)

```
route-map {{route-map-name}} { permit | deny } {{seq-nu}}
```

Syntax

```
match local-preference {{match-loc}}
no match local-preference
```

Parameters

Name	Description	Type
match-loc	0..4294967295	Integer

match metric

This command sets the routing policy match criteria to metric.

Parent Commands (Modes)

```
route-map {{route-map-name}} { permit | deny } {{seq-nu}}
```

Syntax

```
match metric {{match-met}}
no match metric
```

Parameters

Name	Description	Type
match-met	0..4294967295	Integer

match origin

This command specifies the BGP origin.

Parent Commands (Modes)

```
route-map {{route-map-name}} { permit | deny } {{seq-nu}}
```

Syntax

```
match origin { egp | igp | incomplete }
no match origin
```

match pcp

This command configures a class-map match packet criteria PCP.

Parent Commands (Modes)

```
class-map {{fbs-class-name}} match-type { acl | { fields match-all } | copp }
```

Syntax

```
match pcp { pcp-be | pcp-bk | pcp-ee | pcp-ca | pcp-vi | pcp-vo | pcp-ic | pcp-nc |
{{pcp-val}} }
no match pcp
```

Parameters

Name	Description	Type
pcp-val	0..7	Integer

Examples

Configure class-map match packet PCP

```
sonic(config)# class-map class1_fields match-type fields match-all
sonic(config-class-map)# match pcp vi
```

match peer

This command sets the routing policy match criteria to peer IP.

Parent Commands (Modes)

```
route-map {{route-map-name}} { permit | deny } {{seq-nu}}
```

Syntax

```
match peer { {{match-peer}} | {{phy-if-name}} | PortChannel | {{Vlan}} }
no match peer
```

Parameters

Name	Description	Type
match-peer	A.B.C.D/A::B	String
phy-if-name	EthernetX.Y	
Vlan	VlanNUM	

match protocol

This command matches the protocol trap to class-map.

Parent Commands (Modes)

```
class-map {{fbs-class-name}} match-type { acl | { fields match-all } | copp }
```

Syntax

```
match protocol {{trap-id}}
no match protocol {{trap-id}}
```

Parameters

Name	Description	Type
trap-id	WORD	String

match source-address

This command configures a class-map match packet source-address.

Parent Commands (Modes)

```
class-map {{fbs-class-name}} match-type { acl | { fields match-all } | copp }
```

Syntax

```
match source-address { { mac { { {{source-mac-addr}} {{source-mac-mask}} } | { source-
mac-host {{source-mac-addr}} } } } | { ip { {{source-ip-prefix}} | { source-ip-host
{{source-ip}} } } } | { ipv6 { {{source-ip-prefix}} | { source-ip-host {{source-ip}} }
} } }
no match source-address { mac | ip | ipv6 }
```

Parameters

Name	Description	Type
source-mac-addr	MACADDRESS	String
source-mac-mask	MACADDRESS	String
source-ip-prefix	A.B.C.D/mask	String
source-ip	A.B.C.D	String

Examples

Configure a class-map match packet source-address

```
sonic(config)# class-map class1_fields match-type fields match-all
sonic(config-class-map)# match source-address ip 1.1.1.1/32
```

match source-protocol

This command specifies the source protocol.

Parent Commands (Modes)

```
route-map {{route-map-name}} { permit | deny } {{seq-nu}}
```

Syntax

```
match source-protocol { bgp | ospf | static | connected | attached-host }
no match source-protocol
```

match source-vrf

This command specifies the source VRF.

Parent Commands (Modes)

```
route-map {{route-map-name}} { permit | deny } {{seq-nu}}
```

Syntax

```
match source-vrf {{src-vrf}}
no match source-vrf
```

Parameters

Name	Description	Type
src-vrf	WORD	String

match tag

This command redistributes routes in the routing table that match the specified tags.

Parent Commands (Modes)

```
route-map {{route-map-name}} { permit | deny } {{seq-nu}}
```

Syntax

```
match tag {{match-tag}}
no match tag
```

Parameters

Name	Description	Type
match-tag	1..4294967295	Integer

match tcp-flags

This command configures class-map match TCP flags. Match on TCP flags is allowed only when IP protocol is set to TCP. The "not-xxx" keyword can be used to match the corresponding flag set to 0.

Parent Commands (Modes)

```
class-map {{fbs-class-name}} match-type { acl | { fields match-all } | copp }
```

Syntax

```
match tcp-flags { [ fin ] | [ not-fin ] } ] { [ syn ] | [ not-syn ] } ] { [ rst ] | [
not-rst ] } ] { [ psh ] | [ not-psh ] } ] { [ ack ] | [ not-ack ] } ] { [ urg ] | [
not-urg ] } ]
no match tcp-flags { [ fin ] | [ not-fin ] } ] { [ syn ] | [ not-syn ] } ] { [ rst ] |
[ not-rst ] } ] { [ psh ] | [ not-psh ] } ] { [ ack ] | [ not-ack ] } ] { [ urg ] | [
not-urg ] } ]
```

Examples

Configure class-map match TCP flags

```
sonic(config)# class-map class1_fields match-type fields match-all
sonic(config-class-map)# match tcp-flags urg
```

match vlan

This command configures a class-map match packet criteria VLAN ID.

Parent Commands (Modes)

```
class-map {{fbs-class-name}} match-type { acl | { fields match-all } | copp }
```

Syntax

```
match vlan {{vlan-val}}
no match vlan
```

Parameters

Name	Description	Type
vlan-val		Integer

Examples

Configure class-map match packet VLAN ID

```
sonic(config)# class-map class1_fields match-type fields match-all
sonic(config-class-map)# match vlan 200
```

max-flows

This command configures the max-flows type for ARS.

Parent Commands (Modes)

```
ars object {{name}}
```

Syntax

```
max-flows {{maxflowvalue}}
no max-flows
```

Parameters

Name	Description	Type
maxflowvalue		Integer

Examples

Configure max-flows type

```
sonic-cli(config-ars-object)# max-flows 1024
```

Features this CLI belongs to

- ARS

max-med

This command instructs BGP to advertise routes with a max MED value under a given condition. The command allows the user to set the condition under which routes with max MED value will be sent. One is during startup for a predefined number of seconds. The other is permanently. The user can also specify the value for the max MED.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }
```

Syntax

```
max-med { { on-startup { {{stime}} [ {{maxmedval}} ] } } | { administrative [ {{maxmed-
val}} ] } }
no max-med { { on-startup {{stime}} } | administrative } [ {{maxmedval}} ]
```

Parameters

Name	Description	Type
stime		Integer
maxmedval	0..4294967295	Integer

Examples

Instruct BGP to send max MED after startup for 300 seconds; the max MED value is set to 2000

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# max-med on-startup 300 2000
```

max-metric

This command enables infinite metric advertising in OSPFv2 LSAs. The max-metric item can be enabled administratively or during OSPFv2 startup time. When enabled administratively, max-metric advertising will be effective until it is explicitly unconfigured. When enabled for restart time, the max-metric will be advertised for the period of time specified in the configuration.

Parent Commands (Modes)

```
router ospf [ vrf {{vrf-name}} ]
```

Syntax

```
max-metric { [ router-lsa { [ administrative ] | { [ on-startup {{onstartuptimervalue}} ] } | { [ all [ {{maxmetricvalue}} ] ] } | { [ include-stub [ {{maxmetricvalue}} ] ] } | { [ external-lsa { { [ all [ {{maxmetricvalue}} ] ] } | { [ connected [ {{max-metricvalue}} ] ] } } ] } } ] }
no max-metric { router-lsa { [ administrative ] | [ on-startup ] | [ all ] | [ include-stub ] | { external-lsa { [ all ] | [ connected ] } } } }
```

Parameters

Name	Description	Type
onstartuptimervalue		Integer
maxmetricvalue		Integer

Examples

Enable infinite metric advertising in OSPFv2 LSAs

```
sonic-cli(config-router-ospf)# max-metric router-lsa administrative
sonic-cli(config-router-ospf)# max-metric router-lsa on-startup 90
```

Features this CLI belongs to

- OSPFv2

maximum-paths (BGP Protocol)

This command configures BGP to control the maximum number of equal-cost multipath routes to eBGP destinations, or forwards packets over multiple paths. This command is per address-family.

Parent Commands (Modes)

```
address-family ipv4 unicast

address-family ipv6 unicast
```

Syntax

```
maximum-paths {{paths}}
no maximum-paths
```

Parameters

Name	Description	Type
paths		Integer

Examples

Configure maximum equal cost multipath to 32 for eBGP

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# address-family ipv4 unicast
sonic(config-router-bgp-af)# maximum-paths 32
```

maximum-paths (OSPF Protocol)

This command configures the maximum number of multiple paths for ECMP support.

Parent Commands (Modes)

```
router ospf [ vrf {{vrf-name}} ]

router ospfv3 [ vrf {{vrf-name}} ]
```

Syntax

```
maximum-paths {{maxpathvalue}}
no maximum-paths
```

Parameters

Name	Description	Type
maxpathvalue		Integer

Examples

Configure the maximum number of multiple paths for ECMP support (OSPFv2)

```
sonic-cli(config-router-ospf)# maximum-paths 30
```

Configure the maximum number of multiple paths for ECMP support (OSPFv3)

```
sonic-cli(config-router-ospfv3)# maximum-paths 30
```

Features this CLI belongs to

- OSPFv2
- OSPFv3

maximum-paths ibgp

This command configures BGP to control the maximum number of equal-cost multipath routes to iBGP destinations. This command is per address-family.

Parent Commands (Modes)

```
address-family ipv4 unicast

address-family ipv6 unicast
```

Syntax

```
maximum-paths ibgp {{ipaths}} [ equal-cluster-length ]
no maximum-paths ibgp
```

Parameters

Name	Description	Type
ipaths		Integer

Examples

Configure the maximum equal cost multipath to 32 for iBGP

```
sonic# configure terminal
sonic(config)# router bgp 100
```

```
sonic(config-router-bgp)# address-family ipv4 unicast
sonic(config-router-bgp-af)# maximum-paths ibgp 32
```

maximum-prefix

This command configures the maximum number of BGP prefixes to accept from the specified neighbor (or neighbors in a peer-group). This command has optional parameters for warning the user when a threshold is reached, and for restarting BGP neighborship when the maximum prefix limit is exceeded.

Parent Commands (Modes)

```
address-family ipv4 unicast

address-family ipv6 unicast
```

Syntax

```
maximum-prefix {{max-prefix-val}} { [ {{threshold-val}} ] { [ discard-extra ] | [ warn-
ing-only ] | { [ restart {{interval}} ] } ] } }
no maximum-prefix [ {{max-prefix-val}} { [ {{threshold-val}} ] { [ warning-only ] | [
discard-extra ] | { [ restart {{val}} ] } ] } } ]
```

Parameters

Name	Description	Type
max-prefix-val	1..4294967295	Integer
threshold-val		Integer
interval		Integer

Examples

Configure a maximum prefix of 2000 from neighbor 20.20.20.2, also configuring a threshold of 80% and to warn when the number of prefixes received exceeds the limit

```
sonic# configure terminal
sonic(config)# router bgp 100
```

```
sonic(config-router-bgp)# neighbor 20.20.20.2
sonic(config-router-bgp-neighbor)# remote-as 300
sonic(config-router-bgp-neighbor)# address-family ipv4 unicast
sonic(config-router-bgp-neighbor-af)# maximum-prefix 2000 80 warning-only
```

Configure maximum prefix limit of 2000 from neighbors in peer-group PG_Int, also configuring a threshold of 80% and to warn when the number of prefixes received exceeds the limit

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Int
sonic(config-router-bgp-pg)# address-family ipv4 unicast
sonic(config-router-bgp-pg-af)# maximum-prefix 2000 80 warning-only
```

mclag

This command configures an MCLAG interface.

Parent Commands (Modes)

```
interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]
```

Syntax

```
mclag {{domain_id}}
no mclag {{domain_id}}
```

Parameters

Name	Description	Type
domain_id	1..4095	String

mclag domain

This command enters MCLAG domain configuration mode.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
mclag domain {{mclag-domain-id}}
no mclag domain {{mclag-domain-id}}
```

Parameters

Name	Description	Type
mclag-domain-id	1..4095	String

mclag gateway-mac

This command deletes the gateway MAC for MCLAG.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
mclag gateway-mac {{gw_mac}}
no mclag gateway-mac {{gw_mac}}
```

Parameters

Name	Description	Type
gw_mac	nn:nn:nn:nn:nn:nn	String

mclag-peer-gateway

This command configures an MCLAG peer gateway on a VLAN interface.

Parent Commands (Modes)

```
interface {{vlan-if-name}}

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
mclag-peer-gateway
no mclag-peer-gateway
```

Examples

Configure MCLAG peer gateway

```
sonic-cli(config)# interface Vlan 10
sonic-cli(conf-if-Vlan10)# mclag-peer-gateway
```

mclag-separate-ip

This command configures a separate IP on a VLAN interface for L3 protocol support over MCLAG.

Parent Commands (Modes)

```
interface {{vlan-if-name}}

interface range create vlan_range_num
interface range vlan_range_num
```

Syntax

```
mclag-separate-ip
no mclag-separate-ip
```

Examples

Configure MCLAG separate IP

```
sonic-cli(config)# interface Vlan 10
sonic-cli(conf-if-Vlan10)# mclag-separate-ip
```

mclag-system-mac

This command configures an MCLAG system MAC address, which will be used for MCLAG interface MAC.

Parent Commands (Modes)

```
mclag domain {{mclag-domain-id}}
```

Syntax

```
mclag-system-mac {{MSM}}
no mclag-system-mac
```

Parameters

Name	Description	Type
MSM	nn:nn:nn:nn:nn:nn	String

Examples

Configure an MCLAG system MAC address for MCLAG domain 100

```
sonic-cli(config-mclag-domain-100)#mclag-system-mac 00:bb:bb:bb:cc:cc
```

meter-type

This command sets the scheduler meter type (packets/bytes).

Parent Commands (Modes)

```
queue {{sequence}}
```

Syntax

```
meter-type {{meter_type}}
no meter-type
```

Parameters

Name	Description	Type
meter_type	Scheduler meter-type options	Select [packets(PACKETS) bytes(BYTES)]

mfa client-secret

This command sets a secret that can be used as the authorization header for invoking REST API of MFA service.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
mfa client-secret {{client-secret}} [ encrypted ]
no mfa client-secret
```

Parameters

Name	Description	Type
client-secret	WORD	String

Examples

Configure MFA client secret-key

```
sonic(config)# mfa client-secret Supermicro123!Supermicro123!Supermicro123
```

mfa key-seed

This command configures the seed for generating the secret used to secure MFA data.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
mfa key-seed {{mfa-seed}} [ encrypted ]
no mfa key-seed
```

Parameters

Name	Description	Type
mfa-seed	String	String

Examples

Configure MFA key-seed

```
sonic(config)# mfa key-seed force10
```

mfa rsa-server host

This command configures a server for RSA.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
mfa rsa-server host {{hostname}} [ port {{rsa-port}} ] [ client-id { {{rsa-client-id}}
{ client-key { {{rsa-client-key}} [ encrypted ] } } } ] [ connection-timeout {{rsa-con-
nection-timeout}} ] [ read-timeout {{rsa-read-timeout}} ]
no mfa rsa-server host {{hostname}}
```

Parameters

Name	Description	Type
hostname	WORD	String
rsa-port	Port	Integer
rsa-client-id	String	String
rsa-client-key	String	String
rsa-connection-timeout	Seconds	Integer
rsa-read-timeout	Seconds	Integer

Examples

Configure MFA RSA server

```
sonic(config)# mfa rsa-server host rsa.securid.supermicro.com client-id sse-switch.su-
permicro.com client-key rlcd09kq11f1g-
p5peh6s4d0c6214a4myktb31ai2bkei50924sq3l4mu6nd1s0i2
sonic(config)# mfa rsa-server host rsa.securid.supermicro.com port 5554 read-timeout
100
```

mfa rsa-server security-profile

This command configures a security profile that contains a CA certificate to validate an RSA server.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
mfa rsa-server security-profile {{rsa-profile-name}}
no mfa rsa-server security-profile
```

Parameters

Name	Description	Type
rsa-profile-name	String	String

Examples

Configure an MFA RSA server security profile

```
sonic# crypto ca-cert install home://rsa.ca.cert.pem
sonic# configure terminal
sonic(config)# crypto trust-store trust_store ca-cert rsa.ca.cert
sonic(config)# crypto security-profile rsa_security_profile
sonic(config)# crypto security-profile trust-store rsa_security_profile trust_store
```

```
sonic(config)# mfa rsa-server security-profile rsa_security_profile
```

mfa security-profile

This command configures a security profile which contains the certificate for MFA service.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
mfa security-profile {{mfa-profile-name}}
no mfa security-profile
```

Parameters

Name	Description	Type
mfa-profile-name	String	String

Examples

Configure an MFA server security profile

```
sonic# crypto cert install cert-file home://ciamcert.pem key-file home://ciamkey.pem
sonic# configure terminal
sonic(config)# crypto security-profile mfa_security_profile
sonic(config)# crypto security-profile certificate mfa_security_profile ciamcert
sonic(config)# mfa security-profile mfa_security_profile
```

min-links

This command configures the min-links value for the portchannel.

Parent Commands (Modes)

```
interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]
```

Syntax

```
min-links {{min_links}}
no min-links
```

Parameters

Name	Description	Type
min_links		Integer

minimum-ttl

This command configures the minimum TTL value expected in an incoming BFD control packet for a multihop peer. The default value is 254.

Parent Commands (Modes)

```
peer {{peer_ipv4}}
peer {{peer_ipv6}}
peer [ interface ] {{interfacename}}
peer [ local-address ] {{local_ipv4}}
peer [ local-address ] {{local_ipv6}}
peer [ multihop ]
peer [ vrf ] {{vrfname}}

profile {{profilename}}
```

Syntax

```
minimum-ttl {{ttl-val}}
no minimum-ttl
```

Parameters

Name	Description	Type
ttl-val		Integer

Examples

Configure packet TTL for peer 192.168.0.5

```
device()#configure terminal
device(config)#bfd
device(conf-bfd)# peer 192.168.0.5 interface Ethernet0
device(conf-bfd-peer)# minimum-ttl 250
```

Configure packet TTL for profile "fast"

```
device()#configure terminal
device(config)#bfd
device(conf-bfd)# profile fast
device(conf-bfd-profile)# minimum-ttl 250
```

mirror

This command adds a mirror to dropcounter.

Parent Commands (Modes)

```
dropcounters {{counter-name}}
```

Syntax

```
mirror {{mirror-str}}
no mirror
```

Parameters

Name	Description	Type
mirror-str	String	String

mirror-session

This command configures a mirror session.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
mirror-session {{session-name}}
no mirror-session {{session-name}}
```

Parameters

Name	Description	Type
session-name	String (Max: 24 characters)	String

mode

This command configures ARS path (re)assignment mode.

Parent Commands (Modes)

```
ars object {{name}}
```

Syntax

```
mode { flowlet-quality | flowlet-random | packet-quality | packet-random | fixed }
no mode
```

Examples

Configure ARS path (re)assignment mode

```
sonic-cli(config-ars-object)# mode flowlet-quality
```

Features this CLI belongs to

- ARS

monitoring-fbs

This command sets the key-profile for Monitoring flow-based services.

Parent Commands (Modes)

```
tcam
```

Syntax

```
monitoring-fbs { ingress | egress } key-profile { l2 | ipv4 | ipv6 | l2-ipv4 | l2-ipv6
| ipv4-ipv6 }
no monitoring-fbs { ingress | egress } key-profile
```

mtu

This command configures MTU, interface link MTU, or MTU for a routed sub-interface.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{vlan-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{mgmt-if-name}}

interface range iface_range_num

interface range create vlan_range_num
interface range vlan_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}
```

Syntax

```
mtu {{mtu}}
no mtu
```

Parameters

Name	Description	Type
mtu		Integer

Examples

Configure MTU

```
sonic-cli# configure terminal
sonic-cli(config)# interface Ethernet 0.10
sonic-cli(conf-subif-Ethernet0.10)# mtu 2000
sonic-cli(config)#
```

Unconfigure MTU

```
sonic-cli# configure terminal
sonic-cli(config)# interface Ethernet 0.10
sonic-cli(conf-subif-Ethernet0.10)# no mtu
sonic-cli(config)#
```

Features this CLI belongs to

- Subinterface

name

This command configures the name for the MST region.

Parent Commands (Modes)

```
spanning-tree mst configuration
```

Syntax

```
name {{mst-name}}
no name
```

Parameters

Name	Description	Type
mst-name	WORD	String

Examples

Configure the MST region name

```
sonic-cli(config)# spanning-tree mst configuration
sonic-cli(config-mst)# name Region1
```

Features this CLI belongs to

- Multiple Spanning Tree Protocol

nat

This command enables entering the NAT configuration.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
nat
```

nat-zone

This command configures the NAT zone.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{lo-if-name}}

interface {{vlan-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]
```

Syntax

```
nat-zone {{zone}}
no nat-zone
```

Parameters

Name	Description	Type
zone		Integer

neigh-holdtime

This command specifies the neigh-holdtime value.

Parent Commands (Modes)

```
evpn esi-multihoming
```

Syntax

```
neigh-holdtime {{_neigh_holdtime}}
no neigh-holdtime
```

Parameters

Name	Description	Type
_neigh_holdtime		Integer

neigh-suppress

This command enables ARP and ND suppression.

Parent Commands (Modes)

```
interface {{vlan-if-name}}
```

Syntax

```
neigh-suppress
```

```
no neigh-suppress
```

neighbor

This command creates a BGP neighbor. The user can input the neighbor's IPv4/IPv6 address directly, or input an interface name for an unnumbered BGP neighbor.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }
```

Syntax

```
neighbor { {{ip}} | { interface { Ethernet | PortChannel | Vlan } } }
no neighbor { {{ip}} | { interface { Ethernet | PortChannel | Vlan } } }
```

Parameters

Name	Description	Type
ip	A.B.C.D/A::B	String

Examples

Create a BGP neighbor 30.30.30.3

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# neighbor 30.30.30.3
sonic(config-router-bgp-neighbor)#
```

network (BGP Protocol)

This command enables adding a network to announce via BGP, for all neighbors under the address- family command or for specific neighbors under the network command. This

command can be used by users and network administrators to statically inject routes into BGP. The user can use the route-map optional parameter to modify/set the various attributes of the route.

Parent Commands (Modes)

```
address-family ipv4 unicast

address-family ipv6 unicast
```

Syntax

For IPv4

```
network {{prefix}} { [ backdoor ] { [ route-map {{route-map-name}} ] } }
no network {{prefix}} { [ backdoor ] { [ route-map {{route-map-name}} ] } }
```

For IPv6

```
network {{prefix}} { [ route-map {{route-map-name}} ] }
no network {{prefix}} { [ route-map {{route-map-name}} ] }
```

Parameters

Name	Description	Type
prefix	A.B.C.D/mask	String
route-map-name	WORD	String

Examples

Create IPv4 network 10.10.0.0/16, which will be announced to all BGP neighbors

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# address-family ipv4 unicast
sonic(config-router-bgp-af)# network 10.10.0.0/16
```

network (OSPF Protocol)

This command configures or associates network addresses into specific areas. Interfaces belonging to these network addresses will be considered to be part of the area specified.

This command is mutually exclusive with the interface mode area command within a VRF. When the network command is used in a VRF, the area command cannot be used at interface mode configuration.

Parent Commands (Modes)

```
router ospf [ vrf {{vrf-name}} ]
```

Syntax

```
network {{ipaddrmask}} { area {{areaid}} }
no network {{ipaddrmask}} { area {{areaid}} }
```

Parameters

Name	Description	Type
ipaddrmask	A.B.C.D/mask	String
areaid	A.B.C.D or 0..4294967295	String

Examples

Configure networks in an area

```
sonic-cli(config-router-ospf)# network 10.1.1.0/24 area 0
sonic-cli(config-router-ospf)# network 19.1.1.0/16 area 19
```

Features this CLI belongs to

- OSPFv2

network import-check

This command instructs BGP to check if a BGP network route exists in a local route table before advertising the network. By default, BGP networks are advertised to neighbors regardless of whether the same route exists in a local route table. This behavior may lead to data traffic blackholing. The user can use this command to put a restriction on BGP networks to get advertised only if a corresponding route from IGP exists in a local route table.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }
```

Syntax

```
network import-check
no network import-check
```

Examples

Enable checking for network presence in local routing table before advertising the network to neighbors

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# network import-check
```

network-policy (Global)

This command configures a network policy profile.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
network-policy profile {{np_num}}
no network-policy profile {{np_num}}
```

Parameters

Name	Description	Type
np_num		Integer

Examples

Configure global network policy profile

```
sonic-cli(config)# network-policy profile 1
```

Features this CLI belongs to

- LLDP-MED

network-policy (Interfaces)

This command configures the network policy profile for an interface.

Parent Commands (Modes)

```
interface {{phy-if-name}}
```

Syntax

```
network-policy {{number}}
no network-policy
```

Parameters

Name	Description	Type
number		Integer

Examples

Configure network policy profile for an interface

```
sonic-cli(config)# interface Ethernet 0
sonic-cli(conf-if-Ethernet0)# network-policy 1
```

Features this CLI belongs to

- LLDP-MED

next-hop-self

This command disables the BGP next-hop attribute computation, overriding the next-hop with the sender's own address in outbound route updates to this BGP neighbor (or neighbors in a peer-group).

Parent Commands (Modes)

```
address-family ipv4 unicast

address-family ipv6 unicast

address-family l2vpn evpn
```

Syntax

```
next-hop-self [ force ]
no next-hop-self [ force ]
```

Examples

Configure next-hop-self for BGP updates sent to neighbor 20.20.20.2 (IPv4)

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 20.20.20.2
sonic(config-router-bgp-neighbor)# remote-as 300
sonic(config-router-bgp-neighbor)# address-family ipv4 unicast
sonic(config-router-bgp-neighbor-af)# next-hop-self
```

Configure next-hop-self for BGP updates sent to neighbors in peer-group PG_Ext (IPv4)

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# address-family ipv4 unicast
sonic(config-router-bgp-pg-af)# next-hop-self
```

Configure next-hop-self for BGP updates sent to neighbor 20.20.20.2 (L2VPN)

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 20.20.20.2
sonic(config-router-bgp-neighbor)# remote-as 300
sonic(config-router-bgp-neighbor)# address-family l2vpn evpn
sonic(config-router-bgp-neighbor-af)# next-hop-self
```

Configure next-hop-self for BGP updates sent to neighbors in peer-group PG_Ext (L2VPN)

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# address-family l2vpn evpn
sonic(config-router-bgp-pg-af)# next-hop-self
```

ntp authenticate

This command enables NTP authentication in configuration mode. By default, NTP authentication is disabled.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ntp authenticate
no ntp authenticate
```

Examples

Enable NTP authentication

```
sonic# configure
sonic(config)# ntp authenticate
```

ntp authentication-key

This command configures an NTP authentication key.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ntp authentication-key {{key-number}} { {{auth-type}} { {{key}} [ encrypted ] } }
no ntp authentication-key {{key-number}}
```

Parameters

Name	Description	Type
key-number		Integer
auth-type		Select [md5(md5) sha1(sha1) sha2-256(sha2-256)]
key	WORD	String

Examples

Configure an NTP authentication-key

```
sonic# configure
sonic(config)# ntp authentication-key 128 md5 Supermicro12345
sonic(config)# ntp authentication-key 128 md5 dryjsgjd123 encrypted
```

ntp server

This command configures an NTP server in configuration mode. An NTP server can be identified by IPv4 or IPv6 address, or by host name.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ntp server { {{ip}} | {{server-name}} } [ key {{key-number}} ] [ minpoll { {{min-poll}}
{ maxpoll {{max-poll}} } } ] [ prefer {{isprefer}} ]
no ntp server { {{ip}} | {{server-name}} }
```

Parameters

Name	Description	Type
ip	A.B.C.D/A::B	String
server-name	WORD	String

Name	Description	Type
key-number		Integer
min-poll	Seconds	Integer
max-poll	Seconds	Integer
isprefer	Boolean choice	Select [true(1) false(0)]

Examples

Configure an NTP server

```
sonic# configure
sonic(config)# ntp server 10.11.0.1 key 128
sonic(config)# ntp server pool.ntp.org
```

ntp source-interface

This command configures an NTP source interface in configuration mode. The NTP source interface can be an Ethernet, loopback, management, port channel, or VLAN interface.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ntp source-interface { Ethernet | Loopback | Management | PortChannel | Vlan }
no ntp source-interface { Ethernet | Loopback | Management | PortChannel | Vlan }
```

Examples

Configure an NTP source interface

```
sonic# configure
sonic(config)# ntp source-interface Ethernet 8
sonic(config)# ntp source-interface Ethernet 8.100
sonic(config)# ntp source-interface Management 0
```

```
sonic(config)# ntp source-interface Loopback 88
sonic(config)# ntp source-interface PortChannel 18
sonic(config)# ntp source-interface PortChannel 18.200
sonic(config)# ntp source-interface Vlan 888
```

ntp trusted-key

This command configures an NTP authentication key number for trusted time source.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ntp trusted-key {{key-number}}
no ntp trusted-key {{key-number}}
```

Parameters

Name	Description	Type
key-number		Integer

Examples

Configure an NTP trusted-key number

```
sonic# configure
sonic(config)# ntp trusted-key 128
```

ntp vrf

This command enables NTP on VRF in configuration mode. NTP can be enabled on management VRF or default VRF.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ntp vrf { mgmt | default | {{vrf-name}} }
no ntp vrf
```

Parameters

Name	Description	Type
vrf-name	VRF name (prefixed by Vrf, Max: 15 characters)	String

Examples

Enable NTP on VRF

```
sonic# configure
sonic(config)# ntp vrf mgmt
sonic(config)# ntp vrf default
```

Chapter 8:

Commands O to P

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ospf abr-type

This command configures the OSPFv2 router ABR type.

Parent Commands (Modes)

```
router ospf [ vrf {{vrf-name}} ]
```

Syntax

```
ospf abr-type { cisco | ibm | shortcut | standard }
no ospf abr-type
```

Examples

Configure router ABR type

```
sonic-cli(config-router-ospf)# ospf abr-type shortcut
sonic-cli(config-router-ospf)# ospf abr-type cisco
```

Features this CLI belongs to

- OSPFv2

ospf router-id

This command configures the OSPFv2 router ID.

- At the time of OSPFv2 router startup or new configuration, if the router-id configuration is not present, then the highest IPv4 address among the available IPv4 interfaces will be considered to be the router-id.
- Upon configuring a specific router-id, the newly configured router-id will be used.
- Upon unconfiguring a router-id, the same router-id will continue to be used until the next router-id config, system restart, or OSPFv2 router unconfiguration.

Parent Commands (Modes)

```
router ospf [ vrf {{vrf-name}} ]
```

Syntax

```
ospf router-id {{routerid}}
no ospf router-id
```

Parameters

Name	Description	Type
routerid	A.B.C.D	String

Examples

Configure OSPFv2 router ID

```
sonic-cli(config-router-ospf)# ospf router-id 19.1.1.1
```

Features this CLI belongs to

- OSPFv2

ospfv3 router-id

This command configures the OSPFv3 router ID.

- At the time of OSPFv3 router startup or new configuration, if the router-id configuration is not present, then the highest IPv4 address among the available IPv4 interfaces will be considered to be the router-id.
- Upon configuring a specific router-id, the newly configured router-id will be used.
- Upon unconfiguring a router-id, the same router-id will continue to be used until next router-id config, system restart, or OSPFv3 router unconfiguration.

Parent Commands (Modes)

```
router ospfv3 [ vrf {{vrf-name}} ]
```

Syntax

```
ospfv3 router-id {{routerid}}
no ospfv3 router-id
```

Parameters

Name	Description	Type
routerid	A.B.C.D	String

Examples

Configure OSPFv3 router ID

```
sonic-cli(config-router-ospfv3)# ospfv3 router-id 19.1.1.1
```

Features this CLI belongs to

- OSPFv3

override-capability

This command instructs BGP to ignore the Capability Negotiation parameters with neighbors (or neighbors in a peer-group) and instead use the locally configured parameters.

Parent Commands (Modes)

```
neighbor { {{ip}} | { interface { ethernet | portchannel | vlan } } }

peer-group {{template-str}}
```

Syntax

```
override-capability
no override-capability
```

Examples

Instruct BGP to ignore the negotiated parameters and use the locally configured one for BGP neighbor 30.30.30.3

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 30.30.30.3
sonic(config-router-bgp-neighbor)# override-capability
```

Instruct BGP to ignore the negotiated parameters and use the locally configured one for neighbors in peer-group PG_Ext

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# override-capability
```

passive

This command makes the BGP neighbor (or neighbors in a peer-group) passive; this BGP neighbor or peer-group will not initiate a session. However, it will listen to any incoming BGP session.

Parent Commands (Modes)

```
neighbor { {{ip}} | { interface { ethernet | portchannel | vlan } } }

peer-group {{template-str}}
```

Syntax

```
passive
no passive
```

Examples

Set BGP neighbor 30.30.30.3 to passive

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 30.30.30.3
sonic(config-router-bgp-neighbor)# passive
```

Set BGP neighbors in peer-group PG_Ext to passive

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# passive
```

passive-interface

This command configures OSPFv2 passive interfaces. Default mode makes all interfaces passive. When default mode is enabled, the user is able to activate selected interfaces by enabling the non-passive mode of passive interface configuration.

Parent Commands (Modes)

```
router ospf [ vrf {{vrf-name}} ]
```

Syntax

```
passive-interface { default | { {{interfacename}} { { [ {{ipaddr}} [ non-passive ] ] }
| [ non-passive ] ] } } }
no passive-interface { default | { {{interfacename}} { [ {{ipaddr}} ] ] } } }
```

Parameters

Name	Description	Type
interfacename	Interface Type - Ranges	
ipaddr	A.B.C.D	String

Examples

Configure OSPFv2 passive interfaces

```
sonic-cli(config-router-ospf)# passive-interface Ethernet0
   or
sonic-cli(config-router-ospf)# passive-interface default
sonic-cli(config-router-ospf)# no passive-interface Ethernet0
```

Features this CLI belongs to

- OSPFv2

passive-mode

This command configures a Bidirectional Forwarding detection (BFD) peer as passive; session creation will not be initiated by this peer. By default, passive mode is disabled for a BFD peer.

Parent Commands (Modes)

```
peer {{peer_ipv4}}
peer {{peer_ipv6}}
peer [ interface ] {{interfacename}}
peer [ local-address ] {{local_ipv4}}
peer [ local-address ] {{local_ipv6}}
peer [ multihop ]
peer [ vrf ] {{vrfname}}

profile {{profilename}}
```

Syntax

```
passive-mode
no passive-mode
```

Examples

Configure passive mode for BFD peer 192.168.0.5

```
device()#configure terminal
```

```
device(config)#bfd
device(conf-bfd)# peer 192.168.0.5 interface Ethernet0
device(conf-bfd-peer)# passive-mode
```

Configure passive mode for profile "fast"

```
device()#configure terminal
device(config)#bfd
device(conf-bfd)# profile fast
device(conf-bfd-profile)# passive-mode
```

password

This command sets an MD5 password to be used with the TCP socket which is being used to connect to the remote peer (or peers in a peer-group).

This command is for security purposes. When the password is configured for a BGP neighbor (or neighbors in a peer-group), the sender will include a 16-byte MD5 digest in the TCP header of the BGP message, and the receiver should be able to validate the digest and only then accept the BGP message.

Parent Commands (Modes)

```
neighbor { {{ip}} | { interface { ethernet | portchannel | vlan } } }

peer-group {{template-str}}
```

Syntax

```
password {{String}} [ encrypted ]
no password
```

Parameters

Name	Description	Type
String	String	String

Examples

Configure password for BGP neighbor 30.30.30.3

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 30.30.30.3
sonic(config-router-bgp-neighbor)# password jackandjillwentupthehill
```

Configure password for BGP neighbors in peer-group PG_Ext

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# password ilovebeansbecausetheyaremean
```

pbf next-hop-group

This command creates a policy-based forwarding next-hop group. A next-hop-group name can be a maximum of 63 characters. The name must begin with A to Z, a to z, or 0 to 9. Underscores and hyphens can be used, except as the first character.

A next-hop-group can be of the ip or ipv6 type. The group type cannot be updated after it is created. The group type is mandatory at the time of group creation.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
pbf next-hop-group {{fbs-nhgrp-name}} [ type { ip | ipv6 } ]
no pbf next-hop-group {{fbs-nhgrp-name}}
```

Parameters

Name	Description	Type
fbs-nhgrp-name	WORD	String

Examples

Create an IPv4 next-hop group

```
sonic(config)# pbf next-hop-group ipv4-group-1 type ip
sonic-cli(config-pbf-ip-nh-group)#
```

pbf replication-group

Creates a policy-based forwarding replication group. A replication-group name can be of maximum 63 characters. The name must begin with A to Z, a to z, or 0 to 9. Underscores and hyphens can be used, except as the first character.

A replication-group can be of the ip or ipv6 type. The group type cannot be updated after it is created. The group type is mandatory at the time of group creation.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
pbf replication-group {{fbs-replgrp-name}} [ type { ip | ipv6 } ]
no pbf replication-group {{fbs-replgrp-name}}
```

Parameters

Name	Description	Type
fbs-replgrp-name	WORD	String

Examples

Create an IPv4 replication group

```
sonic(config)# pbf replication-group ipv4-group-1 type ip
sonic-cli(config-pbf-ip-repl-group)#
```

pbs

This command sets the Peak Burst Size (in bytes) under the queue or port command.

Parent Commands (Modes)

```
queue {{sequence}}

port
```

Syntax

For queues

```
pbs {{be}}
no pbs
```

For ports

```
pbs {{pbs}}
no pbs
```

Parameters

For queues

Name	Description	Type
be		Integer

For ports

Name	Description	Type
pbs		Integer

peer

This command configures a single-hop and multihop Bidirectional Forwarding Detection (BFD) peer.

- For a single-hop BFD peer, the interface must be configured.
- For a multihop BFD peer, the local address must be configured.
- For a link-local BFD peer, the link-local local address must be configured.

Parent Commands (Modes)

```
bfd
```

Syntax

```
peer { {{peer_ipv4}} | {{peer_ipv6}} } [ vrf {{vrfname}} ] [ multihop ] [ local-address
{ {{local_ipv4}} | {{local_ipv6}} } ] [ interface {{interfacename}} ]
no peer { {{peer_ipv4}} | {{peer_ipv6}} } [ vrf {{vrfname}} ] [ multihop ] [ local-
address { {{local_ipv4}} | {{local_ipv6}} } ] [ interface {{interfacename}} ]
```

Parameters

Name	Description	Type
peer_ipv4	A.B.C.D	String
peer_ipv6	A::B	String
vrfname	String	String
local_ipv4	A.B.C.D	String
local_ipv6	A::B	String
interfacename	Interface Type - Ranges	

Examples

Configure single-hop BFD peer with default VRF

```
device()#configure terminal
device(config)#bfd
device(conf-bfd)# peer 192.168.0.5 interface Ethernet0
```

Configure single-hop BFD peer with VRF Vrf1

```
device()#configure terminal
device(config)#bfd
device(conf-bfd)# peer 192.168.0.5 interface Ethernet0 vrf Vrf1
```

Configure multihop BFD peer with default VRF

```
device()#configure terminal
device(config)#bfd
device(conf-bfd)# peer 192.168.0.2 multihop local-address 192.168.0.3
```

Configure multihop BFD peer with VRF Vrf1

```
device()#configure terminal
device(config)#bfd
device(conf-bfd)# peer 192.168.0.2 multihop local-address 192.168.0.3 vrf Vrf1
```

peer-group

This command creates a BGP peer-group, then associates the BGP peer-group with a neighbor. Assigning a BGP neighbor to a peer-group will inherit parameters from the peer-group.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }

neighbor { {{ip}} | { interface { ethernet | portchannel | vlan } } }
```

Syntax

```
peer-group {{template-name}}
no peer-group [ {{template-name}} ]
```

Parameters

Name	Description	Type
template-name	WORD	String

Examples

Create BGP peer-group PG_Ext

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)#
```

Assign neighbor 30.30.30.3 to peer-group PG_Ext

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 30.30.30.3
sonic(config-router-bgp-neighbor)# peer-group PG_Ext
```

peer-ip

This command configures an MCLAG session's peer IP address.

Parent Commands (Modes)

```
mclag domain {{mclag-domain-id}}
```

Syntax

```
peer-ip {{PIP}}
no peer-ip
```

Parameters

Name	Description	Type
PIP	A.B.C.D	String

Examples

Configure MCLAG peer IP address for MCLAG domain 100

```
sonic-cli(config-mclag-domain-100)#peer-ip 10.1.1.2
```

peer-link

This command configures the peer link for an MCLAG session.

Parent Commands (Modes)

```
mclag domain {{mclag-domain-id}}
```

Syntax

```
peer-link { {{eth-if}} | {{po-if}} }
no peer-link
```

Parameters

Name	Description	Type
eth-if	EthernetNUM	
po-if	PortChannelNUM	

Examples

Configure MCLAG peer link for MCLAG domain 100

```
sonic-cli(config-mclag-domain-100)#peer-link Eth 1/12/1
```

pfc-priority-pg

Use this command to add PFC Priority to a priority group entry in a map.

Parent Commands (Modes)

```
qos map pfc-priority-pg {{name}}
```

Syntax

```
pfc-priority {{dot1p_list}} { pg {{pgid}} }
no pfc-priority {{dot1p_list}}
```

Parameters

Name	Description	Type
dot1p_list		String
pgid		Integer

Examples

Add entry to map PFC Priority to a priority group

```
sonic# configure terminal
sonic(config)# pfc-priority 1 pg 0
sonic(config)# pfc-priority 2 pg 0
sonic(config)# pfc-priority 3 pg 1
```

pfc-priority-queue

This command adds PFC Priority to a queue entry in a map.

Parent Commands (Modes)

```
qos map pfc-priority-queue {{name}}
```

Syntax

```
pfc-priority {{dot1p_list}} { queue {{qid}} }
no pfc-priority {{dot1p_list}}
```

Parameters

Name	Description	Type
dot1p_list		String
qid		Integer

Examples

Add entry to map PFC Priority to a queue

```
sonic# configure terminal
sonic(config)# dot1p 1 queue 0
sonic(config)# dot1p 2 queue 0
sonic(config)# dot1p 3 queue 1
```

ping

This command sends an ICMP ECHO_REQUEST to network hosts.

Syntax

```
ping
```

ping vrf

This command selects a VRF instance.

Syntax

```
ping vrf {{vrf-name}}
```

Parameters

Name	Description	Type
vrf-name	VRF name (prefixed by Vrf, Max: 15 characters)	String

ping vrf mgmt

This command performs a ping using management VRF.

Syntax

```
ping vrf mgmt
```

ping6

This command sends an ICMPv6 ECHO_REQUEST to network hosts.

Syntax

```
ping6
```

ping6 vrf

This command selects a VRF instance.

Syntax

```
ping6 vrf {{vrf-name}}
```

Parameters

Name	Description	Type
vrf-name	VRF name (prefixed by Vrf, Max: 15 characters)	String

ping6 vrf mgmt

This command performs a Ping6 using management VRF.

Syntax

```
ping6 vrf mgmt
```

pir

This command configures the Peak Information Rate for the queue.

Parent Commands (Modes)

```
queue {{sequence}}

port
```

Syntax

```
pir {{pir}}
no pir
```

Parameters

Name	Description	Type
pir		Integer

poe auto-reset

This command configures PoE global or local auto-reset mode.

Parent Commands (Modes)

```
configure session
configure terminal

poe card {{id}}
```

Syntax

```
poe auto-reset
no poe auto-reset
```

Examples

Configure PoE global auto-reset mode

```
sonic-cli(config)# poe auto-reset
```

Configure PoE auto-reset mode

```
sonic-cli(config)# poe auto-reset
```

poe card

This command configures PoE card attributes.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
poe card {{id}}
no poe card {{id}}
```

Parameters

Name	Description	Type
id		Integer

Examples

Configure PoE card attributes

```
sonic-cli(config)# poe card 1
```

poe detection

This command configures the PoE detection mode for a port.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
poe detection { two_pt_dot3af | two_pt_dot3af_leg | four_pt_dot3af | four_pt_dot3af_leg
| dot3bt | dot3bt_leg | legacy }
no poe detection
```

Examples

Configure the PoE detection mode for a port

```
sonic-cli(config)# interface Ethernet 0
sonic-cli(conf-if-Ethernet0)# poe detection 2ptdot3af
```

poe disable

This command disables PoE at the port level.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
poe disable
no poe disable
```

Examples

Disable PoE at the port level

```
sonic-cli(config)# interface Ethernet 0
sonic-cli(conf-if-Ethernet0)# poe disable
```

poe disconnect-type

This command configures PoE port disconnect-type settings.

Parent Commands (Modes)

```
interface {{phy-if-name}}
```

Syntax

```
poe disconnect-type { ac | dc }
no poe disconnect-type
```

Examples

Configure PoE port disconnect-type settings

```
sonic-cli(config)# interface Ethernet 0
sonic-cli(conf-if-Ethernet0)# poe disconnect-type ac
```

poe four-pair enable

This command enables PoE four-pair for a port.

Parent Commands (Modes)

```
interface {{phy-if-name}}
```

Syntax

```
poe four-pair enable
no poe four-pair enable
```

Examples

Enable PoE four-pair for port

```
sonic-cli(config)# interface Ethernet 0
sonic-cli(conf-if-Ethernet0)# poe four-pair enable
```

poe high-power enable

This command enables PoE high-power for a port.

Parent Commands (Modes)

```
interface {{phy-if-name}}
```

Syntax

```
poe high-power enable
no poe high-power enable
```

Examples

Enable PoE high-power for port

```
sonic-cli(config)# interface Ethernet 0
sonic-cli(conf-if-Ethernet0)# poe high-power enable
```

poe power management

This command configures a PoE Power management model.

Parent Commands (Modes)

```
configure session
configure terminal
```

```
poe card {{id}}
```

Syntax

```
poe power management { DYNAMIC | DYNAMIC_PRI | STATIC | STATIC_PRI | CLASS }
no poe power management
```

Examples

Configure a PoE Power management model

```
sonic-cli(config)# poe power management dynamic
```

poe power-classification

This command configures the PoE port power-classification mode.

Parent Commands (Modes)

```
interface {{phy-if-name}}
```

Syntax

```
poe power-classification { normal | bypass }
no poe power-classification
```

Examples

Configure the PoE port power-classification mode

```
sonic-cli(config)# interface Ethernet 0
sonic-cli(conf-if-Ethernet0)# poe power-classification bypass
```

poe power-limit

This command configures the PoE power-limit.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
poe power-limit { dot3af | { USER {{user-def}} } }
no poe power-limit
```

Parameters

Name	Description	Type
user-def	PoE port power limit value	Integer

Examples

Configure the PoE power-limit

```
sonic-cli(config)# interface Ethernet 0
sonic-cli(conf-if-Ethernet0)# poe power-limit dot3af
sonic-cli(config)# interface Ethernet 4
sonic-cli(conf-if-Ethernet4)# poe power-limit 4000
```

poe power-pairs

This command configures PoE port power-pairs settings.

Parent Commands (Modes)

```
interface {{phy-if-name}}
```

Syntax

```
poe power-pairs { signal | spare }
no poe power-pairs
```

Examples

Configure PoE port power-pairs settings

```
sonic-cli(config)# interface Ethernet 0
sonic-cli(conf-if-Ethernet0)# poe power-pairs spare
```

poe power-up mode

This command configures the PoE port power-up mode.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
poe power-up mode { IEEE_8023AT | PRE_8023AT | PRE_8023BT | IEEE_8023BT_TYPE3 | IEEE_
8023BT_TYPE4 | IEEE_8023BT | IEEE_8023AF | HIGH_INRUSH }
no poe power-up mode
```

Examples

Configure the PoE port power-up mode

```
sonic-cli(config)# interface Ethernet 0
sonic-cli(conf-if-Ethernet0)# poe power-up mode dot3at
```

poe priority

This command configures the PoE port priority.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
poe priority { low | medium | high | critical }
no poe priority
```

Examples

Configure the PoE port priority

```
sonic-cli(config)# interface Ethernet 0
sonic-cli(conf-if-Ethernet0)# poe priority medium
```

poe reset

This command resets a PoE port.

Syntax

```
poe reset [ {{port}} ]
```

Parameters

Name	Description	Type
port	EthernetNUM	

Examples

Reset a PoE port

```
sonic-cli# poe reset
sonic-cli# poe reset Ethernet0
```

poe spare-pair-power enable

This command enables PoE spare-pair-power for a port.

Parent Commands (Modes)

```
interface {{phy-if-name}}
```

Syntax

```
poe spare-pair-power enable
no poe spare-pair-power enable
```

Examples

Enable PoE spare-pair-power for a port

```
sonic-cli(config)# interface Ethernet 0
sonic-cli(conf-if-Ethernet0)# poe spare-pair-power enable
```

poe usage-threshold

This command configures the PoE power usage threshold value.

Parent Commands (Modes)

```
configure session
configure terminal
```

```
poe card {{id}}
```

Syntax

```
poe usage-threshold {{usg-threshold}}
no poe usage-threshold
```

Parameters

Name	Description	Type
usg-threshold	PoE power usage threshold	Integer

Examples

Configure the PoE power usage threshold value

```
sonic-cli(config)# poe usagethreshold 99
```

police (CoPP Protocol)

This command sets rate-limiting parameters.

Parent Commands (Modes)

```
copp-action {{copp-action-name}}
```

Syntax

```
police { { cir {{cir-value}} { [ cbs {{cbs-value}} ] } } | { cbs {{cbs-value}} } }
no police [ cir ] [ cbs ]
```

Parameters

Name	Description	Type
cir-value		String
cbs-value		String

Examples

Set rate parameters

```
sonic(config-action)# police cir 6000 cbs 6000
sonic(config-action)#
```

Set mode parameters

```
sonic(config-action)# police mode sr_tcm red drop
sonic(config-action)#
```

police (QoS Protocol)

This command configures the policer action for "qos flow" or "acl-copp flow."

- CIR (Committed information rate, in bits per second): The CIR is mandatory. The value can optionally be suffixed with kbps (1000), mbps (1000000), gbps (1000000000), or tbps (1000000000000).
- CBS (Committed burst size, in bytes): The value can optionally be suffixed with kb (1000), mb (1000000), gb (1000000000), or tb (1000000000000). The default value is 20% of the CIR in bytes. If the CBS is configured by the user, it must be greater than or equal to the CIR value (in bytes).
- PIR (Peak information rate, in bits per second): The value can optionally be suffixed with kbps (1000), mbps (1000000), gbps (1000000000), or tbps (1000000000000). If the PIR is configured by the user, it must be greater than the CIR.
- PBS (Peak burst size): The value must be suffixed with kb (1000), mb (1000000), gb (1000000000), or tb (1000000000000). The default value is 20% of the PIR value in bytes. If the PBS is configured by the user, it must be greater than the PIR value (in bytes) and the CBS value.

If only the CIR is configured, then the configured policer is one-rate and two-color. Any traffic exceeding the CIR value will be marked in red and will be dropped.

If both the CIR and PIR are configured, then the configured policer is two-rate and three-color. Any traffic that exceeds the CIR but is less than the PIR will be marked in yellow. Any traffic exceeding the PIR value will be marked in red and will be dropped.

Parent Commands (Modes)

```
class {{fbs-class-name}} [ priority {{fbs-flow-priority}} ]
```

Syntax

```
police { { cir {{cir-value}} { [ cbs {{cbs-value}} ] } { [ pir {{pir-value}} ] } { [
pbs {{pbs-value}} ] } } | { cbs {{cbs-value}} { [ pir {{pir-value}} ] } { [ pbs {{pbs-
value}} ] } } | { pir {{pir-value}} { [ pbs {{pbs-value}} ] } } | { pbs {{pbs-value}} }
}
no police [ cir ] [ cbs ] [ pir ] [ pbs ]
```

Parameters

Name	Description	Type
cir-value		String
cbs-value		String
pir-value		String
pbs-value		String

Examples

Configure the traffic class action for "qos flow"

```
sonic(config)# policy-map policy_qos type qos
sonic(config-policy-map)# class class_permit_ip priority 10
sonic(config-policy-map-flow)#cir 300000000 cbs 300000000 pir 300000000 pbs 300000000
```

Configure the traffic class action for "acl-copp flow"

```
sonic(config)# policy-map policy_acl-copp type acl-copp
```

```
sonic(config-policy-map)# class class_permit_ip priority 10
sonic(config-policy-map-flow)#cir 300000000 cbs 300000000 pir 300000000 pbs 300000000
```

policy-map

This command configures a policy-map. The policy-map name can be a maximum of 63 characters. The name must begin with A to Z, a to z, or 0 to 9. Underscores and hyphens can be used, except as the first character.

Parent Commands (Modes)

```
configure terminal
```

Syntax

```
policy-map {{fbs-policy-name}} type { qos | monitoring | forwarding | copp | acl-copp }
no policy-map {{fbs-policy-name}}
```

Parameters

Name	Description	Type
fbs-policy-name	WORD	String

Examples

Create a policy-map of the forwarding type

```
sonic(config)# policy-map policy_vrf type forwarding
```

pool

This command creates a NAT pool.

Parent Commands (Modes)

```
nat
```

Syntax

```
pool {{pool-name}} {{global-ip-range}} [ {{global-port-range}} ]
no pool {{pool-name}}
```

Parameters

Name	Description	Type
pool-name	String	String
global-ip-range	ip-address or ip-address range	String
global-port-range	[1..65535]-[1..65535]	String

port (AAA Protocol)

This command specifies the UDP port on which a device listens for RADIUS requests from configured RADIUS clients. The valid range for the port-number is 1025 to 65535.

Parent Commands (Modes)

```
aaa server radius dynamic-author
```

Syntax

```
port {{portNumber}}
no port
```

Parameters

Name	Description	Type
portNumber		Integer

Examples

Specify UDP port for listening to RADIUS requests

```
sonic-cli(config)# aaa server radius dynamic-author
sonic-cli(config-radius-da)# port 8989
```

port (BGP Protocol)

This command sets a TCP port for a BGP neighbor (or neighbors in a peer-group). This command is optional.

Parent Commands (Modes)

```
neighbor { {{ip}} | { interface { ethernet | portchannel | vlan } } }

peer-group {{template-str}}
```

Syntax

```
port {{tcpport}}
no port
```

Parameters

Name	Description	Type
tcpport		Integer

Examples

Configure a TCP port for BGP neighbor 30.30.30.3

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 30.30.30.3
sonic(config-router-bgp-neighbor)# port 61356
```

Configure a TCP port for BGP peer-group PG_Ext

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# port 65001
```

port (QoS Protocol)

This command configures a scheduler for the interface.

Parent Commands (Modes)

```
qos scheduler-policy {{name}}
```

Syntax

```
port
no port
```

port-group

This command configures the port speed for the member ports of a port-group. The port-group is not supported on all hardware platforms.

"port-group id speed" refers to a speed in Mbps.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
port-group {{pg}} { speed {{port_speed}} }
no port-group {{pg}} speed
```

Parameters

Name	Description	Type
pg	Port-group (ID)	
port_ speed	Port speed	Select [10(10MBPS) 100(100MBPS) 1000(1GIGE) 2500(2.5GIGE) 5000(5GIGE) 10000(10GIGE) 20000(20GIGE) 25000(25GIGE) 40000(40GIGE) 50000(50GIGE) 100000(100GIGE) 200000 (200GIGE) 400000(400GIGE) 800000(800GIGE)]

Examples

Configure port-group speed

```
sonic# configure terminal
sonic(config)# port-group 1 speed 10000
```

port-load-current

This command sets the port load to the current sampled value, when the sampled value is less than the average.

Parent Commands (Modes)

```
ars profile {{name}}
```

Syntax

```
port-load-current
no port-load-current
```

Examples

Enable current port load

```
sonic-cli(config-ars-profile)# port-load-current
```

Features this CLI belongs to

- ARS

port-load-exponent

This command configures the value of the port load exponent attribute, which is used in EWMA calculations.

Parent Commands (Modes)

```
ars profile {{name}}
```

Syntax

```
port-load-exponent {{portLoadExponent}}
no port-load-exponent
```

Parameters

Name	Description	Type
portLoadExponent		Integer

Examples

Configure port load exponent value

```
sonic-cli(config-ars-profile)# port-load-exponent 10
```

Features this CLI belongs to

- ARS

port-load-future

This command enables the future port load as a quality parameter.

Parent Commands (Modes)

```
ars profile {{name}}
```

Syntax

```
port-load-future
no port-load-future
```

Examples

Enable future port load

```
sonic-cli(config-ars-profile)# port-load-future
```

Features this CLI belongs to

- ARS

port-load-future-weight

This command configures the value of the port load future weight attribute, which is used in EWMA calculations.

Parent Commands (Modes)

```
ars profile {{name}}
```

Syntax

```
port-load-future-weight {{portLoadFutureWeight}}
no port-load-future-weight
```

Parameters

Name	Description	Type
portLoadFutureWeight		Integer

Examples

Configure port load future weight value

```
sonic-cli(config-ars-profile)# port-load-future-weight 10
```

Features this CLI belongs to

- ARS

port-load-past

This command enables the past port load as a quality parameter.

Parent Commands (Modes)

```
ars profile {{name}}
```

Syntax

```
port-load-past
no port-load-past
```

Examples

Enable past port load

```
sonic-cli(config-ars-profile)# port-load-past
```

Features this CLI belongs to

- ARS

port-load-past-weight

This command configures the value of the port load past weight attribute, which is used in EWMA calculations.

Parent Commands (Modes)

```
ars profile {{name}}
```

Syntax

```
port-load-past-weight {{portLoadPastWeight}}
no port-load-past-weight
```

Parameters

Name	Description	Type
portLoadPastWeight		Integer

Examples

Configure port load past weight value

```
sonic-cli(config-ars-profile)# port-load-past-weight 10
```

Features this CLI belongs to

- ARS

port-security enable

This command enables PMS at the interface level.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]
```

Syntax

```
port-security enable
no port-security enable
```

Examples

Enable PMS at the interface level

```
sonic-cli(config)# interface Ethernet 0
sonic-cli(conf-if-Ethernet0)# port-security enable
```

port-security maximum

This command configures the maximum number of secure MACs allowed on this interface.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]
```

Syntax

```
port-security maximum {{maximum}}
no port-security maximum
```

Parameters

Name	Description	Type
maximum		Integer

Examples

Configure the maximum number of secure MACs allowed on this interface

```
sonic-cli(config)# port-security maximum 3
```

port-security sticky-mac

This command enables the sticky MAC feature on this interface.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]
```

Syntax

```
port-security sticky-mac
no port-security sticky-mac
```

Examples

Enable the sticky MAC feature on this interface

```
sonic-cli(config)# port-security sticky-mac
```

port-security violation

This command configures the action to take in the event of security violations.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]
```

Syntax

```
port-security violation { protect | shutdown }
no port-security violation
```

Examples

Configure the action to take in the event of security violations

```
sonic-cli(config)# port-security violation protect
```

portchannel graceful-shutdown

This command enables portchannel graceful shutdown.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
portchannel graceful-shutdown
no portchannel graceful-shutdown
```

Examples

Enable portchannel graceful shutdown

```
sonic-cli(config)# portchannel graceful-shutdown
```

preempt

This command configures preempt for an IPv4 or IPv6 VRRP instance.

Parent Commands (Modes)

```
vrrp ipv4

vrrp ipv6
```

Syntax

```
preempt
no preempt
```

Examples

Configure preempt for IPv4 VRRP instance

```
sonic(config)# interface Ethernet4
sonic(conf-if-Ethernet4)#
sonic(conf-if-Ethernet4)# vrrp 1 address-family ipv4
sonic(conf-if-Ethernet4-vrrp-ipv4-1)#preempt
```

Configure preempt for IPv6 VRRP instance

```
sonic(config)# interface Ethernet4
sonic(conf-if-Ethernet4)#
sonic(conf-if-Ethernet4)# vrrp 1 address-family ipv6
sonic(conf-if-Ethernet4-vrrp-ipv6-1)#preempt
```

prefix-list

This command configures a prefix list, defining a policy (route filtering) for a BGP neighbor or peer-group in the outbound and/or inbound direction.

Parent Commands (Modes)

```
address-family ipv4 unicast

address-family ipv6 unicast
```

Syntax

```
prefix-list {{pname}} { in | out }
no prefix-list {{pname}} { in | out }
```

Parameters

Name	Description	Type
pname	WORD	String

Examples

Configure prefix-list pl_allow_remote in the inbound direction for neighbor 20.20.20.2

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 20.20.20.2
sonic(config-router-bgp-neighbor)# remote-as 300
sonic(config-router-bgp-neighbor)# address-family ipv4 unicast
sonic(config-router-bgp-neighbor-af)# prefix-list pl_allow_remote in
```

Configure prefix-list pl_allow_remote in the inbound direction for peer-group PG_Ext

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
```

```
sonic(config-router-bgp-pg)# address-family ipv4 unicast
sonic(config-router-bgp-pg-af)# prefix-list pl_allow_remote in
```

primary-ip

This command sets the primary IPv4 address or loopback interface.

Parent Commands (Modes)

```
interface vxlan {{vxlan-if-name}}
```

Syntax

```
primary-ip {{PIP}}
no primary-ip
```

Parameters

Name	Description	Type
PIP	A.B.C.D or loopback (0..16383)	String

Examples

Configure the primary IPv4 address or loopback interface

```
sonic(config)# interface vxlan vtep1
sonic(conf-if-vxlan-vtep1)# primary-ip 1.1.1.2
sonic(conf-if-vxlan-vtep1)# primary-ip Loopback1
```

priority

This command configures the priority of an IPv4 or IPv6 VRRP instance.

Parent Commands (Modes)

```
vrrp ipv4

vrrp ipv6
```

Syntax

```
priority {{priority-value}}
no priority
```

Parameters

Name	Description	Type
priority-value		Integer

Examples

Configure the priority of an IPv4 VRRP instance

```
sonic(config)# interface Ethernet4
sonic(conf-if-Ethernet4)#
sonic(conf-if-Ethernet4)# vrrp 1 address-family ipv4
sonic(conf-if-Ethernet4-vrrp-ipv4-1)#priority 120
```

Configure the priority of an IPv6 VRRP instance

```
sonic(config)# interface Ethernet4
sonic(conf-if-Ethernet4)#
sonic(conf-if-Ethernet4)# vrrp 1 address-family ipv6
sonic(conf-if-Ethernet4-vrrp-ipv6-1)#priority 120
```

priority-flow-control

This command configures Priority Flow Control (PFC).

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

For a single interface

```
priority-flow-control { { priority {{dot1p}} } | asymmetric }
no priority-flow-control { { priority [ {{dot1p}} ] } | asymmetric }
```

For a range of interfaces

```
priority-flow-control { priority {{dot1p}} }
no priority-flow-control { priority [ {{dot1p}} ] }
```

Parameters

Name	Description	Type
dot1p		String

priority-flow-control asymmetric

This command configures asymmetric priority flow control on a range of interfaces.

Parent Commands (Modes)

```
interface range iface_range_num
```

Syntax

```
priority-flow-control asymmetric
no priority-flow-control asymmetric
```

Examples

Configure asymmetric priority flow control on a range of interfaces

```
sonic# configure terminal
sonic(config)# interface range Ethernet 0-8
%Info: Configuring only existing interfaces in range
sonic(config-if-range-eth**)# priority-flow-control asymmetric
```

priority-flow-control watchdog action

This command configures the priority flow control watchdog storm action on an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
priority-flow-control watchdog action { alert | drop | forward }
no priority-flow-control watchdog action
```

Examples

Configure the priority flow control watchdog storm action on a range of interfaces

```
sonic# configure terminal
sonic(config)# interface range Ethernet 0-8
%Info: Configuring only existing interfaces in range
sonic(config-if-range-eth**)# priority-flow-control watchdog storm action storm_action_
name
```

priority-flow-control watchdog counter-poll

This command enables PFC watchdog FLEX counters.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
priority-flow-control watchdog counter-poll
no priority-flow-control watchdog counter-poll
```

priority-flow-control watchdog off

This command disables the priority flow control watchdog on an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
priority-flow-control watchdog off
```

Examples

Disable the priority flow control watchdog on a range of interfaces

```
sonic# configure terminal
sonic(config)# interface range Ethernet 0-8
%Info: Configuring only existing interfaces in range
sonic(config-if-range-eth**)# priority-flow-control watchdog off
```

priority-flow-control watchdog on

This command enables the priority flow control watchdog with detection time on an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
priority-flow-control watchdog on detect-time {{detection-time}}
no priority-flow-control watchdog on detect-time
```

Parameters

Name	Description	Type
detection-time		Integer

Examples

Enable the priority flow control watchdog with detection time on a range of interfaces

```
sonic# configure terminal
sonic(config)# interface range Ethernet 0-8
%Info: Configuring only existing interfaces in range
sonic(config-if-range-eth**)# priority-flow-control watchdog on detect-time detect_
time_in_ms
```

priority-flow-control watchdog polling-interval

This command configures the watchdog polling interval.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
priority-flow-control watchdog polling-interval {{interval}}
no priority-flow-control watchdog polling-interval
```

Parameters

Name	Description	Type
interval		Integer

priority-flow-control watchdog restore-time

This command configures the priority flow control watchdog restoration time on an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
priority-flow-control watchdog restore-time {{restore-time}}
no priority-flow-control watchdog restore-time
```

Parameters

Name	Description	Type
restore-time		Integer

Examples

Configure the priority flow control watchdog restoration time on a range of interfaces

```
sonic# configure terminal
sonic(config)# interface range Ethernet 0-8
%Info: Configuring only existing interfaces in range
sonic(config-if-range-eth**)# priority-flow-control watchdog restore-time restore_time_
in_ms
```

profile

This command creates, or creates and configures, a Bidirectional Forwarding Detection (BFD) profile. A BFD profile can be associated with a BFD peer; all configurations in the BFD profile are applied to the BFD peer. The BFD profile can also be associated with BGP protocol configuration, and the dynamic session created derives all configurations from the corresponding BFD profile.

Parent Commands (Modes)

```
bfd

peer {{peer_ipv4}}
peer {{peer_ipv6}}
peer [ interface ] {{interfacename}}
peer [ local-address ] {{local_ipv4}}
peer [ local-address ] {{local_ipv6}}
peer [ multihop ]
peer [ vrf ] {{vrfname}}
```

Syntax

For creating and configuring a BFD profile

```
profile {{profilename}}
no profile {{profilename}}
```

Parameters

Name	Description	Type
profilename	WORD	String

Examples

Create a BFD profile

```
device()#configure terminal
device(config)#bfd
device(conf-bfd)# profile fast
```

Create and configure a BFD profile

```
device()#configure terminal
device(config)#bfd
device(conf-bfd)# peer 192.168.0.5 interface Ethernet0
device(conf-bfd-peer)# profile fast
```

ptp announce-timeout

This command configures the PTP announce receipt timeout value in seconds. The default value is 3.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ptp announce-timeout {{ptp_announce_timeout}}
no ptp announce-timeout
```

Parameters

Name	Description	Type
ptp_announce_timeout		Integer

Examples

Configure the PTP announcement timeout

```
sonic(config)# ptp announce-timeout 2
Success
```

ptp domain

This command configures a PTP domain.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ptp domain {{ptp_domain}}
no ptp domain
```

Parameters

Name	Description	Type
ptp_domain		Integer

Examples

Configure a PTP domain

```
sonic(config)# ptp domain 1
```

```
Success
```

ptp domain-profile

This command configures a PTP domain profile.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ptp domain-profile {{ptp_domain_profile}}
no ptp domain-profile
```

Parameters

Name	Description	Type
ptp_domain_profile		Select [default(ieee1588) g8275.1(G.8275.1) g8275.2(G.8275.2)]

Examples

Configure a PTP domain profile

```
sonic(config)# ptp domain-profile default
Success
```

ptp ipv6-scope

This command configures the PTP IPv6 multicast address scope.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ptp ipv6-scope {{ptp_ipv6_scope}}
```

Parameters

Name	Description	Type
ptp_ipv6_scope	Hexadecimal range (0x0 to 0xf)	String

Examples

Configure the PTP IPv6 scope

```
sonic(config)# ptp ipv6-scope 0xe
Success
```

ptp log-announce-interval

This command configures the PTP log announce interval value. The interval is specified as a power of two, in seconds, and should be the same throughout the whole domain. The default value is 1 (corresponding to two seconds).

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ptp log-announce-interval {{ptp_announce_interval}}
no ptp log-announce-interval
```

Parameters

Name	Description	Type
ptp_announce_interval		Integer

Examples

Configure the PTP interval for log announcements

```
sonic(config)# ptp log-announce-interval 0
Success
```

ptp log-min-delay-req-interval

This command configures the PTP log min delay req interval value. The interval is specified as a power of two, in seconds. The default value is 0 (corresponding to one second).

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ptp log-min-delay-req-interval {{ptp_delay_request_interval}}
no ptp log-min-delay-req-interval
```

Parameters

Name	Description	Type
ptp_delay_request_interval		Integer

Examples

Configure the PTP log minimum delay between requests

```
sonic(config)# ptp log-min-delay-req-interval 0
Success
```

ptp log-sync-interval

This command configures the PTP log sync interval value. The interval is specified as a power of two, in seconds. The default value is 0 (corresponding to one second).

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ptp log-sync-interval {{ptp_sync_interval}}
no ptp log-sync-interval
```

Parameters

Name	Description	Type
ptp_sync_interval		Integer

Examples

Configure the PTP log sync interval

```
sonic(config)# ptp log-sync-interval 0
Success
```

ptp mode

This command configures the PTP clock type.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ptp mode {{mode_type}}
no ptp mode
```

Parameters

Name	Description	Type
mode_ type	PTP mode	Select [boundary-clock(BC) end-to-end-transparent-clock(E2E_TC) disable(disable)]

Examples

Configure the PTP clock type

```
sonic(config)# ptp mode boundary-clock
Success
```

ptp network-transport

This command configures the PTP network-transport.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ptp network-transport {{ptp_network_transport_type}} {{ptp_master_slave}}
no ptp network-transport {{ptp_network_transport_type}} {{ptp_master_slave}}
```

Parameters

Name	Description	Type
ptp_network_transport_type		Select [l2(L2) ipv4(UDPv4) ipv6(UDPv6)]
ptp_master_slave	unicast/multicast	Select [unicast(unicast) multicast(multicast)]

Examples

Configure the PTP network-transport

```
sonic(config)# ptp network-transport ipv4 unicast
Success
```

ptp port add

This command adds a PTP port.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ptp port add { {{Ethernet}} { [ role { dynamic | master | slave } ] } { [ local-pri-
ority {{local-priority-value}} ] } }
```

Parameters

Name	Description	Type
Ethernet	EthernetNUM	
local-priority-value		Integer

Examples

Configure PTP Rx/Tx on a port

```
sonic(config)# ptp port add Ethernet 64
Success
```

ptp port del

This command deletes a PTP port.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ptp port del { {{Ethernet}} { [ role ] | [ local-priority ] ] } }
```

Parameters

Name	Description	Type
Ethernet	EthernetNUM	

Examples

Disable PTP Rx/Tx on a port

```
sonic(config)# ptp port del Ethernet 64
Success
```

ptp port master-table

This command adds or deletes a master IP/MAC from the master table for the designated slave port.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ptp port master-table { {{Ethernet}} { { add { {{l3_ip}} | {{mac}} } } | { del { {{l3_
ip}} | {{mac}} } } } }
```

Parameters

Name	Description	Type
Ethernet	EthernetNUM	
l3_ip	A.B.C.D/A::B	String
mac	nn:nn:nn:nn:nn:nn	String

Examples

Configure the PTP port master table

```
sonic(config)# ptp port master-table Ethernet 64 add 10.1.1.1
Success
sonic(config)# ptp port master-table Ethernet 64 del 10.1.1.1
Success
```

ptp priority1

This command configures the PTP priority1 value.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ptp priority1 {{ptp_priority1}}
no ptp priority1
```

Parameters

Name	Description	Type
ptp_priority1		Integer

Examples

Configure the PTP priority1 value

```
sonic(config)# ptp priority1 128
Success
```

ptp priority2

This command configures the PTP priority2 value.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ptp priority2 {{ptp_priority2}}
no ptp priority2
```

Parameters

Name	Description	Type
ptp_priority2		Integer

Examples

Configure the PTP priority2 value

```
sonic(config)# ptp priority2 128
Success
```

ptp source-interface

This command configures the PTP source interface in configuration mode. The PTP source interface can be Ethernet, loopback, management, port channel, or VLAN interface.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ptp source-interface { Ethernet | Loopback | PortChannel | Vlan }
no ptp source-interface
```

Examples

Configure the PTP source interface

```
sonic# configure
sonic(config)# ptp source-interface Ethernet 0
sonic(config)# ptp source-interface Ethernet 0.1
sonic(config)# ptp source-interface Loopback 88
sonic(config)# ptp source-interface PortChannel 18
sonic(config)# ptp source-interface Vlan 888
```

ptp two-step

This command configures PTP two-step mode.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ptp two-step {{ptp_two_step}}
```

Parameters

Name	Description	Type
ptp_two_step	enable or disable	Select [enable(enable) disable(disable)]

Examples

Configure PTP two-step mode

```
sonic(config)# ptp two-step enable
Success
```

Chapter 9:

Commands Q to R

After login, type sonic-cli to be able to use the commands in this guide.

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qos map dot1p-tc

This command creates an entry map to associate a DOT1P set with a Traffic class. This map is used to assign a traffic class to data packets based on the data in the Received Packets field for a DOT1P set.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
qos map dot1p-tc {{name}}
no qos map dot1p-tc {{name}}
```

Parameters

Name	Description	Type
name	WORD	String

Examples

Create an entry map for a DOT1P set to a Traffic class

```
sonic# configure terminal
sonic(config)#qos map dot1p-tc dot1p-map
```

qos map dscp-tc

This command creates an entry map to associate a DSCP (Differentiated Services Code Point) set with a Traffic class. This map is used to assign a traffic class to data packets based on the data in the Received Packets field for a DSCP set.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
qos map dscp-tc {{name}}
no qos map dscp-tc {{name}}
```

Parameters

Name	Description	Type
name	WORD	String

Examples

Create an entry map for a DSCP set to a Traffic class

```
sonic# configure terminal
sonic(config)# qos map dscp-tc dscp-map
```

qos map pfc-priority-pg

This command creates an entry map to associate a PFC Priority set with a Priority Group. This map is used to select a PFC Priority based on the congestion state of the mapped Priority Group.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
qos map pfc-priority-pg {{name}}
no qos map pfc-priority-pg {{name}}
```

Parameters

Name	Description	Type
name	WORD	String

Examples

Create an entry map for a PFC Priority to a Priority Group

```
sonic# configure terminal
sonic(config)#qos map pfc-priority-pg pfc-priority-pg-map
```

qos map pfc-priority-queue

This command creates an entry map to associate a PFC Priority set with a Queue. This map is used to classify a queue for data packets based on the data in the Received Packets field for a DOT1P set.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
qos map pfc-priority-queue {{name}}
no qos map pfc-priority-queue {{name}}
```

Parameters

Name	Description	Type
name	WORD	String

Examples

Create an entry map for a PFC Priority set to a Queue

```
sonic# configure terminal
sonic(config)#qos map pfc-priority-queue pfc-priority-queue-map
```

qos map tc-dot1p

This command creates an entry map to associate a Traffic Class (TC) set with a VLAN PCP value (DOT1P) set. This map is used to Remark the DOT1P field in egress packets based on the internal TC.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
qos map tc-dot1p {{name}}
no qos map tc-dot1p {{name}}
```

Parameters

Name	Description	Type
name	WORD	String

Examples

Create an entry map for a Traffic Class to a DOT1P set

```
sonic# configure terminal
sonic(config)# qos map tc-dot1p tc_dot1p
```

qos map tc-dscp

This command creates an entry map to associate a Traffic Class (TC) set with a Differentiated Services Code Point (DSCP) set. This map is used to Remark the DSCP field in egress packets based on the internal TC.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
qos map tc-dscp {{name}}
no qos map tc-dscp {{name}}
```

Parameters

Name	Description	Type
name	WORD	String

Examples

Create an entry map for a Traffic Class to a DSCP entry

```
sonic# configure terminal
sonic(config)# qos map tc-dscp tc_dscp
```

qos map tc-pg

This command creates an entry map to associate a Traffic Class (TC) set with a Queue. This map is used to assign a Priority Group to data packets based on the TC.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
qos map tc-pg {{name}}
no qos map tc-pg {{name}}
```

Parameters

Name	Description	Type
name	WORD	String

Examples

Create an entry map for a Traffic Class to a Priority-Group entry

```
sonic# configure terminal
sonic(config)#qos map tc-pg tc-pg-map
```

qos map tc-queue

This command creates an entry map to associate a Traffic Class (TC) set with a Queue. This map is used to assign an egress queue to data packets based on the TC.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
qos map tc-queue {{name}}
no qos map tc-queue {{name}}
```

Parameters

Name	Description	Type
name	WORD	String

Examples

Create an entry map for a Traffic Class to a Queue

```
sonic# configure terminal
sonic(config)# qos map tc-queue tc-queue-map
```

qos scheduler-policy

This command configures the scheduler policy.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
qos scheduler-policy {{name}}
no qos scheduler-policy {{name}}
```

Parameters

Name	Description	Type
name	WORD	String

qos wred-policy

This command creates a WRED policy.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
qos wred-policy {{name}}
no qos wred-policy {{name}}
```

Parameters

Name	Description	Type
name	WORD	String

Examples

Create a WRED policy named wred-green

```
sonic# configure terminal
sonic(config)# qos wred-policy wred-green
```

qos-fbs

This command configures a key-profile for QoS flow-based-services.

Parent Commands (Modes)

```
tcam
```

Syntax

```
qos-fbs { ingress | egress } key-profile { l2 | ipv4 | ipv6 | l2-ipv4 | l2-ipv6 | ipv4-
ipv6 }
no qos-fbs { ingress | egress } key-profile
```

qos-map dot1p-tc

This command maps a QoS DOT1P to a QoS traffic-class on an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]
```

Syntax

```
qos-map dot1p-tc {{dot1p_tc_map_name}}
no qos-map dot1p-tc
```

Parameters

Name	Description	Type
dot1p_tc_map_name	WORD	String

Examples

Map QoS DOT1P to a QoS traffic-class on a range of interfaces

```
sonic# configure terminal
sonic(config)# interface range Ethernet 0-8
%Info: Configuring only existing interfaces in range
sonic(config-if-range-eth**)# qos map dot1p-tc dot1p_tc_map_name
```

qos-map dscp-tc

This command maps a QoS DSCP to a QoS traffic-class on an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}
```

Syntax

```
qos-map dscp-tc {{dscp_tc_map_name}}
no qos-map dscp-tc
```

Parameters

Name	Description	Type
dscp_tc_map_name	WORD	String

Examples

Map QoS DSCP to a QoS traffic-class on a range of interfaces

```
sonic# configure terminal
sonic(config)# interface range Ethernet 0-8
%Info: Configuring only existing interfaces in range
sonic(config-if-range-eth**)# qos map dscp-tc dscp_tc_map_name
```

qos-map pfc-priority-pg

This command maps a QoS pfc-priority to a QoS priority-group on an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
qos-map pfc-priority-pg {{pfc_priority_pg_map_name}}
no qos-map pfc-priority-pg
```

Parameters

Name	Description	Type
pfc_priority_pg_map_name	WORD	String

Examples

Map QoS pfc-priority to a QoS priority-group on a range of interfaces

```
sonic# configure terminal
sonic(config)# interface range Ethernet 0-8
%Info: Configuring only existing interfaces in range
sonic(config-if-range-eth**)# qos map pfc-priority-pg pfc-priority_pg_map_name
```

qos-map pfc-priority-queue

This command maps a QoS pfc-priority to a QoS queue on an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
qos-map pfc-priority-queue {{pfc_priority_queue_map_name}}
no qos-map pfc-priority-queue
```

Parameters

Name	Description	Type
pfc_priority_queue_map_name	WORD	String

Examples

Map QoS pfc-priority to a QoS queue on a range of interfaces

```
sonic# configure terminal
sonic(config)# interface range Ethernet 0-8
%Info: Configuring only existing interfaces in range
sonic(config-if-range-eth**)# qos map pfc-priority-queue pfc-priority_queue_map_name
```

qos-map tc-dot1p

This command maps a QoS traffic-class to a QoS DOT1P on an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}
```

```
interface range iface_range_num

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]
```

Syntax

```
qos-map tc-dot1p {{tc_dot1p_map_name}}
no qos-map tc-dot1p
```

Parameters

Name	Description	Type
tc_dot1p_map_name	WORD	String

Examples

Map QoS traffic-class to a QoS DOT1P on a range of interfaces

```
sonic# configure terminal
sonic(config)# interface range Ethernet 0-8
%Info: Configuring only existing interfaces in range
sonic(config-if-range-eth**)# qos map tc-dot1p tc_dot1p_map_name
```

qos-map tc-dscp

This command maps a QoS traffic-class to a QoS DSCP on an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}
```

```
interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}
```

Syntax

```
qos-map tc-dscp {{tc_dscp_map_name}}
no qos-map tc-dscp
```

Parameters

Name	Description	Type
tc_dscp_map_name	WORD	String

Examples

Map QoS traffic-class to a QoS DSCP on a range of interfaces

```
sonic# configure terminal
sonic(config)# interface range Ethernet 0-8
%Info: Configuring only existing interfaces in range
sonic(config-if-range-eth**)# qos map tc-dscp tc_dscp_map_name
```

qos-map tc-pg

This command maps a QoS traffic-class to a QoS priority-group on an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
qos-map tc-pg {{tc_pg_map_name}}
```

```
no qos-map tc-pg
```

Parameters

Name	Description	Type
tc_pg_map_name	WORD	String

Examples

Map QoS traffic-class to a QoS priority-group on a range of interfaces

```
sonic# configure terminal
sonic(config)# interface range Ethernet 0-8
%Info: Configuring only existing interfaces in range
sonic(config-if-range-eth**)# qos map tc-pg tc_pg_map_name
```

qos-map tc-queue

This command maps a QoS traffic-class to a QoS queue on an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
qos-map tc-queue {{tc_queue_map_name}}
no qos-map tc-queue
```

Parameters

Name	Description	Type
tc_queue_map_name	WORD	String

Examples

Map QoS DSCP to a QoS traffic-class on a range of interfaces

```
sonic# configure terminal
sonic(config)# interface range Ethernet 0-8
%Info: Configuring only existing interfaces in range
sonic(config-if-range-eth**)# qos map tc-queue tc_queue_map_name
```

qos-mode

This command configures QoS Mode.

Parent Commands (Modes)

```
interface vxlan {{vxlan-if-name}}
```

Syntax

```
qos-mode { uniform | { pipe { dscp {{dscp-value}} } } }
```

Parameters

Name	Description	Type
dscp-value		Integer

queue (Interfaces)

This command configures a queue.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
queue {{qid}} { wred-policy {{wred_prof_name}} }
no queue {{qid}} wred-policy
```

Parameters

Name	Description	Type
qid		Integer
wred_prof_name	WORD	String

queue (QoS Protocol)

This command configures a scheduler for queues.

Parent Commands (Modes)

```
qos scheduler-policy {{name}}
```

Syntax

```
queue {{sequence}}
no queue {{sequence}}
```

Parameters

Name	Description	Type
sequence		Integer

radius-server auth-type

This command configures the global auth-type for RADIUS.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
radius-server auth-type {{auth_type}}
no radius-server auth-type
```

Parameters

Name	Description	Type
auth_type	authentication type	Select [pap(pap) chap(chap) mschapv2(mschapv2)]

Examples

```
sonic(config)# radius-server auth-type chap
```

radius-server host

This command configures a server for RADIUS.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
radius-server host {{host}} [ auth-port {{vauth_port}} ] [ auth-type {{vauth_type}} ] [
key { {{vkey}} [ encrypted ] } ] [ priority {{vpriority}} ] [ retransmit {{vre-
transmit}} ] [ source-interface { Ethernet | Loopback | Management | PortChannel | Vlan
| SubInterface } ] [ timeout {{vtimeout}} ] [ protocol { udp | tls } ] [ security-pro-
file {{vsecurity_profile}} ] [ vrf { mgmt | {{vrf-name}} } ]
```

```
no radius-server host {{host}} { [ auth-port ] | [ auth-type ] | [ key ] | [ protocol ]
| [ security-profile ] | [ priority ] | [ retransmit ] | [ source-interface ] | [
timeout ] | [ vrf ] } ]
```

Parameters

Name	Description	Type
host	WORD	String
vauth_port	port	Integer
vauth_type	authentication type	Select [pap(pap) chap(chap) mschapv2(mschapv2)]
vkey	String	String
vpriority	(1..64)	Integer
vretransmit	attempts	Integer
vtimeout	seconds	Integer
vsecurity_profile	String	String
vrf-name	VRF name (prefixed by Vrf, Max: 15 characters)	String

Examples

Configure a RADIUS server

```
sonic(config)# radius-server host 10.59.100.2 key testing123
```

radius-server key

This command configures a global shared secret for RADIUS.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
radius-server key {{key}} [ encrypted ]
no radius-server key
```

Parameters

Name	Description	Type
key	String	String

Examples

Configure a RADIUS server key

```
sonic(config)# radius-server key testing123
```

radius-server nas-ip

This command configures the global NAS-IP|IPV6-Address (Type 4|95) attribute for RADIUS PDU.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
radius-server nas-ip {{nas_ip}}
no radius-server nas-ip
```

Parameters

Name	Description	Type
nas_ip	A.B.C.D/A::B	String

Examples

Configure the RADIUS server NAS-IP

```
sonic(config)# radius-server nas-ip 10.59.100.2
```

radius-server retransmit

This command configures a global timeout (in seconds) for RADIUS.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
radius-server retransmit {{retransmit}}
no radius-server retransmit
```

Parameters

Name	Description	Type
retransmit	Attempts	Integer

Examples

Configure the RADIUS server timeout

```
sonic(config)# radius-server timeout 3
```

radius-server statistics

This command configures global statistics collection for RADIUS.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
radius-server statistics {{enable}}
```

Parameters

Name	Description	Type
enable	Enable or disable	Select [enable(enable) disable(disable)]

Examples

Enable RADIUS server statistics collection

```
sonic(config)# radius-server statistics enable
```

radius-server timeout

This command configures a global timeout (in seconds) for RADIUS.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
radius-server timeout {{timeout}}
no radius-server timeout
```

Parameters

Name	Description	Type
timeout	Seconds	Integer

Examples

Configure RADIUS server timeout

```
sonic(config)# radius-server timeout 3
```

radv

This command enables the SONiC version of the router advertisement daemon inside radv docker.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
radv enable
no radv enable
```

Examples

Enable SONiC Router Advertisement

```
sonic-cli(config)# radv enable
```

random-seed

This command configures the random-seed value for ARS.

Parent Commands (Modes)

```
ars profile {{name}}
```

Syntax

```
random-seed {{randomSeed}}
no random-seed
```

Parameters

Name	Description	Type
randomSeed		Integer

Examples

Configure random seed value

```
sonic-cli(config-ars-profile)# random-seed 10
```

Features this CLI belongs to

- ARS

rd

This command specifies the route-distinguisher to be attached to routes exported from the current VRF into EVPN.

Parent Commands (Modes)

```
address-family l2vpn evpn

vni {{vninum}}
```

Syntax

```
rd {{rdvalue}}
no rd {{rdvalue}}
```

Parameters

Name	Description	Type
rdvalue	A.B.C.D:NN or ASN(2byte):NNNN or ASN(4byte):NN	String

Examples

Attach route-distinguisher 11:11 to routes exported from VRF Vrf1

```
sonic# configure terminal
sonic(config)# router bgp 100 vrf Vrf1
sonic(config-router-bgp)# address-family l2vpn evpn
sonic(config-router-bgp-af)# rd 11:11
```

Attach route-distinguisher 11:11 to routes exported from VRF Vrf1 for VNI 100

```
sonic# configure terminal
sonic(config)# router bgp 100 vrf Vrf1
sonic(config-router-bgp)# address-family l2vpn evpn
sonic(config-router-bgp-af)# vni 100
sonic(config-router-bgp-af-vni)# rd 11:11
```

read-quanta

This command configures the maximum number of BGP packets to read from the peer socket in one I/O cycle. BGP packets are read off the wire one at a time in a loop. This setting controls how many iterations the loop runs for. It is recommended to leave this setting on default.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }
```

Syntax

```
read-quanta {{rdval}}
no read-quanta
```

Parameters

Name	Description	Type
rdval		Integer

Examples

Configure the read-quanta to 6 packets

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# read-quanta 6
```

reboot

This command performs a reboot.

Syntax

```
reboot [ force {{_force}} ]
```

Parameters

Name	Description	Type
_force	[yes/no]	Select [yes no]

receive-interval

This command configures the packet receive interval (in milliseconds) for the Bidirectional Forwarding Detection (BFD) peer. The default value is 300.

Parent Commands (Modes)

```
peer {{peer_ipv4}}
peer {{peer_ipv6}}
peer [ interface ] {{interfacename}}
peer [ local-address ] {{local_ipv4}}
peer [ local-address ] {{local_ipv6}}
peer [ multihop ]
peer [ vrf ] {{vrfname}}

profile {{profilename}}
```

Syntax

```
receive-interval {{receive_interval}}
```

Parameters

Name	Description	Type
receive_interval		Integer

Examples

Configure the packet receive interval for peer 192.168.0.5

```
device()#configure terminal
device(config)#bfd
device(conf-bfd)# peer 192.168.0.5 interface Ethernet0
device(conf-bfd-peer)# receive-interval 200
```

Configure the packet receive interval for profile "fast"

```
device()#configure terminal
device(config)#bfd
device(conf-bfd)# profile fast
device(conf-bfd-profile)# receive-interval 200
```

redirect

This command configures the parameters for redirect.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
redirect { security-profile {{security_profile}} }
no redirect security-profile
```

Parameters

Name	Description	Type
security_profile	WORD	String

redistribute (BGP Protocol)

This command redistributes information from another routing protocol to BGP. The user also has the option to provide a route-map while enabling the redistribution of routes to control the routes that go into BGP. The user can also use the metric option to set the default metric for the redistributed routes.

Parent Commands (Modes)

```
address-family ipv4 unicast

address-family ipv6 unicast
```

Syntax

For IPv4

```
redistribute { connected | static | ospf | attached-host } [ route-map {{route-map-
name}} ] [ metric {{metvalue}} ]
no redistribute { connected | static | ospf | attached-host } [ route-map {{route-map-
name}} ] [ metric {{metvalue}} ]
```

For IPv6

```
redistribute { connected | static | ospfv3 | attached-host } [ route-map {{route-map-name}} ] [ metric {{metvalue}} ]
no redistribute { connected | static | ospfv3 | attached-host } [ route-map {{route-map-name}} ] [ metric {{metvalue}} ]
```

Parameters

Name	Description	Type
route-map-name	WORD	String
metvalue	0..4294967295	Integer

Examples

Enable redistribution of connected routes into BGP

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# address-family ipv4 unicast
sonic(config-router-bgp-af)# redistribute connected
```

redistribute (OSPF Protocol)

This command configures route redistribution into an OSPFv2 or OSPFv3 router. The redistributed route's metric and metric-type can be modified using this command. The route map can also be applied to the redistributed route. Unconfiguring any of the redistribute attributes for a protocol will unconfigure all attributes.

Parent Commands (Modes)

```
router ospf [ vrf {{vrf-name}} ]

router ospfv3 [ vrf {{vrf-name}} ]
```

Syntax

```
redistribute { { bgp { [ metric {{bgpmetricval}} ] } { [ metric-type {{bgpmertrictype}}
] } { [ route-map {{bgproutemapname}} ] } } | { connected { [ metric {{connmetricval}}
] } { [ metric-type {{connmertrictype}} ] } { [ route-map {{connroutemapname}} ] } } |
{ static { [ metric {{staticmetricval}} ] } { [ metric-type {{staticmertrictype}} ] } {
[ route-map {{staticroutemapname}} ] } } | { kernel { [ metric {{kernelmetricval}} ] }
{ [ metric-type {{kernelmertrictype}} ] } { [ route-map {{kernelroutemapname}} ] } } }
no redistribute { { bgp [ metric ] [ metric-type ] [ route-map ] } | { connected [ met-
ric ] [ metric-type ] [ route-map ] } | { static [ metric ] [ metric-type ] [ route-map
] } | { kernel [ metric ] [ metric-type ] [ route-map ] } }
```

Parameters

Name	Description	Type
bgpmetricval		Integer
bgpmertrictype		Integer
bgproutemapname	WORD	String
connmetricval		Integer
connmertrictype		Integer
connroutemapname	WORD	String
staticmetricval		Integer
staticmertrictype		Integer
staticroutemapname	WORD	String
kernelmetricval		Integer
kernelmertrictype		Integer
kernelroutemapname	WORD	String

Examples

Configure route redistribution into OSPFv2 router

```
sonic-cli(config-router-ospf)# redistribute bgp
sonic-cli(config-router-ospf)# redistribute bgp route-map bgpospfrmap
sonic-cli(config-router-ospf)# redistribute static metric 10 metrict-type 1 routemap
redist_rmap
sonic-cli(config-router-ospf)# redistribute connected metric 10 metrict-type 1
```

Examples

Configure route redistribution into OSPFv3 router

```
sonic-cli(config-router-ospfv3)# redistribute bgp
sonic-cli(config-router-ospfv3)# redistribute bgp route-map bgpospfrmap
sonic-cli(config-router-ospfv3)# redistribute static metric 10 metrict-type 1 routemap
redist_rmap
sonic-cli(config-router-ospfv3)# redistribute connected metric 10 metrict-type 1
```

Features this CLI belongs to

- OSPFv2
- OSPFv3

refresh

This command configures the OSPFv2 LSA refresh interval.

Parent Commands (Modes)

```
router ospf [ vrf {{vrf-name}} ]
```

Syntax

```
refresh timer {{refreshtimer}}
no refresh timer
```

Parameters

Name	Description	Type
refreshtimer		Integer

Examples

Configure OSPFv2 the LSA refresh interval

```
sonic-cli(config-router-ospf)# refresh timer 20
```

Features this CLI belongs to

- OSPFv2

remark

This command sets an ACL remark or description. A remark containing spaces must be surrounded by double quotes.

Parent Commands (Modes)

```
mac access-list {{access-list-name}}

ip access-list {{access-list-name}}

ipv6 access-list {{access-list-name}}
```

Syntax

```
remark {{remark-val}}
no remark
```

Parameters

Name	Description	Type
remark-val	String (Max: 256 characters)	String

Examples

Set ACL remark

```
sonic(config-mac-acl)# remark"Example ACL remark"
```

remote-as

This command configures the remote AS number for a BGP neighbor or peer-group. This command also can tag a neighbor (dynamic) as internal (iBGP) or external (eBGP). For a BGP neighbor, configuring the remote AS number is mandatory; the user must configure the remote AS right after creating the BGP neighbor. The user can either specify the remote AS number or specify whether a neighbor or peer-group is internal or external.

Parent Commands (Modes)

```
neighbor { {{ip}} | { interface { ethernet | portchannel | vlan } } }

peer-group {{template-str}}
```

Syntax

```
remote-as { internal | external | {{as-num-dot}} }
no remote-as { [ internal ] | [ external ] | [ {{as-num-dot}} ] } ]
```

Parameters

Name	Description	Type
as-num-dot	0.1..65535.65535 or 1..4294967295	String

Examples

Configure remote AS number for neighbor 30.30.30.3 to 65100

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 30.30.30.3
```

```
sonic(config-router-bgp-neighbor)# remote-as 65100
```

Configure remote AS number for peer-group PG_Ext

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# remote-as 65200
```

remove-private-as

This command configures BGP to remove private AS numbers from the AS-path in outbound BGP updates to a neighbor or a peer-group. Use this command at the boundary of your BGP network to remove the private AS numbers. The user can optionally choose to replace the private AS number with a local AS number.

Parent Commands (Modes)

```
address-family ipv4 unicast

address-family ipv6 unicast
```

Syntax

```
remove-private-as [ all ] [ replace-as ]
no remove-private-as [ all ] [ replace-as ]
```

Examples

Enable BGP to remove all private AS numbers from outbound updates to neighbor 20.20.20.2

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 20.20.20.2
sonic(config-router-bgp-neighbor)# remote-as 300
sonic(config-router-bgp-neighbor)# address-family ipv4 unicast
sonic(config-router-bgp-neighbor-af)# remove-private-as all
```

Enable BGP to remove all private AS numbers from outbound updates to peer-group PG_Ext

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# address-family ipv4 unicast
sonic(config-router-bgp-pg-af)# remove-private-as all
```

renew dhcp-lease

This command renews the DHCP lease.

Syntax

```
renew dhcp-lease interface {{Management}}
```

Parameters

Name	Description	Type
Management		

replace

This command deletes the specified file from the local file system.

Parent Commands (Modes)

```
configure session
```

Syntax

```
replace { {{copy_config_url}} | {{copy_home_url}} | {{copy_ftp_url}} | {{copy_http_
url}} | {{copy_scp_url}} | {{copy_usb_url}} }
```

Parameters

Name	Description	Type
copy_config_url	config:	String
copy_home_url	home:	String
copy_ftp_url	ftp:	String
copy_http_url	http:	String
copy_scp_url	scp:	String
copy_usb_url	usb:	String

request-data-size

This command configures the ICMP request data size.

Parent Commands (Modes)

```
icmp-echo {{addr}}
```

Syntax

```
request-data-size {{size}}
no request-data-size
```

Parameters

Name	Description	Type
size		Integer

Examples

Configure the request-data-size for an IP SLA ICMP instance

```
sonic(config)# ip sla 10
sonic(conf-ipsla-10)# icmp-echo 30.30.1.2
sonic(conf-ipsla-10-icmp)# request-data-size 128
```

request-timeout

This command specifies the time interval (in seconds) after which the request received by the DAS from the DAC will be timed out, if there is no response received to the DAS by the registered applications before that interval. The supported range for the request-timeout is 1 to 30.

Parent Commands (Modes)

```
aaa server radius dynamic-author
```

Syntax

```
request-timeout {{timeoutInterval}}
no request-timeout
```

Parameters

Name	Description	Type
timeoutInterval		Integer

Examples

Configure RADIUS server DAS timeout

```
sonic-cli(config)# aaa server radius dynamic-author
sonic-cli(config-radius-da)# request-timeout 5
```

revision

This command configures the revision number for the MST region.

Parent Commands (Modes)

```
spanning-tree mst configuration
```

Syntax

```
revision {{mst-revision}}
no revision
```

Parameters

Name	Description	Type
mst-revision	Revision value	Integer

Examples

Configure the MST revision number

```
sonic-cli(config)# spanning-tree mst configuration
sonic-cli(config-mst)# revision 10
```

Features this CLI belongs to

- Multiple Spanning Tree Protocol

roce enable

This command enables support for RoCEv2 with the default RoCEv2/ISCSI lossless buffer settings and the default WRED/ECN, scheduling, and the QoS map configurations that are defined for a switch.

Parent Commands (Modes)

```
configure terminal
```

Syntax

```
roce enable
no roce enable
```

Examples

Enable lossless RoCE buffer settings

```
sonic# configure terminal
sonic(config)# roce enable
```

roce enable force-defaults

This command enables support for RoCEv2 with the default RoCEv2/ISCSI lossless buffer settings and the default WRED/ECN, scheduling, and the QoS map configurations that are defined for a switch. If any QoS configuration has been previously configured, the force-default keyword will erase the preexisting configuration.

Parent Commands (Modes)

```
configure terminal
```

Syntax

```
roce enable force-defaults
```

Examples

Reset lossless RoCE buffer-related entries to default settings

```
sonic# configure terminal
sonic(config)# roce enable force-defaults
```

roce enable pfc-priority

This command enables support for RoCEv2 with the default RoCEv2/ISCSI lossless buffer settings and the default WRED/ECN, scheduling, as well as QoS map configurations that are defined for a switch. If you wish to use something other than PFC Priority Queues 3 and 4, you can use the pfc-priority keyword.

Parent Commands (Modes)

```
configure terminal
```

Syntax

```
roce enable pfc-priority {{priorities}}
```

Parameters

Name	Description	Type
priorities		String

Examples

Configure lossless RoCE buffer-related entries

```
sonic# configure terminal
sonic(config)# roce enable pfc-priority
```

route-map (BGP Protocol)

This command configures a policy for a BGP neighbor (or neighbors in a peer-group) using a route-map. The policy can be applied in the inbound or outbound direction. The policy dictates whether a subset of routes must be filtered out, as well as whether the attributes of some routes must be modified.

Parent Commands (Modes)

```
address-family ipv4 unicast

address-family ipv6 unicast

address-family l2vpn evpn
```

Syntax

```
route-map {{route-name-str}} { in | out }
no route-map {{route-name-str}} { [ in ] | [ out ] ] }
```

Parameters

Name	Description	Type
route-name-str	WORD	String

Examples

Configure a route-map for BGP neighbor in the inbound direction

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 20.20.20.2
sonic(config-router-bgp-neighbor)# remote-as 300
sonic(config-router-bgp-neighbor)# address-family ipv4 unicast
sonic(config-router-bgp-neighbor-af)# route-map rmap_filter_intra_routes in
```

Configure a route-map for BGP peer-group in the inbound direction

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# address-family ipv4 unicast
sonic(config-router-bgp-pg-af)# route-map RM_Blk_192 in
```

Configure a route-map for BGP neighbor in the inbound direction

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 20.20.20.2
sonic(config-router-bgp-neighbor)# remote-as 300
sonic(config-router-bgp-neighbor)# address-family l2vpn evpn
sonic(config-router-bgp-neighbor-af)# route-map rmap_filter_intra_routes in
```

Configure a route-map for BGP peer-group in the inbound direction

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# address-family l2vpn evpn
sonic(config-router-bgp-pg-af)# route-map RM_Blk_192 in
```

route-map (Global)

This command configures routing policies.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
route-map {{route-map-name}} { permit | deny } {{seq-nu}}
no route-map {{route-map-name}} { { [ permit {{seq-nu}} ] } | { [ deny {{seq-nu}} ] } }
]
```

Parameters

Name	Description	Type
route-map-name	WORD	String
seq-nu		Integer

route-map delay-timer

This command sets the interval (in seconds) to wait before processing a route-map change. A change in the route-map might require the BGP RIB to get re-processed to reflect the change in policy.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }
```

Syntax

```
route-map delay-timer {{delaytm}}
no route-map delay-timer
```

Parameters

Name	Description	Type
delaytm		Integer

Examples

Set the route-map change delay to 60 seconds

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# route-map delay-timer 60
```

route-reflector allow-outbound-policy

This command allows setting the outbound policy for route reflector neighbors.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }
```

Syntax

```
route-reflector allow-outbound-policy
no route-reflector allow-outbound-policy
```

Examples

Enable the route-policy for route reflector BGP neighbors

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# route-reflector allow-outbound-policy
```

route-reflector-client

This command configures a BGP neighbor (or neighbors in a peer-group) to be a route reflector client. This command implicitly makes the local router into a route reflector server.

Parent Commands (Modes)

```
address-family ipv4 unicast

address-family ipv6 unicast

address-family l2vpn evpn
```

Syntax

```
route-reflector-client
no route-reflector-client
```

Examples

Configure neighbor 20.20.20.2 as a route reflector client (IPv4)

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 20.20.20.2
sonic(config-router-bgp-neighbor)# remote-as 300
sonic(config-router-bgp-neighbor)# address-family ipv4 unicast
sonic(config-router-bgp-neighbor-af)# route-reflector-client
```

Configure neighbors in peer-group PG_Int as route reflector clients (IPv4)

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Int
sonic(config-router-bgp-pg)# address-family ipv4 unicast
sonic(config-router-bgp-pg-af)# route-reflector-client
```

Configure neighbor 20.20.20.2 as a route reflector client (L2VPN)

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 20.20.20.2
sonic(config-router-bgp-neighbor)# remote-as 300
sonic(config-router-bgp-neighbor)# address-family l2vpn evpn
sonic(config-router-bgp-neighbor-af)# route-reflector-client
```

Configure neighbors in peer-group PG_Int as route reflector clients (L2VPN)

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Int
sonic(config-router-bgp-pg)# address-family l2vpn evpn
sonic(config-router-bgp-pg-af)# route-reflector-client
```

route-scale

This command scales route configuration.

Parent Commands (Modes)

```
switch-resource
```

Syntax

```
route-scale routes {{scale}}
no route-scale routes
```

Parameters

Name	Description	Type
scale	Either max, max-v6, or v4-v6-max	Select [max(max) max-v6(max-v6) v4-v6-max(v4-v6-max)]

Examples

Configure route-scale routes max

```
sonic(config-switch-resource)# route-scale routes max
```

route-scale hosts

This command scales host configuration.

Parent Commands (Modes)

```
switch-resource
```

Syntax

```
route-scale hosts {{scale}}
no route-scale hosts
```

Parameters

Name	Description	Type
scale	layer2-layer3 or layer2-layer3-balanced	Select [layer2-layer3(layer2-layer3) layer2-layer3-balanced(layer2-layer3-balanced)]

Examples

Configure route-scale hosts

```
sonic(config-switch-resource)# route-scale hosts layer2-layer3
```

route-server-client

This command configures a BGP neighbor (or neighbors in a peer-group) to be a route server client.

Parent Commands (Modes)

```
address-family ipv4 unicast

address-family ipv6 unicast

address-family l2vpn evpn
```

Syntax

```
route-server-client
no route-server-client
```

Examples

Configure neighbor 20.20.20.2 as a route server client (IPv4)

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 20.20.20.2
sonic(config-router-bgp-neighbor)# remote-as 300
sonic(config-router-bgp-neighbor)# address-family ipv4 unicast
sonic(config-router-bgp-neighbor-af)# route-server-client
```

Configure neighbors in peer-group PG_Int as route server clients (IPv4)

```
sonic# configure terminal
```

```
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Int
sonic(config-router-bgp-pg)# address-family ipv4 unicast
sonic(config-router-bgp-pg-af)# route-server-client
```

Configure neighbor 20.20.20.2 as a route server client (L2VPN)

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 20.20.20.2
sonic(config-router-bgp-neighbor)# remote-as 300
sonic(config-router-bgp-neighbor)# address-family l2vpn evpn
sonic(config-router-bgp-neighbor-af)# route-server-client
```

Configure neighbors in peer-group PG_Int as route server clients (L2VPN)

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Int
sonic(config-router-bgp-pg)# address-family l2vpn evpn
sonic(config-router-bgp-pg-af)# route-server-client
```

route-target

This command specifies the route-target or a community to be attached while exporting routes from the current VRF (overall or for a specific VNI). This command also allows specific route-targets to be matched when importing routes into the current VRF.

Parent Commands (Modes)

```
address-family l2vpn evpn

vni {{vninum}}
```

Syntax

```
route-target { { both { {{rt}} | auto } } | { import { {{rt}} | auto } } | { export {
{{rt}} | auto } } }
no route-target { { both { {{rt}} | auto } } | { import { {{rt}} | auto } } | { export
{ {{rt}} | auto } } }
```

Parameters

Name	Description	Type
rt	A.B.C.D:NN or NN:NN or MMMM:NN or NN:MMMM	String

Examples

Both examples below specify matching route-target 11:11 while importing routes, attaching route- target 22:22 while exporting routes, and specifying route- target 33:33 to be attached/matched while exporting/importing routes respectively.

Specify in VRF Vrf1 overall

```
sonic# configure terminal
sonic(config)# router bgp 100 vrf Vrf1
sonic(config-router-bgp)# address-family l2vpn evpn
sonic(config-router-bgp-af)# route-target import 11:11
sonic(config-router-bgp-af)# route-target export 22:22
sonic(config-router-bgp-af)# route-target both 33:33
sonic(config-router-bgp-af)# route-target both auto
sonic(config-router-bgp-af)# route-target import *:33
```

Specify in VRF Vrf1 for VNI 100

```
sonic# configure terminal
sonic(config)# router bgp 100 vrf Vrf1
sonic(config-router-bgp)# address-family l2vpn evpn
sonic(config-router-bgp-af)# vni 100
sonic(config-router-bgp-af-vni)# route-target import 11:11
sonic(config-router-bgp-af-vni)# route-target export 22:22
sonic(config-router-bgp-af-vni)# route-target both 33:33
sonic(config-router-bgp-af)# route-target both auto
sonic(config-router-bgp-af)# route-target import *:33
```

router bgp

This command creates an instance of BGP routing protocol in a VRF.

- Use this command to create a BGP routing instance in a VRF. If the VRF key is not supplied by the user, default-vrf is assumed.

- Only one instance of BGP protocol can be created in a VRF. Attempting to create more than one instance will result in a command execution failure.
- If a BGP instance already exists, executing this command with same AS number will simply enter into the "router bgp..." configuration mode of the CLI.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }
no router bgp [ vrf {{vrf-name}} ]
```

Parameters

Name	Description	Type
as-num-dot	0.1..65535.65535 or 1..4294967295	String
vrf-name	WORD	String

Examples

Create a new BGP instance in default VRF with local AS number 65300

```
sonic# configure terminal
sonic(config)# router bgp 65300
```

router ospf

This command configures an OSPFv2 router within a VRF. The user can optionally specify the VRF on which the router must be configured. If the VRF name is not specified, then the command is considered to be for default-vrf. Upon successful configuration, CLI mode is changed to config-router-ospf.

For technical details on OSPFv2 support, refer to https://docs.frrouting.org/en/latest/.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
router ospf [ vrf {{vrf-name}} ]
no router ospf [ vrf {{vrf-name}} ]
```

Parameters

Name	Description	Type
vrf-name	WORD	String

Examples

Configure OSPFv2 instance

```
sonic-cli(config)# router ospf
sonic-cli(config-router-ospf)#
          or
sonic-cli(config)# router ospf vrf Vrf-blue
sonic-cli(config-router-ospf)#
```

Features this CLI belongs to

- OSPFv2

router ospfv3

This command configures the OSPFv3 router within a VRF. The user can optionally specify the VRF on which the router must be configured. If the VRF name is not specified, then the command is considered to be for default-vrf. Upon successful configuration, CLI mode is changed to config-router-ospfv3.

For technical details on OSPFv2 support, refer to https://docs.frrouting.org/en/latest/.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
router ospfv3 [ vrf {{vrf-name}} ]
no router ospfv3 [ vrf {{vrf-name}} ]
```

Parameters

Name	Description	Type
vrf-name	WORD	String

Examples

Configure OSPFv3 instance

```
sonic-cli(config)# router ospfv3
sonic-cli(config-router-ospfv3)#
          or
sonic-cli(config)# router ospfv3 vrf Vrf-blue
sonic-cli(config-router-ospfv3)#
```

Features this CLI belongs to

- OSPFv3

router-id

This command configures the router ID for an instance of BGP protocol. Router ID configuration is optional for the user. If not configured explicitly by the user, BGP automatically picks up one of the interface IP addresses to use as the router ID.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }
```

```
router-id {{ip-addr}}
```

Syntax

```
router-id {{ip-addr}}
no router-id
```

Parameters

Name	Description	Type
ip-addr	A.B.C.D	String

Examples

Configure the router ID for a BGP instance on default-VRF

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# router-id 163.134.6.97
```

Chapter 10:

Commands S to T

After login, type sonic-cli to be able to use the commands in this guide.

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sampler

This command configures any configured sampler information.

TAM infrastructure supports setting up a sampling configuration and referring to this sampler configuration from the application, which supports sampling for the traffic. This command configures any configured sampler information.

Parent Commands (Modes)

```
tam
```

Syntax

```
sampler {{name}} rate {{sampler_rate}}
no sampler {{name}}
```

Parameters

Name	Description	Type
name	WORD	String
sampler_rate	1..4294967295	Integer

Examples

Configure sampler {{name}} rate {{sample-rate}}

```
sonic(config-tam)# sampler s34 rate 1000
sonic# show tam samplers
Name         Sample Rate
-----------  -----------
s1           1
s34          1000
sonic#
```

sampling-interval

This command configures the sampling interval value for ARS.

Parent Commands (Modes)

```
ars profile {{name}}
```

Syntax

```
sampling-interval {{samplingInterval}}
no sampling-interval
```

Parameters

Name	Description	Type
samplingInterval		Integer

Examples

Configure sampling interval value

```
sonic-cli(config-ars-profile)# sampling-interval 10
```

Features this CLI belongs to

- ARS

scheduler-policy

This command applies scheduler policy on an interface, a range of interfaces, or on the CPU interface.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num

interface cpu
```

Syntax

```
scheduler-policy {{sp_name}}
no scheduler-policy
```

Parameters

Name	Description	Type
sp_name	WORD	String

Examples

Apply scheduler policy on a range of interfaces

```
sonic# configure terminal
sonic(config)# interface range Ethernet 0-8
%Info: Configuring only existing interfaces in range
sonic(config-if-range-eth**)# scheduler-policy scheduler_policy_name
```

send-community

This command enables sending the community attribute to a BGP neighbor (or neighbors in a peer-group). The command option provides the flexibility to enable the sending of standard, extended, or large communities.

Parent Commands (Modes)

```
address-family ipv4 unicast

address-family ipv6 unicast
```

Syntax

```
send-community { standard | extended | both | large | all | none }
no send-community
```

Examples

Enable BGP to send the community attribute to neighbor 20.20.20.2

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 20.20.20.2
sonic(config-router-bgp-neighbor)# remote-as 300
sonic(config-router-bgp-neighbor)# address-family ipv4 unicast
sonic(config-router-bgp-neighbor-af)# send-community
```

Enable BGP to send the community attribute to neighbors in peer-group PG_Int

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Int
sonic(config-router-bgp-pg)# address-family ipv4 unicast
sonic(config-router-bgp-pg-af)# send-community
```

seq (IPv4)

This command creates an IPv4 ACL rule. The rule will be created if there is no existing rule with the same sequence number.

The ACL rule can't be updated directly; to update, delete the old rule and replace it with a new rule that has the updated parameters.

Parent Commands (Modes)

```
ip access-list {{access-list-name}}
```

Syntax

```
seq {{seq-no}} { { deny | discard | permit | transit | do-not-nat | { remark {{remark-
val}} } } { {{ip-protocol-val}} | icmp | ip | tcp | udp } { {{src-ip-prefix}} | src-ip-
any | { src-ip-host {{src-ip}} } } { { [ src-eq {{src-port1}} ] } | { [ src-gt {{src-
port1}} ] } | { [ src-lt {{src-port1}} ] } | { [ src-range {{src-port1}} {{src-port2}}
] } ] } { {{dst-ip-prefix}} | dst-ip-any | { dst-ip-host {{dst-ip}} } } { { [ dst-eq
{{dst-port1}} ] } | { [ dst-gt {{dst-port1}} ] } | { [ dst-lt {{dst-port1}} ] } | { [
dst-range {{dst-port1}} {{dst-port2}} ] } ] } { [ dscp { default | cs1 | cs2 | cs3 |
cs4 | cs5 | cs6 | cs7 | af11 | af12 | af13 | af21 | af22 | af23 | af31 | af32 | af33 |
af41 | af42 | af43 | ef | voice-admit | {{dscp-val}} } ] } { [ ecn { non-ect | ect-1 |
ect-0 | ce | { {{ecn-val}} { ecn-mask {{ecn-val-mask}} } } } ] } [ tcp-established ] {
[ fin ] | [ not-fin ] ] } { [ syn ] | [ not-syn ] ] } { [ rst ] | [ not-rst ] ] } { [
psh ] | [ not-psh ] ] } { [ ack ] | [ not-ack ] ] } { [ urg ] | [ not-urg ] ] } { [
type {{TYPE}} ] } { [ code {{CODE}} ] } { [ vlan {{vlan-val}} ] } { [ remark {{remark-
val}} ] } }
no seq {{seq-no}} [ remark ]
```

Parameters

Name	Description	Type
seq-no		Integer
remark-val	String (Max: 256 characters)	String
ip-protocol-val		Integer
src-ip-prefix	A.B.C.D/mask	String
src-ip	A.B.C.D	String
src-port1		Integer
src-port2		Integer
dst-ip-prefix	A.B.C.D/mask	String
dst-ip	A.B.C.D	String
dst-port1		Integer
dst-port2		Integer
dscp-val		Integer
ecn-val		Integer
ecn-val-mask		Integer
TYPE		Integer
CODE		Integer
vlan-val		Integer

Examples

Add IP ACL rule

```
sonic(config-ip-acl)# seq 10 permit ip host 10.1.1.1 host 20.1.1.1
```

seq (IPv6)

This command creates an IPv6 ACL Rule. The rule will be created if there is no existing rule with the same sequence number.

The ACL rule can't be updated directly; to update, delete the old rule and replace it with a new rule that has the updated parameters.

Parent Commands (Modes)

```
ipv6 access-list {{access-list-name}}
```

Syntax

```
seq {{seq-no}} { { deny | discard | permit | transit | do-not-nat | { remark {{remark-
val}} } } { {{ip-protocol-val}} | icmpv6 | ipv6 | tcp | udp } { {{src-ip-prefix}} |
src-ip-any | { src-ip-host {{src-ip}} } } { { [ src-eq {{src-port1}} ] } | { [ src-gt
{{src-port1}} ] } | { [ src-lt {{src-port1}} ] } | { [ src-range {{src-port1}} {{src-
port2}} ] } ] } { {{dst-ip-prefix}} | dst-ip-any | { dst-ip-host {{dst-ip}} } } { { [
dst-eq {{dst-port1}} ] } | { [ dst-gt {{dst-port1}} ] } | { [ dst-lt {{dst-port1}} ] }
| { [ dst-range {{dst-port1}} {{dst-port2}} ] } ] } { [ dscp { default | cs1 | cs2 |
cs3 | cs4 | cs5 | cs6 | cs7 | af11 | af12 | af13 | af21 | af22 | af23 | af31 | af32 |
af33 | af41 | af42 | af43 | ef | voice-admit | {{dscp-val}} } ] } { [ ecn { non-ect |
ect-1 | ect-0 | ce | { {{ecn-val}} { ecn-mask {{ecn-val-mask}} } } } ] } [ tcp-estab-
lished ] { [ fin ] | [ not-fin ] ] } { [ syn ] | [ not-syn ] ] } { [ rst ] | [ not-rst
] ] } { [ psh ] | [ not-psh ] ] } { [ ack ] | [ not-ack ] ] } { [ urg ] | [ not-urg ] ]
} { [ type {{TYPE}} ] } { [ code {{CODE}} ] } { [ vlan {{vlan-val}} ] } { [ remark
{{remark-val}} ] } }
no seq {{seq-no}} [ remark ]
```

Parameters

Name	Description	Type
seq-no		Integer
remark-val	String (Max: 256 characters)	String

Name	Description	Type
ip-protocol-val		Integer
src-ip-prefix	A::B/mask	String
src-ip	A::B	String
src-port1		Integer
src-port2		Integer
dst-ip-prefix	A::B/mask	String
dst-ip	A::B	String
dst-port1		Integer
dst-port2		Integer
dscp-val		Integer
ecn-val		Integer
ecn-val-mask		Integer
TYPE		Integer
CODE		Integer
vlan-val		Integer

Examples

Add IPv6 ACL Rule

```
sonic(config-ip-acl)# seq 100 permit ipv6 host abcd::1 host bcde::1
```

seq (MAC)

This command creates a MAC ACL Rule. The rule will be created if there is no existing rule with the same sequence number.

The ACL rule can't be updated directly; to update, delete the old rule and replace it with a new rule that has the updated parameters.

Parent Commands (Modes)

```
mac access-list {{access-list-name}}
```

Syntax

```
seq {{seq-no}} { { deny | discard | permit | transit | do-not-nat | { remark {{remark-
val}} } } { { {{src-mac-addr}} {{src-mac-mac}} } | src-mac-any | { src-mac-host {{src-
mac-addr}} } } { { {{dst-mac-addr}} {{dst-mac-mask}} } | dst-mac-any | { dst-mac-host
{{dst-mac-addr}} } } { [ ethertype-ip ] | [ ethertype-ipv6 ] | [ ethertype-arp ] | [
{{ETHERTYPE}} ] ] } { [ pcp { pcp-be | pcp-bk | pcp-ee | pcp-ca | pcp-vi | pcp-vo |
pcp-ic | pcp-nc | {{pcp-val}} } { [ pcp-mask {{pcp-val-mask}} ] } ] } { [ dei {{dei-
val}} ] } { [ vlan-tag-format { multi-tagged } ] } { [ vlan {{vlan-val}} ] } { [ remark
{{remark-val}} ] } }
no seq {{seq-no}} [ remark ]
```

Parameters

Name	Description	Type
seq-no		Integer
remark-val	String (Max: 256 characters)	String
src-mac-addr	MACADDRESS	String
src-mac-mac	MACADDRESS	String
dst-mac-addr	MACADDRESS	String
dst-mac-mask	MACADDRESS	String
ETHERTYPE	0x600..0xffff	String
pcp-val	0..7	Integer
pcp-val-mask	0..7	Integer
dei-val	0..1	Integer
vlan-val		Integer

Examples

Add MAC ACL Rule

```
sonic(config-mac-acl)# seq 10 permit host 00:00:10:00:00:01 host 00:00:20:00:00:01
```

server-key

This command configures a global shared secret that is used for all dynamic authorization clients which do not have an individual shared secret key configured.

Parent Commands (Modes)

```
aaa server radius dynamic-author
```

Syntax

```
server-key {{key}} [ encrypted ]
no server-key
```

Parameters

Name	Description	Type
key	String	String

Examples

Configure RADIUS DAS server-key

```
sonic-cli(config)# aaa server radius dynamic-author
sonic-cli(config-radius-da)# server-key U2FsdGVkX18LcQREyGJP/aDuWTi34jJLzdqNy9W5WxI=
encryted
sonic-cli(config-radius-da)#
```

service-policy

This command applies an ingress/egress service policy on a given interface.

Parent Commands (Modes)

```
configure terminal

interface {{phy-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}
```

```
line vty

interface cpu
```

Syntax

```
service-policy type { qos | monitoring | forwarding | copp | acl-copp } { in | out }
{{fbs-policy-name}}
no service-policy type { qos | monitoring | forwarding | copp | acl-copp } { in | out }
```

Parameters

Name	Description	Type
fbs-policy-name	WORD	String

Examples

Apply an ingress/egress service policy

```
sonic(conf-if-Vlan100)# service-policy type forwarding in policy_vrf
```

session (Drop-Monitor)

This command creates a drop monitoring session associated with a previously defined flow-group.

Parent Commands (Modes)

```
drop-monitor
```

Syntax

```
session {{session_name}} flowgroup {{flowgroup_name}} collector {{collector_name}}
sampler {{sampler_name}}
no session {{session_name}}
```

Parameters

Name	Description	Type
session_name	WORD	String
flowgroup_name	WORD	String
collector_name	WORD	String
sampler_name	WORD	String

Examples

Configure session {{name}} flowgroup {{fg-name}} collector {{col-name}} [sample-rate {{sampler-name}}]

```
sonic# configure terminal
sonic(config)# tam
sonic(config-tam)# drop-monitor
sonic(config-tam-dm)# session ss91 flowgroup f9 collector c2 sampler s1
sonic(config-tam-dm)# end
sonic# show tam drop-monitor sessions
Name           Flow Group          Collector          Sampler
-----------    ----------------    --------------     -------------
ss1            f1                  c1                 s1
ss2            DEMO                c1                 s2
ss91           f9                  c2                 s1
sonic#
```

session (IFA)

This command creates an IFA monitoring session associated with a previously defined flow-group.

Parent Commands (Modes)

```
ifa
```

Syntax

```
session {{session_name}} flowgroup {{flowgroup_name}} [ collector {{collector_name}} ]
[ sampler {{sampler_name}} ] node-type {{node_type}}
no session {{session_name}}
```

Parameters

Name	Description	Type
session_name	WORD	String
flowgroup_name	WORD	String
collector_name	WORD	String
sampler_name	WORD	String
node_type	IFA node role	Select [ingress(INGRESS) egress(EGRESS)]

Examples

Configure session {{name}} flowgroup {{fg-name}} [collector {{col-name}}] [sample-rate {{sampler-name}}] node-type {ingress | egress }

```
sonic(config-tam-ifa)# session ss1 flowgroup f9 sampler s1 node-type ingress
sonic(config-tam-ifa)#
sonic# show tam ifa sessions
Name           Flow Group          Collector          Sampler           Node Type
-----------    ----------------    --------------     -------------     ----------
ss1            f9                                     s1                Ingress Node
sonic#
```

session (Tail-Stamping)

This command creates a tail stamping session associated with a previously defined flow-group.

Parent Commands (Modes)

```
tail-stamping
```

Syntax

```
session {{session_name}} flowgroup {{flowgroup_name}} [ node-type {{node_type}} ]
no session {{session_name}}
```

Parameters

Name	Description	Type
session_name	WORD	String
flowgroup_name	WORD	String
node_type	Tail stamping node role	Select [normal(NORMAL) ifa(IFA)]

Examples

Configure session {{name}} flowgroup {{fg-name}} {node-type {{normal|ifa}}}

```
sonic# configure terminal
sonic(config)# tam
sonic(config-tam)# tail-stamping
sonic(config-tam-ts)# session ss66 flowgroup f9 node-type ifa
sonic(config-tam-ts)# end
sonic# show tam tail-stamping sessions
Name           Flow Group     Node Type
-----------    ------------   ------------
ss66           f9             IFA
ss99           f10            Normal
sonic#
```

session-timeout

This command configures the default MCLAG session timeout value in seconds.

Parent Commands (Modes)

```
mclag domain {{mclag-domain-id}}
```

Syntax

```
session-timeout {{ST}}
no session-timeout
```

Parameters

Name	Description	Type
ST		Integer

Examples

Configure the MCLAG session timeout value to 100 seconds (MCLAG domain 100)

```
sonic-cli(config-mclag-domain-100)#session-timeout 100
```

session-vrf

This command configures the VRF for an MCLAG session.

Parent Commands (Modes)

```
mclag domain {{mclag-domain-id}}
```

Syntax

```
session-vrf {{SVRF}}
no session-vrf
```

Parameters

Name	Description	Type
SVRF	WORD	String

Examples

Configure the VRF for an MCLAG session (MCLAG domain 100)

```
sonic-cli(config-mclag-domain-100)#session-vrf mgmt
```

set ars

This command configures Adaptive Routing and Switching (ARS), also known as Dynamic Load Balancing (DLB) forwarding.

Route lookup can result in an ECMP group with ARS enabled. When ARS is enabled on an ECMP group, its corresponding ARS group is used for forwarding. Disabling ARS forwarding will override this behavior of using an ARS group with an ECMP group for forwarding.

Parent Commands (Modes)

```
class {{fbs-class-name}} [ priority {{fbs-flow-priority}} ]
```

Syntax

```
set ars disable
no set ars disable
```

Examples

Configure Adaptive Routing and Switching (ARS) for forwarding flow

```
sonic(config)# policy-map policy_vrf type forwarding
sonic(config-policy-map)# class class10 priority 10
sonic(config-policy-map-flow)# set ars disable
```

set ars-object

This command configures adaptive Routing and Switching object information.

Parent Commands (Modes)

```
route-map {{route-map-name}} { permit | deny } {{seq-nu}}
```

Syntax

```
set ars-object {{arsobject}}
no set ars-object
```

Parameters

Name	Description	Type
arsobject	WORD	String

set as-path

Modify the BGP AS-path attribute by prepending the defined AS list for traffic engineering.

Parent Commands (Modes)

```
route-map {{route-map-name}} { permit | deny } {{seq-nu}}
```

Syntax

```
set as-path { prepend { {{as-number_list}} } }
no set as-path prepend
```

Parameters

Name	Description	Type
as-number_list	asn list	String

set comm-list

This command sets a BGP community list (for deletion).

Parent Commands (Modes)

```
route-map {{route-map-name}} { permit | deny } {{seq-nu}}
```

Syntax

```
set comm-list {{comm_nm}} delete
no set comm-list
```

Parameters

Name	Description	Type
comm-nm	String	String

set community

This command sets the BGP community attribute.

Parent Commands (Modes)

```
route-map {{route-map-name}} { permit | deny } {{seq-nu}}
```

Syntax

```
set community { { [ {{comm-num1}} { [ {{comm-num2}} { [ {{comm-num3}} { [ {{comm-num4}}
{ [ {{comm-num5}} [ local-as ] [ no-advertise ] [ no-export ] [ no-peer ] [ additive ]
] } [ local-as ] [ no-advertise ] [ no-export ] [ no-peer ] [ additive ] ] } [ local-as
] [ no-advertise ] [ no-export ] [ no-peer ] [ additive ] ] } [ local-as ] [ no-advert-
ise ] [ no-export ] [ no-peer ] [ additive ] ] } [ local-as ] [ no-advertise ] [ no-
export ] [ no-peer ] [ additive ] ] } | { [ local-as [ no-advertise ] [ no-export ] [
no-peer ] [ additive ] ] } | { [ no-advertise [ local-as ] [ no-export ] [ no-peer ] [
additive ] ] } | { [ no-export [ local-as ] [ no-advertise ] [ no-peer ] [ additive ] ]
} | { [ no-peer [ local-as ] [ no-advertise ] [ no-export ] [ additive ] ] } | [ none ]
}
```

```
no set community { { [ {{comm-num1}} { [ {{comm-num2}} { [ {{comm-num3}} { [ {{comm-
num4}} { [ {{comm-num5}} [ local-as ] [ no-advertise ] [ no-export ] [ no-peer ] [
additive ] ] } [ local-as ] [ no-advertise ] [ no-export ] [ no-peer ] [ additive ] ] }
[ local-as ] [ no-advertise ] [ no-export ] [ no-peer ] [ additive ] ] } [ local-as ] [
no-advertise ] [ no-export ] [ no-peer ] [ additive ] ] } [ local-as ] [ no-advertise ]
[ no-export ] [ no-peer ] [ additive ] ] } | { [ local-as [ no-advertise ] [ no-export
] [ no-peer ] [ additive ] ] } | { [ no-advertise [ local-as ] [ no-export ] [ no-peer
] [ additive ] ] } | { [ no-export [ local-as ] [ no-advertise ] [ no-peer ] [ additive
] ] } | { [ no-peer [ local-as ] [ no-advertise ] [ no-export ] [ additive ] ] } | [
none ] } ]
```

Parameters

Name	Description	Type
comm-num1	AA:NN	String
comm-num2	AA:NN	String
comm-num3	AA:NN	String
comm-num4	AA:NN	String
comm-num5	AA:NN	String

set copp-action

This command updates class-map match ACL attributes.

Parent Commands (Modes)

```
class {{fbs-class-name}} [ priority {{fbs-flow-priority}} ]
```

Syntax

```
set copp-action {{copp-action-name}}
```

Parameters

Name	Description	Type
copp-action-name	WORD	String

Examples

Configure class-map match access-group attributes

```
sonic(config)# class-map class_ip_acl match-type acl
sonic(config-class-map)# match access-group ip ip_acl1
```

set dscp

This command configures the DSCP Remarking action for a QoS flow.

Parent Commands (Modes)

```
class {{fbs-class-name}} [ priority {{fbs-flow-priority}} ]
```

Syntax

```
set dscp {{dscp-value}}
no set dscp
```

Parameters

Name	Description	Type
dscp-value		Integer

Examples

Configure the DSCP remarking action for a QoS flow

```
sonic(config)# policy-map policy_qos type qos
sonic(config-policy-map)# class class_permit_ip priority 10
sonic(config-policy-map-flow)# set dscp 10
```

set extcommunity

This command sets the BGP extended community attribute.

Parent Commands (Modes)

```
route-map {{route-map-name}} { permit | deny } {{seq-nu}}
```

Syntax

```
set extcommunity { { rt {{value}} } | { soo {{value}} } }
no set extcommunity { { [ rt {{value}} ] } | { [ soo {{value}} ] } } ]
```

Parameters

Name	Description	Type
value	ASN:NN_OR_IP-ADDRESS:NN	String

set extcommunity bandwidth

This command configures a route-map to modify the bandwidth extended community attribute.

Parent Commands (Modes)

```
route-map {{route-map-name}} { permit | deny } {{seq-nu}}
```

Syntax

```
set extcommunity bandwidth { { [ num-multipaths { [ non-transitive ] | [ transitive ] ]
} ] } | { {{linkbw}} { [ non-transitive ] | [ transitive ] ] } } }
no set extcommunity bandwidth { { num-multipaths { [ non-transitive ] | [ transitive ]
] } } | { {{linkbw}} { [ non-transitive ] | [ transitive ] ] } } }
```

Parameters

Name	Description	Type
linkbw	1..4294967295	Integer

set interface

This command configures the IP interface for forwarding flow. The egress interfaces configuration is valid only if the classifier uses MAC/L2 ACL for match. Only L2 switched traffic will be forwarded to the configured egress interface.

Combining the egress interface with IPv4 or IPv6 next-hops is not permitted. The drop action (set interface to null), if configured, will be of the lowest priority and will be chosen only if none of the configured next-hops or egress interfaces can be used for forwarding.

Parent Commands (Modes)

```
class {{fbs-class-name}} [ priority {{fbs-flow-priority}} ]
```

Syntax

```
set interface { null | {{port-id}} | {{portchannel-id}} } [ priority {{priority-value}} ]
no set interface { null | {{port-id}} | {{portchannel-id}} } [ priority {{priority-value}} ]
```

Parameters

Name	Description	Type
port-id	EthernetNUM	
portchannel-id	PortChannelNUM	
priority-value		Integer

Examples

Configure IP next-hop for forwarding flow

```
sonic(config)# policy-map policy_vrf type forwarding
sonic(config-policy-map)# class class10 priority 10
sonic(config-policy-map-flow)# set interface Eth 1/9
sonic(config-policy-map-flow)# set interface null
```

set ip

This command configures the IP next-hop for forwarding flow. If the VRF name is not specified, then it will be derived from the VRF of the interface on which the policy is applied; otherwise, the default will be used for global application.

Priority of the next-hop: The valid range is 1 to 65535, and the default is 0 (the lowest priority) if not configured by the user. The next-hop with the higher priority will be picked up for forwarding first. If more than one next-hops have the same priority, then the next-hop which is configured first will be used.

Parent Commands (Modes)

```
class {{fbs-class-name}} [ priority {{fbs-flow-priority}} ]
```

Syntax

```
set ip { { next-hop {{ip-address}} { [ vrf { {{vrf-name}} | default } ] } } | { next-
hop-group {{pbf-nh-grp}} } | { replication-group {{pbf-repl-grp}} } } [ priority {{pri-
ority-value}} ]
no set ip { { next-hop {{ip-address}} { [ vrf { {{vrf-name}} | default } ] } } | {
next-hop-group {{pbf-nh-grp}} } | { replication-group {{pbf-repl-grp}} } } [ priority
{{priority-value}} ]
```

Parameters

Name	Description	Type
ip-address	A.B.C.D	String
vrf-name	VRF name (prefixed by Vrf, Max: 15 characters)	String
pbf-nh-grp	WORD	String
pbf-repl-grp	WORD	String
priority-value		Integer

Examples

Configure IP next-hop for forwarding flow

```
sonic(config)# policy-map policy_vrf type forwarding
```

```
sonic(config-policy-map)# class class_permit_ip priority 10
set ip next-hop 12.12.2.2 vrf Vrf-BLUE priority 20
```

set ip next-hop

This command configures a route-map to modify the next-hop of one or more IP route prefixes.

Parent Commands (Modes)

```
route-map {{route-map-name}} { permit | deny } {{seq-nu}}
```

Syntax

```
set ip next-hop { native | {{ip-addr}} }
no set ip next-hop { native | {{ip-addr}} }
```

Parameters

Name	Description	Type
ip-address	A.B.C.D	String

set ipv6

This command configures the IPv6 next-hop for forwarding flow. If the VRF name is not specified, then it will be derived from the VRF of the interface on which the policy is applied; otherwise, the default will be used for global application.

Priority of the next-hop: The valid range is 1 to 65535, and the default is 0 (the lowest priority) if not configured by the user. The next-hop with the higher priority will be picked up for forwarding first. If more than one next-hops have the same priority, then the next-hop which is configured first will be used.

Parent Commands (Modes)

```
class {{fbs-class-name}} [ priority {{fbs-flow-priority}} ]
```

Syntax

```
set ipv6 { { next-hop {{ip-address}} { [ vrf { {{vrf-name}} | default } ] } } | { next-
hop-group {{pbf-nh-grp}} } | { replication-group {{pbf-repl-grp}} } } [ priority {{pri-
ority-value}} ]
no set ipv6 { { next-hop {{ip-address}} { [ vrf { {{vrf-name}} | default } ] } } | {
next-hop-group {{pbf-nh-grp}} } | { replication-group {{pbf-repl-grp}} } } [ priority
{{priority-value}} ]
```

Parameters

Name	Description	Type
ip-address	A::B	String
vrf-name	VRF name (prefixed by Vrf, Max: 15 characters)	String
pbf-nh-grp	WORD	String
pbf-repl-grp	WORD	String
priority-value		Integer

Examples

Configure IPv6 next-hop for forwarding flow

```
sonic(config)# policy-map policy_vrf type forwarding
sonic(config-policy-map)# class class_permit_ipv6 priority 10
sonic(config-policy-map)# set ipv6 next-hop 1211::2 priority 20
```

set ipv6 next-hop

This command configures a route-map to modify the next-hop of one or more IP route prefixes.

Parent Commands (Modes)

```
route-map {{route-map-name}} { permit | deny } {{seq-nu}}
```

Syntax

```
set ipv6 next-hop { prefer-global | native | { global {{ip-addr}} } }
no set ipv6 next-hop { prefer-global | native | { global {{ip-addr}} } }
```

Parameters

Name	Description	Type
ip-addr	A::B	String

set local-preference

This command configures a route-map to modify the BGP local preference path attribute of one or more route prefixes.

Parent Commands (Modes)

```
route-map {{route-map-name}} { permit | deny } {{seq-nu}}
```

Syntax

```
set local-preference {{pvalue}}
no set local-preference [ {{pvalue}} ]
```

Parameters

Name	Description	Type
pvalue	0..4294967295	Integer

set metric

This command configures a route-map to modify the metric attribute of one or more route prefixes.

Parent Commands (Modes)

```
route-map {{route-map-name}} { permit | deny } {{seq-nu}}
```

Syntax

```
set metric { {{metric}} | rtt | +rtt | -rtt }
no set metric { [ {{metric}} ] | [ rtt ] | [ +rtt ] | [ -rtt ] } ]
```

Parameters

Name	Description	Type
metric	(0..4294967295) +(0..4294967295) -(0..4294967295)	String

set mirror-session

This command configures the mirror session name for monitoring flow.

Parent Commands (Modes)

```
class {{fbs-class-name}} [ priority {{fbs-flow-priority}} ]
```

Syntax

```
set mirror-session {{session-name}}
no set mirror-session
```

Parameters

Name	Description	Type
session-name	String	String

Examples

Configure the mirror session name for monitoring flow

```
sonic(config)# policy-map policy_mirror type monitoring
sonic(config-policy-map)# class class1 priority 10
sonic(config-policy-map-flow)# set mirror-session mirror1
```

set origin

This command configures a route-map to modify the origin path attribute of one or more route prefixes.

Parent Commands (Modes)

```
route-map {{route-map-name}} { permit | deny } {{seq-nu}}
```

Syntax

```
set origin { egp | igp | incomplete }
no set origin { [ egp ] | [ igp ] | [ incomplete ] } ]
```

set pcp

This command configures the PCP Remarking action for QoS flow.

Parent Commands (Modes)

```
class {{fbs-class-name}} [ priority {{fbs-flow-priority}} ]
```

Syntax

```
set pcp {{pcp-value}}
no set pcp
```

Parameters

Name	Description	Type
pcp-value	0..7	Integer

Examples

Configure the PCP remarking action for QoS flow

```
sonic(config)# policy-map policy_qos type qos
sonic(config-policy-map)# class class_permit_ip priority 10
sonic(config-policy-map-flow)# set pcp 1
```

set tag

This command configures a route-map to modify the tag of one or more route prefixes.

Parent Commands (Modes)

```
route-map {{route-map-name}} { permit | deny } {{seq-nu}}
```

Syntax

```
set tag {{tvalue}}
```

Parameters

Name	Description	Type
tvalue	1..4294967295	Integer

set traffic-class

This command configures the set traffic class action for QoS flow.

Parent Commands (Modes)

```
class {{fbs-class-name}} [ priority {{fbs-flow-priority}} ]
```

Syntax

```
set traffic-class {{tc-value}}
no set traffic-class
```

Parameters

Name	Description	Type
tc-value	0..7	Integer

Examples

Configure the traffic class action for QoS flow

```
sonic(config)# policy-map policy_qos type qos
sonic(config-policy-map)# class class_permit_ip priority 10
sonic(config-policy-map-flow)#set traffic-class 1
```

set trap-action

This command sets a CoPP trap action.

Parent Commands (Modes)

```
copp-action {{copp-action-name}}
```

Syntax

```
set trap-action {{trap-action-value}}
```

Parameters

Name	Description	Type
trap-action-value		Select [drop(DROP) forward(FORWARD) copy(COPY) copy_cancel(COPY_CANCEL) trap(TRAP) log(LOG) deny(DENY) transit(TRANSIT)]

Examples

Configure a CoPP trap action

```
sonic(config-action)# set trap-action copy
sonic(config-action)#
```

set trap-priority

This command sets a CoPP trap priority.

Parent Commands (Modes)

```
copp-action {{copp-action-name}}
```

Syntax

```
set trap-priority {{trap-priority-value}}
no set trap-priority
```

Parameters

Name	Description	Type
trap-priority-value		Integer

Examples

Configure a CoPP trap priority

```
sonic(config-action)# set trap-priority 3
sonic(config-action)#
```

set trap-queue (CoPP Protocol)

This command sets a CoPP queue ID.

Parent Commands (Modes)

```
copp-action {{copp-action-name}}
```

Syntax

```
set trap-queue {{queue-id-value}}
no set trap-queue
```

Parameters

Name	Description	Type
queue-id-value		Integer

Examples

Configure a CoPP trap queue ID

```
sonic(config-action)# set trap-queue 3
sonic(config-action)#
```

set trap-queue (QoS Protocol)

This command configures the CPU Queue for ACL-CoPP flows.

Parent Commands (Modes)

```
class {{fbs-class-name}} [ priority {{fbs-flow-priority}} ]
```

Syntax

```
set trap-queue {{trap-queue-id-value}}
no set trap-queue
```

Parameters

Name	Description	Type
trap-queue-id-value		Integer

Examples

Configure the CPU queue for ACL-CoPP flows

```
sonic(config)# policy-map policy3 type acl-copp
sonic(config-policy-map)# class class0 priority 100
sonic(config-policy-map-flow)# set trap-queue 30
```

set weight

This command sets the BGP weight for a routing table.

Parent Commands (Modes)

```
route-map {{route-map-name}} { permit | deny } {{seq-nu}}
```

Syntax

```
set weight {{weigh_value}}
no set weight
```

Parameters

Name	Description	Type
weigh_value	0..4294967295	Integer

sflow agent-id

This command configures the sFlow agent interface.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
sflow agent-id { {{phy-if-name}} | {{vlan-if-name}} | {{loop-if-name}} | {{mgmt-if-name}} }
no sflow agent-id
```

Parameters

Name	Description	Type
phy-if-name	EthernetNUM	
vlan-if-name	VlanNUM	
loop-if-name		
mgmt-if-name		

Examples

Configure the sFlow agent-id interface

```
sonic(config)# sflow agent-id Ethernet0
sonic(config)#
```

sflow collector

This command adds an sFlow Collector.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
sflow collector {{ip}} [ {{port}} ] [ vrf {{vrf_name}} ]
no sflow collector {{ip}} [ {{port}} ] [ vrf {{vrf_name}} ]
```

Parameters

Name	Description	Type
ip	A.B.C.D or A:B:C:D:E:F:G:H	String
port		Integer
vrf_name	String (Max: 16 characters)	String

Examples

Add an sFlow collector using default port 6343

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

Add an sFlow collector with a port number

```
sonic(config)# sflow collector 1.1.1.2 port 4451
sonic(config)#
```

Add an sFlow collector with a port number and management VRF

```
sonic(config)# sflow collector 1.1.1.2 port 4451 vrf mgmt
sonic(config)#
```

sflow enable

This command enables sFlow on an interface, on a range of interfaces, or globally.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num

configure session
configure terminal
```

Syntax

```
sflow enable
no sflow enable
```

Examples

Enable sFlow globally on the switch

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

sflow max-header-size

This command configures the sFlow maximum header size.

Parent Commands (Modes)

```
configure session
```

```
configure terminal
```

Syntax

```
sflow max-header-size {{max-header-size}}
no sflow max-header-size
```

Parameters

Name	Description	Type
max-header-size	128,256..1024	String

Examples

Configure the sFlow maximum header size

```
sonic(config)# sflow max-header-size 128
sonic(config)#
```

sflow polling-interval

This command configures the sFlow polling interval.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
sflow polling-interval {{interval}}
no sflow polling-interval
```

Parameters

Name	Description	Type
interval	0,5..300 (0 to disable)	String

Examples

Configure the sFlow polling interval

```
sonic(config)# sflow polling-interval 44
sonic(config)#
```

sflow sampling-rate

This command sets the sampling-rate.

Parent Commands (Modes)

```
interface {{phy-if-name}}
```

Syntax

```
sflow sampling-rate {{rate}}
no sflow sampling-rate
```

Parameters

Name	Description	Type
rate		Integer

Examples

Configure the sFlow sample rate

```
sonic(config)# sflow sampling-rate
sonic(config)#
```

show aaa

This command displays AAA info.

Syntax

```
show aaa
```

show access-group

This command displays the ACL binding summary.

Syntax

```
show access-group
```

Examples

Display the access-group binding summary

```
Ingress IPV6 access-list ipv6acl-example on Ethernet0
Ingress IP access-list ipacl-example on PortChannel1
Ingress MAC access-list macacl-example on Vlan100
```

show alarm

This command displays a summary of alarms within the specified duration.

Syntax

```
show alarm { { [ from {{startid}} { [ to {{endid}} ] } ] } | { [ start {{starttime}} {
[ end {{endtime}} ] } ] } } ]
```

Parameters

Name	Description	Type
startid	String	String
endid	String	String
starttime	String	String
endtime	String	String

show alarm acknowledged

This command displays all alarms.

Syntax

```
show alarm acknowledged
```

show alarm all

This command displays all alarms.

Syntax

```
show alarm all
```

show alarm detail

This command displays active alarm details.

Syntax

```
show alarm detail
```

show alarm id

This command displays the alarm.

Syntax

```
show alarm id {{id}}
```

Parameters

Name	Description	Type
id	String	String

show alarm recent

This command displays recent alarms over a given interval.

Syntax

```
show alarm recent {{interval}}
```

Parameters

Name	Description	Type
interval		Select [5min(5min) 60min(60min) 24hr(24hr)]

show alarm severity

This command displays all alarms with a given severity.

Syntax

```
show alarm severity {{sev}}
```

Parameters

Name	Description	Type
sev		Select [critical(critical) major(major) minor(minor) warning(warning) informational(informational)]

show alarm summary

This command displays an alarm summary.

Syntax

```
show alarm summary
```

show ars bind

This command displays ARS binding info.

Syntax

```
show ars bind { [ profile ] | [ port-profile ] | [ object ] } ]
```

Examples

Display ARS binding info

```
sonic#show ars bind
 ARS Profile binding Info (Switch Name : Profile Name):
   SWITCH: profile1

  Port Profile binding Info (Port Profile Name : Interfaces):
   pp1 : Ethernet32, Ethernet40
   pp2 : Ethernet36

 ARS Object binding Info (Routemap, Seq.No : Object Name):
   rmap1, 2 : object1
```

show ars nhg-statistics

This command displays NHG ARS binding info.

Syntax

```
show ars nhg-statistics [ {{nhgid}} ] ]
```

Parameters

Name	Description	Type
nhgid	0..4294967295	Integer

Examples

Display NHG ARS binding info

```
sonic#show ars nhg-statistics
NHG Statistics Info:

  NHG ID: 1
  Number of packet drops: 0
  Number of next hop reassignments: 0
  Number of port reassignments: 0
```

show ars object

This command displays an ARS object.

Syntax

```
show ars object [ {{objectname}} ] ]
```

Parameters

Name	Description	Type
objectname	WORD	String

Examples

Display an ARS object

```
sonic#show ars object default
ject Attributes Info:

Object Name: default
 duration to classify a flow-let in a macro flow: 16 microsecond(s)
mum flow size: 1K bytes
path (re)assignment mode: Per flow-let quality based
```

show ars port-profile

This command displays an ARS port profile.

Syntax

```
show ars port-profile [ {{profilename}} ] ]
```

Parameters

Name	Description	Type
profilename	WORD	String

Examples

Display an ARS port profile

```
sonic#show ars port-profile default
ttributes Info:

 Profile Name: default
for a port is: Disabled
 load scaling factor: 0
 Past load is: Disabled
 Future load is: Disabled
```

show ars port-quality

This command displays ARS port quality info.

Syntax

```
show ars port-quality [ Ethernet ] ]
```

Examples

Display ARS port quality info

```
sonic#show ars port-quality
DLB Quality on egress ports:

PortName   Quality [0-7]
------------------------
Eth4           7
Eth2           7
Eth3           5
```

show ars profile

This command displays the specified ARS profile.

Syntax

```
show ars profile [ {{profilename}} ] ]
```

Parameters

Name	Description	Type
profilename	WORD	String

Examples

Display an ARS profile

```
sonic#show ars profile default
ofile Attributes Info:

e Name: default
gorithm used for quality computation: EWMA
ng interval of data for quality measure computation: 16 microsecond(s)
 seed: 0
ort load as the quality parameter: Enabled
ort load weight: 15
 port load as the quality parameter: Enabled
 port load weight: 15
t port load calculation: enabled
ntial port load value: 2
m and Maximum threshold used for band 0 quantization: 0 and 0
```

show audit-log

This command displays an audit log.

Syntax

```
show audit-log [ {{stype}} ]
```

Parameters

Name	Description	Type
stype		Select [all(all)]

show auditd-system log

This command displays the kernel audit log for the auditd application. By default, this shows the last 20 lines of the log.

Syntax

```
show auditd-system log [ {{stype}} ]
```

Parameters

Name	Description	Type
stype		Select [all(all)]

Examples

Display the auditd log

```
sonic# show auditd-system log
```

show auditd-system rules

This command displays the kernel audit rules for the auditd application. This shows the selected profile and the list of rules configured in the kernel for this profile.

Syntax

```
show auditd-system rules
```

Examples

Display auditd rules

```
sonic# show auditd-system rules
------------------------------------------------------------------------
Audit rules profile:  basic
------------------------------------------------------------------------
-w /var/run/utmp -p wa -k session
-w /var/log/btmp -p wa -k session
-w /var/log/wtmp -p wa -k session
sonic#
```

show authentication

This command displays authentication modes.

Syntax

```
show authentication
```

show authentication authentication-history

This command displays the authentication manager authentication history log.

Syntax

```
show authentication authentication-history { all | {{port}} }
```

Parameters

Name	Description	Type
port	EthernetNUM	

show authentication clients

This command displays information for Authentication Manager clients.

Syntax

```
show authentication clients { all | {{port}} }
```

Parameters

Name	Description	Type
port	EthernetNUM	

show authentication interface

This command enters the client interface to show the MAC Authentication Bypass (MAB) interface.

Syntax

```
show authentication interface { all | {{port}} }
```

Parameters

Name	Description	Type
port	EthernetNUM	

show bfd peer

This command displays the specified Bidirectional Forwarding Detection (BFD) peer with the specified filters.

Syntax

```
show bfd peer { {{peer_ipv4}} | {{peer_ipv6}} } [ vrf {{vrfname}} ] [ multihop ] [
local-address { {{local_ipv4}} | {{local_ipv6}} } ] [ interface {{interfacename}} ]
```

Parameters

Name	Description	Type
peer_ipv4	A.B.C.D	String
peer_ipv6	A::B	String
vrfname	WORD	String
local_ipv4	A.B.C.D	String
local_ipv6	A::B	String
interfacename	Interface Type - Ranges	

Examples

Display a singlehop peer

```
device# show bfd peer 192.168.2.1 interface Ethernet0
            BFD Peers:


                peer 192.168.2.1 vrf default interface Ethernet0
                    ID: 106764218
                    Remote ID: 3876686491
                    Status: up
                    Uptime: 0 day(s), 0 hour(s), 51 min(s), 49 sec(s)
                    Diagnostics: ok
                    Remote diagnostics: ok
                    Peer Type: configured
                    Local timers:
                        Detect-multiplier: 3
                        Receive interval: 300ms
                        Transmission interval: 300ms
                        Echo transmission interval: 0ms
                    Remote timers:
                        Detect-multiplier: 3
                        Receive interval: 300ms
                        Transmission interval: 300ms
                        Echo transmission interval: 50ms
```

Display a multihop peer

```
device# show bfd peer 192.168.2.1 multihop local-address 192.168.2.2
            BFD Peers:


                peer 192.168.2.1 multihop local-address 192.168.2.2 vrf default
                    ID: 2900535060
                    Remote ID: 0
                    Status: down
                    Downtime: 0 day(s), 0 hour(s), 0 min(s), 30 sec(s)
                    Diagnostics: ok
                    Remote diagnostics: ok
                    Peer Type: configured
                    Local timers:
                        Detect-multiplier: 3
                        Receive interval: 300ms
                        Transmission interval: 300ms
                        Echo transmission interval: 60ms
                    Remote timers:
                        Detect-multiplier: 3
                        Receive interval: 1000ms
                        Transmission interval: 1000ms
                        Echo transmission interval: 0ms
```

show bfd peer counters

This command displays counters for the specified Bidirectional Forwarding Detection (BFD) peer with the specified filters.

Syntax

```
show bfd peer counters { {{peer_ipv4}} | {{peer_ipv6}} } [ vrf {{vrfname}} ] [ multihop
] [ local-address { {{local_ipv4}} | {{local_ipv6}} } ] [ interface {{interfacename}} ]
```

Parameters

Name	Description	Type
peer_ipv4	A.B.C.D	String
peer_ipv6	A::B	String
vrfname	WORD	String
local_ipv4	A.B.C.D	String
local_ipv6	A::B	String
interfacename	Interface Type - Ranges	

Examples

Display singlehop peer counters

```
device# show bfd peer counters 192.168.2.1 interface Ethernet0
peer 192.168.2.1 vrf default interface Ethernet0
    Control packet input: 25 packets
    Control packet output: 25 packets
    Echo packet input: 0 packets
    Echo packet output: 0 packets
    Session up events: 1
    Session down events: 0
    Zebra notifications: 0
```

Display multihop peer counters

```
device# show bfd peer counters 192.168.2.1 multihop local-address 192.168.2.2
peer 192.168.2.1 multihop local-address 192.168.2.2 vrf default
    Control packet input: 25 packets
    Control packet output: 25 packets
    Echo packet input: 0 packets
    Echo packet output: 0 packets
    Session up events: 1
    Session down events: 0
    Zebra notifications: 0
```

show bfd peers

This command displays all Bidirectional Forwarding Detection (BFD) peers or counters.

Syntax

```
show bfd peers [ vrf { {{vrfname}} | all } ] { [ brief ] | [ counters ] } ]
```

Parameters

Name	Description	Type
vrfname	WORD	String

Examples

Display BFD peers for the default VRF

```
device# show bfd peers
BFD Peers:


    peer 192.168.2.2 vrf default interface Ethernet0
        ID: 1861362724
        Remote ID: 3644437776
        Status: up
        Uptime: 0 day(s), 0 hour(s), 0 min(s), 6 sec(s)
        Diagnostics: ok
        Remote diagnostics: ok
        Peer Type: configured
        Local timers:
            Detect-multiplier: 3
            Receive interval: 300ms
            Transmission interval: 300ms
            Echo transmission interval: 0ms
        Remote timers:
            Detect-multiplier: 3
            Receive interval: 300ms
            Transmission interval: 300ms
            Echo transmission interval: 50ms
```

Display BFD peers for a user VRF

```
device# show bfd peers vrf Vrf7
BFD Peers:


    peer 192.168.2.2 vrf Vrf7 interface Ethernet0
        ID: 1861362724
        Remote ID: 3644437776
        Status: up
        Uptime: 0 day(s), 0 hour(s), 0 min(s), 6 sec(s)
        Diagnostics: ok
        Remote diagnostics: ok
        Peer Type: configured
        Local timers:
            Detect-multiplier: 3
            Receive interval: 300ms
            Transmission interval: 300ms
            Echo transmission interval: 0ms
        Remote timers:
            Detect-multiplier: 3
            Receive interval: 300ms
            Transmission interval: 300ms
            Echo transmission interval: 50ms
```

Display BFD peers' counters for the default VRF

```
device# show bfd peers counters
BFD Peers:

    peer 192.168.2.2 vrf default interface Ethernet0
        Control packet input: 239 packets
        Control packet output: 292 packets
        Echo packet input: 0 packets
        Echo packet output: 0 packets
        Session up events: 1
        Session down events: 0
        Zebra notifications: 0
```

Display BFD peers' counters for a user VRF

```
device# show bfd peers vrf Vrf7 counters
BFD Peers:

    peer 192.168.2.2 vrf Vrf7 interface Ethernet0
        Control packet input: 239 packets
        Control packet output: 292 packets
        Echo packet input: 0 packets
        Echo packet output: 0 packets
        Session up events: 1
        Session down events: 0
        Zebra notifications: 0
```

show bfd profile

This command displays all Bidirectional Forwarding Detection (BFD) profiles, or the one specified.

Syntax

```
show bfd profile [ {{profilename}} ]
```

Parameters

Name	Description	Type
profilename	WORD	String

Examples

Display BFD profiles

```
sonic# show bfd profile
```

show bgp all

This command displays BGP information for all address families.

Syntax

```
show bgp all [ vrf {{vrf-name}} ] { { peer-group [ {{peer-group-name}} ] } | { neigh-
bors { [ {{neighbor-ip}} ] | { [ interface { Ethernet | PortChannel | Vlan } ] } ] } }
}
```

Parameters

Name	Description	Type
vrf-name	WORD	String
peer-group-name	WORD	String
neighbor-ip	A.B.C.D/A::B	String

show bgp as-path-access-list

This command displays BGP AS-path lists already configured on the device. The user must first configure AS-path lists to use in route-maps and with neighbors to design BGP routing policies.

The user can provide the AS-path list name and optional CLI key to display only that AS-path list. If an AS-path list name is not specified, this command displays all AS-path lists.

Syntax

```
show bgp as-path-access-list [ {{list-name}} ]
```

Parameters

Name	Description	Type
list-name	WORD	String

Examples

Display all AS-path lists configured in BGP

```
sonic# show bgp as-path-access-list
AS path list asp_private:
   members: ^65000.*6510565109$,65107.*65200
AS path list asp_public:
   members: ^107.*2301.*709$,97.*201
```

show bgp community-list

This command displays BGP community lists already configured on the device. The user must first configure a community-list to use in route-maps to design BGP routing policies.

The user can provide the community list name and optional CLI key to display only that community list. If the community list name is not specified, this command displays all community lists.

Syntax

```
show bgp community-list [ {{list-name}} ]
```

Parameters

Name	Description	Type
list-name	WORD	String

Examples

Display all communities configured in BGP

```
sonic# show bgp community-list
Expanded community list CommList_Exp:   match: ANY
     300:500
```

```
                    800:900
                    no-export
               Standard community list CommList_RT:  match: ANY
                    100:200
                    no-export
                    no-peer
                    65100:3456
```

show bgp ext-community-list

This command displays the BGP extended community lists already configured on the device. The user must first configure an extended community-list to use in route-maps to design BGP routing policies.

The user can provide the extended community list name and optional CLI key to display only that extended community list. If the extended community list name is not specified, this command displays all extended community lists.

Syntax

```
show bgp ext-community-list [ {{list-name}} ]
```

Parameters

Name	Description	Type
list-name	WORD	String

Examples

Display all extended communities configured in BGP

```
sonic# show bgp ext-community-list
Standard extended community list ExtComm_AllowInt:  match: ALL
     rt:19.32.56.167:65011,rt:31.67.182.214:3001,soo:01:65010,soo:.13.175.21:65101
Standard extended community list ExtComm_BlockExt:  match: ANY
     rt:4020:65104
     soo:9.54.32.165:65200
```

show bgp ipv4

This command displays BGP information, such as routes, neighbors, peer-group, etc.

There are CLI options available to display various information from BGP. With the "vrf" option, the user can display information from a particular VRF instance of BGP. The user can also choose "ipv4" or "ipv6" to display information from either of these address families.

- show bgp ipv4 unicast summary: Display BGP global parameters, as well as brief information about BGP neighbors.
- show bgp ipv4 unicast: Display BGP local RIB routes. The user can use filtering options on the CLI to zoom into a subset of routes.
- show bgp ipv4 unicast neighbors: Display information in detail for one or all BGP neighbors.
- show bgp all peer-group: Display information in detail for one or all BGP peer-groups.

Syntax

```
show bgp ipv4 unicast [ vrf { {{vrf-name}} | all } ] [ summary ] { { [ {{ip-addr}} { [
bestpath ] | [ multipath ] ] } ] } | { [ {{ip-prefix}} { [ bestpath ] | [ multipath ] ]
} ] } | { [ community { {{aann}} | local-as | no-advertise | no-export | no-peer } [
exact-match ] ] } | { [ route-map {{route-map-name}} ] } | [ statistics ] | { [ neigh-
bors { { [ {{neighbor-ip}} { [ routes ] | [ received-routes ] | [ filtered-routes ] | [
advertised-routes ] ] } ] } | { [ interface { { Ethernet { [ routes ] | [ received-
routes ] | [ filtered-routes ] | [ advertised-routes ] ] } } | { PortChannel { [ routes
] | [ received-routes ] | [ filtered-routes ] | [ advertised-routes ] ] } } | { Vlan {
[ routes ] | [ received-routes ] | [ filtered-routes ] | [ advertised-routes ] ] } } }
] } ] } ] } | [ summary ] | { [ dampening { dampened-paths | flap-statistics | para-
meters } ] } } ]
```

Parameters

Name	Description	Type
vrf-name	WORD	String
ip-addr	A.B.C.D	String
ip-prefix	A.B.C.D/mask	String
aann	AA:NN	String
route-map-name	WORD	String
neighbor-ip	A.B.C.D/A::B	String

Examples

Display BGP information (IPv4)

```
leaf4# show bgp ipv4 unicast summary
```

```
BGP router identifier 200.9.0.5, local AS number 100
Neighbor        V   AS    MsgRcvd   MsgSent   InQ     OutQ    Up/Down  State/PfxRcd
14.14.14.1      4   400   8         2         0       0       00:00:43 0

leaf4# show bgp ipv4 unicast
BGP routing table information for VRF default
Router identifier 200.9.0.5, local AS number 100
Route status codes: * - valid, }} - best
Origin codes: i - IGP, e - EGP, ? - incomplete
     Network             Next Hop            Metric         LocPref Path
*}}   4.4.4.44/32         14.14.14.1          0                      400 ?
*}}   10.59.128.0/20      14.14.14.1          0                      400 ?
*}}   13.1.1.0/24         14.14.14.1          0                      400 ?
*}}   14.14.14.0/24       14.14.14.1          0                      400 ?
*}}   29.2.2.2/32         14.14.14.1          0                      400 ?
*}}   192.168.1.0/24      14.14.14.1          0                      400 ?
*}}   200.0.0.0/24        14.14.14.1          0                      400 ?

leaf4# show bgp ipv4 unicast neighbors

BGP neighbor is 14.14.14.1, remote AS 400, local AS 100, external link
  Administratively shut down
  BGP version 4, remote router ID  , local router ID
  BGP state = ESTABLISHED, up for 00:01:03
  Hold time is  seconds, keepalive interval is 60 seconds, negotiated hold time is 180
seconds
  Minimum time between advertisement runs is  seconds
  Neighbor capabilities:
    4 Byte AS: advertised and received
  Message statistics:
    InQ depth is 0
    OutQ depth is 0
                         Sent        Rcvd
    Opens:               1           1
    Notifications:       0           0
    Updates:             2           8
    Keepalive:           2           2
    Route Refresh:       0           0
    Capability:          0           0
    Total:               5           11

  Local host: 14.14.14.4, Local port: 46782
  Foreign host: 14.14.14.1, Foreign port: 179
```

show bgp ipv6

This command displays IPv6 information.

Syntax

```
show bgp ipv6 unicast [ vrf { {{vrf-name}} | all } ] [ summary ] { { [ {{ip-addr}} { [
bestpath ] | [ multipath ] ] } ] } | { [ {{ip-prefix}} { [ bestpath ] | [ multipath ] ]
} ] } | { [ community { {{aann}} | local-as | no-advertise | no-export | no-peer } [
exact-match ] ] } | { [ route-map {{route-map-name}} ] } | [ statistics ] | { [ neigh-
bors { { [ {{neighbor-ip}} { [ routes ] | [ received-routes ] | [ filtered-routes ] | [
advertised-routes ] ] } ] } | { [ interface { { Ethernet { [ routes ] | [ received-
routes ] | [ filtered-routes ] | [ advertised-routes ] ] } } | { PortChannel { [ routes
] | [ received-routes ] | [ filtered-routes ] | [ advertised-routes ] ] } } | { Vlan {
[ routes ] | [ received-routes ] | [ filtered-routes ] | [ advertised-routes ] ] } } }
] } ] } ] } | [ summary ] | { [ dampening { dampened-paths | flap-statistics | para-
meters } ] } } ]
```

Parameters

Name	Description	Type
vrf-name	WORD	String
ip-addr	A::B	String
ip-prefix	A::B/mask	String
aann	AA:NN	String
route-map-name	WORD	String
neighbor-ip	A.B.C.D/A::B	String

show bgp l2vpn evpn es

This command displays information for all or specified BGP L2VPN EVPN Ethernet Segments.

Syntax

```
show bgp l2vpn evpn es [ {{esnum}} ]
```

Parameters

Name	Description	Type
esnum	nn:nn:nn:nn:nn:nn:nn:nn:nn:nn	String

Examples

Display information for BGP L2VPN EVPN Ethernet Segments

```
sonic# show bgp l2vpn evpn es
sonic#
```

show bgp l2vpn evpn es detail

This command displays detailed information for BGP L2VPN EVPN Ethernet Segments.

Syntax

```
show bgp l2vpn evpn es detail
```

Examples

Display detailed information for BGP L2VPN EVPN Ethernet Segments

```
sonic# show bgp l2vpn evpn es detai
sonic#
```

show bgp l2vpn evpn es-evi

This command displays information for BGP L2VPN EVPN Ethernet Segments per EVI.

Syntax

```
show bgp l2vpn evpn es-evi
```

Examples

Display information for BGP L2VPN EVPN Ethernet Segments per EVI

```
sonic# show bgp l2vpn evpn es-evi
```

```
sonic#
```

show bgp l2vpn evpn es-evi detail

This command displays detailed information for BGP L2VPN EVPN Ethernet Segments per EVI.

Syntax

```
show bgp l2vpn evpn es-evi detail
```

Examples

Display detailed information for BGP L2VPN EVPN Ethernet Segments per EVI

```
sonic# show bgp l2vpn evpn es-evi detail
sonic#
```

show bgp l2vpn evpn es-evi vni

This command displays information for BGP L2VPN EVPN Ethernet Segments for the specified VNI.

Syntax

```
show bgp l2vpn evpn es-evi vni {{vninum}}
```

Parameters

Name	Description	Type
vninum	VNI	Integer

Examples

Display information for BGP L2VPN EVPN Ethernet Segments for the specified VNI

```
sonic# show bgp l2vpn evpn es-evi vni 2000
sonic#
```

show bgp l2vpn evpn es-vrf

This command displays information for BGP L2VPN EVPN Ethernet Segments for the specified VRF and ES.

Syntax

```
show bgp l2vpn evpn es-vrf [ {{esnum}} ]
```

Parameters

Name	Description	Type
esnum	nn:nn:nn:nn:nn:nn:nn:nn:nn:nn	String

Examples

Display information for BGP L2VPN EVPN Ethernet Segments for the specified VRF and ES

```
sonic# show bgp l2vpn evpn es-vrf
sonic#
```

show bgp l2vpn evpn next-hops

This command displays information for BGP L2VPN EVPN next-hops.

Syntax

```
show bgp l2vpn evpn next-hops
```

Examples

Display information for BGP L2VPN EVPN next-hops

```
sonic# show bgp l2vpn evpn next-hop
sonic#
```

show bgp l2vpn evpn route

This command displays BGP L2VPN EVPN routes in tabular format.

Syntax

```
show bgp l2vpn evpn route
```

Examples

Display information for BGP L2VPN EVPN routes in tabular format

```
sonic# show bgp l2vpn evpn route
BGP table version is 2, local router ID is 10.59.142.127
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]
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: 11:11
*}}  [5]:[0]:[0]:[0.0.0.0]
                    0.0.0.0                                  32768 i
                    ET:8
*}}  [5]:[0]:[0]:[::] 0.0.0.0                                  32768 i
                    ET:8
Route Distinguisher: 22:22
*}}  [2]:[0]:[48]:[52:54:00:76:be:f7]:[32]:[2.1.1.1]
                    1.1.1.1                                  32768 i
                    ET:8 RT:100:268435556 Default Gateway
*}}  [2]:[0]:[48]:[52:54:00:cb:f0:e3]
                    1.1.1.1                                  32768 i
```

```
                    ET:8 RT:100:268435556
*}}  [2]:[0]:[48]:[52:54:00:cb:f0:e3]:[32]:[2.1.1.2]
                    1.1.1.1                                          32768 i
                    ET:8 RT:100:268435556
*}}  [3]:[0]:[32]:[1.1.1.1]
                    1.1.1.1                                          32768 i
                    ET:8 RT:100:268435556
Route Distinguisher: 3.1.1.1:5096
*}}  [5]:[0]:[24]:[3.1.1.0]
                    1.1.1.1                  0                       32768 ?
                    ET:8 RT:100:200 Rmac:52:54:00:76:be:f7
Route Distinguisher: 4.1.1.2:5096
*}}  [5]:[0]:[24]:[4.1.1.0]
                    2.2.2.2                  0                           0 200 ?
                    RT:200:200 ET:8 Rmac:52:54:00:cb:f0:e3
Route Distinguisher: 10.59.143.68:100
*}}  [2]:[0]:[48]:[52:54:00:cb:f0:e3]:[32]:[2.1.1.2]
                    2.2.2.2                                          0 200 i
                    RT:200:100 ET:8 Default Gateway
*}}  [3]:[0]:[32]:[2.2.2.2]
                    2.2.2.2                                          0 200 i
                    RT:200:100 ET:8

Displayed 10 prefixes (10 paths)
sonic#
```

show bgp l2vpn evpn route detail

This command displays BGP L2VPN EVPN routes in detail format.

Syntax

```
show bgp l2vpn evpn route detail
```

Examples

Display information for BGP L2VPN EVPN routes in detail format with the rd and type filters

```
sonic# show bgp l2vpn evpn route rd 11:11 type prefix
EVPN type-2 prefix: [2]:[EthTag]:[MAClen]:[MAC]
EVPN type-3 prefix: [3]:[EthTag]:[IPlen]:[OrigIP]
EVPN type-5 prefix: [5]:[EthTag]:[IPlen]:[IP]

BGP routing table entry for 11:11:[5]:[0]:[0]:[0.0.0.0]
Paths: (1 available, best #1)
  Zebra Add: 6d21h36m
  Advertised to non peer-group peers:
  10.1.1.2
```

```
  Route [5]:[0]:[0]:[0.0.0.0] VNI 0
  Local
    0.0.0.0 from 0.0.0.0 (10.59.142.127)
      Origin IGP, weight 32768, valid, sourced, local, best (First path received)
      Extended Community: ET:8
      Last update: Wed Feb 12 17:06:15 2020

BGP routing table entry for 11:11:[5]:[0]:[0]:[::]
Paths: (1 available, best #1)
  Zebra Add: 6d21h36m
  Advertised to non peer-group peers:
  10.1.1.2
  Route [5]:[0]:[0]:[::] VNI 0
  Local
    0.0.0.0 from 0.0.0.0 (10.59.142.127)
      Origin IGP, weight 32768, valid, sourced, local, best (First path received)
      Extended Community: ET:8
      Last update: Wed Feb 12 17:06:15 2020


Displayed 2 prefixes (2 paths) with this RD (of requested type)
sonic#
```

show bgp l2vpn evpn route detail type

This command displays BGP L2VPN EVPN routes of a specified type in detailed format.

Syntax

```
show bgp l2vpn evpn route detail type { ead | es | macip | multicast | prefix }
```

show bgp l2vpn evpn route rd

This command displays BGP L2VPN EVPN routes for a specific RD in detailed format.

Syntax

```
show bgp l2vpn evpn route rd {{rdvalue}} { { [ mac { {{macvalue}} { ip {{ipvalue}} } }
] } | { [ type { ead | es | macip | multicast | prefix } ] } ] }
```

Parameters

Name	Description	Type
rdvalue	A.B.C.D:NN or ASN(2byte):NNNN or ASN(4byte):NN	String
macvalue	nn:nn:nn:nn:nn:nn	String
ipvalue	A.B.C.D/A::B	String

show bgp l2vpn evpn route type

This command displays BGP L2VPN EVPN routes of a specified type.

Syntax

```
show bgp l2vpn evpn route type { ead | es | macip | multicast | prefix }
```

show bgp l2vpn evpn route type macip

This command displays BGP L2VPN EVPN routes for route type MACIP, for a specific MAC address or for a MAC and IP address.

Syntax

```
show bgp l2vpn evpn route type macip [ mac { {{macvalue}} { [ ip {{ipvalue}} ] } } ]
```

Parameters

Name	Description	Type
macvalue	nn:nn:nn:nn:nn:nn	String
ipvalue	A.B.C.D/A::B	String

show bgp l2vpn evpn route type multicast

This command displays BGP L2VPN EVPN routes for route type multicast, for a specific IP address.

Syntax

```
show bgp l2vpn evpn route type multicast [ ip {{ipvalue}} ]
```

Parameters

Name	Description	Type
ipvalue	A.B.C.D	String

show bgp l2vpn evpn route type prefix

This command displays BGP L2VPN EVPN routes for route type prefix, for a specific IP address.

Syntax

```
show bgp l2vpn evpn route type prefix [ ip {{ipvalue}} ]
```

Parameters

Name	Description	Type
ipvalue	A.B.C.D/mask or A::B/mask	String

show bgp l2vpn evpn route vni

This command displays BGP L2VPN EVPN routes for a specified VNI.

Syntax

```
show bgp l2vpn evpn route vni {{vninum}}
```

Parameters

Name	Description	Type
vninum	VNI	Integer

show bgp l2vpn evpn summary

This command displays BGP summarized information for the BGP L2VPN EVPN address family, including neighbors with the EVPN address family activated.

Syntax

```
show bgp l2vpn evpn summary
```

Examples

Display summary information for the BGP L2VPN EVPN address family

```
sonic# show bgp l2vpn evpn summary
BGP router identifier 10.59.142.127, local AS number 100 vrf-id 0
BGP table version 0

Neighbor        V         AS MsgRcvd MsgSent   TblVer  InQ OutQ  Up/Down State/PfxRcd
10.1.1.2        4        200   11338   11337        0    0    0 6d21h29m            3

Total number of neighbors 1
Total number of neighbors established 1
sonic#
```

show bgp l2vpn evpn vni

This command displays VNI information, such as RD, route-targets, etc.

Syntax

```
show bgp l2vpn evpn vni {{vninum}}
```

Parameters

Name	Description	Type
vninum	VNI	Integer

Examples

Display BGP L2VPN EVPN information for VNI 100

```
sonic# show bgp l2vpn evpn vni 100
VNI: 100 (known to the kernel)
  Type: L2
  Tenant-Vrf: default
  RD: 22:22
  Originator IP: 1.1.1.1
  Mcast group: 0.0.0.0
  Advertise-gw-macip : Yes
  Advertise-svi-macip : No
  Import Route Target:
    22:22
    22:23
  Export Route Target:
    100:268435556
```

show buffer interface

This command displays the QoS priority group and queue association with the QoS buffer profile and cable length on interfaces.

Syntax

```
show buffer interface {{phy-intf-name}} { priority-group | queue | cable-length }
```

Parameters

Name	Description	Type
phy-intf-name	EthernetNUM	

Examples

Display the QoS priority group, queue, and cable-length

```
sonic# show buffer interface ethernet all priority-group
Interface   Priority-group     Profile
Ethernet0        0             ingress_lossy_profile
Ethernet4        3-4           ingress_lossless_profile

sonic# show buffer interface Ethernet0 priority-group
```

```
Interface   Priority-group     Profile
Ethernet0        0             ingress_lossy_profile

sonic# show buffer interface ethernet all queue
Interface       Queue          Profile
Ethernet0        0             ingress_lossy_profile
Ethernet4        3-4           ingress_lossless_profile

sonic# show buffer interface Ethernet0 queue
Interface       Queue          Profile
Ethernet0        0             ingress_lossy_profile

sonic# show buffer interface ethernet all cable-length
Interface       Cable-length
Ethernet0        5m
Ethernet4        40m

sonic# show buffer interface Ethernet0 cable-length
Interface       Cable-length
Ethernet0        5m
```

show buffer pool

This command displays all QoS buffer pools with their configured parameters.

Syntax

```
show buffer pool
```

Examples

Display QoS buffer pools

```
sonic# show buffer pool
Pool egress_lossless_pool:
   mode : static
   size : 32575488 bytes
   type : egress
```

show buffer profile

This command displays all QoS profiles with their configured parameters.

Syntax

```
show buffer profile
```

Examples

Display QoS buffer profiles

```
sonic# show buffer profile
Profile egress_lossless_profile:
   pool             : egress_lossless_pool
   mode             : static
   size             : 0
   static_threshold : 32575488 bytes
```

show buffer-pool

This command displays user/persistent watermark counters recorded by the system.

Syntax

```
show buffer-pool { watermark | persistent-watermark } [ percentage ] [ interface
{{intf}} ]
```

Parameters

Name	Description	Type
intf	EthernetNUM	

Examples

Display buffer-pool watermark

```
show buffer-pool watermark [interface Ethernet 0] [percentage]
show buffer-pool persistent-watermark [interface Ethernet 0] [percentage]
```

show cable-diagnostics

This command displays cable-diagnostics information.

Syntax

```
show cable-diagnostics { { cable-length [ {{port}} ] } | { report [ {{port}} ] } }
```

Parameters

Name	Description	Type
port	Interface Ethernet Range	

show class-map

This command displays information related to flow-based services class-maps.

The class-map match type and class-map name arguments are optional. If the match type argument or the class-map name are not provided, this command will show all class-map information. Otherwise, it shows the corresponding class-map information of a given type or given name.

Syntax

```
show class-map { [ {{show-fbs-class-name}} ] | [ match-type ] } ] { acl | fields | copp
}
```

Parameters

Name	Description	Type
show-fbs-class-name	WORD	String

Examples

Display class-map information

```
sonic# show class-map class_permit_ip
Class-map class_permit_ip match-type fields
```

```
Description:
Match:
Referenced in flows:
  policy policy_qos at priority 10
  policy policy_vrf at priority 10
```

show clock

This command displays the system date and time.

Syntax

```
show clock
```

show config checkpoints

This command displays information related to config commit checkpoints.

Syntax

```
show config checkpoints { brief | details | { {{label_val}} details } }
```

Parameters

Name	Description	Type
label_val	String (Max: 72 characters)	String

Examples

Display a brief summary of all the checkpoints created

```
sonic-cli# show config checkpoints brief
ID            Timestamp                 Label
------------  ------------------------  --------------------
1665061954-1  2022-10-01 16:30:35+0530  cp1
1665062032-2  2022-10-02 09:46:18+0530  --
1665062154-3  2022-10-03 11:22:43+0530  cp2
1665062196-4  2022-10-03 13:28:08+0530  cp3
1665062223-5  2022-10-03 17:36:24+0530  --
```

Display all details for a specific checkpoint

```
sonic-cli# show config checkpoints 1665062223-5 details
ID         : 1665062223-5
Label      : --
Timestamp  : 2022-10-03 17:36:24+0530
User       : admin
Origin     : Commit
Dump File  : /etc/sonic/checkpoints/1665062223-5.cp.json
```

show config session

This command displays the state information of config sessions that are in progress. Only one session is allowed in this release. Multiple sessions may be allowed in the future.

If the "details" option is not entered, a brief summary of the sessions is shown in tabular format. The output includes columns for the session name, state, age (time elapsed since it was created), and the user who created the session.

If the "details" option is entered, more detailed information is shown in paragraph format.

Syntax

```
show config session [ details ]
```

Examples

Display a brief summary of the config sessions

```
sonic# show config session
Name                State     Age        User
------------------- --------- ---------- ----------
 --                 Inactive  00:39:41   admin
```

Display all details for the config sessions

```
sonic# show config session details
Session Name     : --
Session Token    : 1660971655-6
Session State    : Active (PID 23598)
Created by       : admin
Created at       : 2022-08-20 10:30:55+0530
```

```
Last Resumed at  :
Last Exited at   : 2022-08-20 10:57:27+0530
Last Activity at : 2022-08-20 10:57:27+0530
```

show config session diff

This command displays the difference between the running-configuration and the session configuration. This is the equivalent of running "show session-config diff" from configure session mode.

Syntax

```
show config session diff
```

Examples

```
sonic# show config session diff
--- running-config
+++ candidate-config

 ip access-list acl1
- seq 1 permit tcp any any
+ seq 5 permit udp host 12.11.13.12 any

+interface Vlan11
+ mtu 4563

-interface Vlan101
- mtu 3452

 interface Ethernet0
- mtu 5776
+ mtu 9100
- ip address 101.3.4.1/24
+ ip address 3.4.2.3/24
sonic(config-s)#
```

show config-key password-encrypt

This command indicates whether a user-configured primary encryption key is in use by the system.

Syntax

```
show config-key password-encrypt
```

Examples

Display whether a user-configured primary encryption key is in use by the system

```
sonic# show config-key password-encrypt
Primary encryption key configured : False
```

show config-reload status

This command displays the config-reload status.

Syntax

```
show config-reload status
```

show configuration

Within the current sub-configuration mode, display the current running-configuration before continuing with the configuration without exiting to exec mode.

Parent Commands (Modes)

```
aaa server radius dynamic-author

address-family ipv4 unicast

address-family ipv6 unicast

address-family l2vpn evpn

ars object {{name}}

ars port-profile {{name}}

ars profile {{name}}
```

```
bfd

class {{fbs-class-name}} [ priority {{fbs-flow-priority}} ]

class-map {{fbs-class-name}} match-type { acl | { fields match-all } | copp }

dropcounters {{counter-name}}

drop-monitor

evpn esi-multihoming

evpn ethernet-segment {{es_id}}
evpn ethernet-segment auto-lacp
evpn ethernet-segment auto-system-mac

icmp-echo {{addr}}

ifa

interface {{lo-if-name}}

interface {{mgmt-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{phy-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface {{vlan-if-name}}

interface cpu

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface range create vlan_range_num
interface range vlan_range_num

interface range iface_range_num

interface vxlan {{vxlan-if-name}}

ip access-list {{access-list-name}}
ipv6 access-list {{access-list-name}}

ip sla {{sla-id}}

link state track {{grp-name}}

line vty

mac access-list {{access-list-name}}

mclag domain {{mclag-domain-id}}
```

```
mirror-session {{session-name}}

nat

neighbor { {{ip}} | { interface { ethernet | portchannel | vlan } } }

network-policy profile {{np_num}}

pbf next-hop-group {{fbs-nhgrp-name}} [ type { ip | ipv6 } ]

pbf replication-group {{fbs-replgrp-name}} [ type { ip | ipv6 } ]

peer-group {{template-str}}
poe card {{id}}

policy-map {{fbs-policy-name}} type { qos | monitoring | forwarding | copp | acl-copp }

port

profile {{profilename}}
queue {{sequence}}

qos map dot1p-tc {{name}}

qos map dscp-tc {{name}}

qos map pfc-priority-pg {{name}}

qos map pfc-priority-queue {{name}}

qos map tc-dot1p {{name}}

qos map tc-dscp {{name}}

qos map tc-pg {{name}}

qos map tc-queue {{name}}

qos scheduler-policy {{name}}

qos wred-policy {{name}}

route-map {{route-map-name}} { permit | deny } {{seq-nu}}

router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }

router ospf [ vrf {{vrf-name}} ]

router ospfv3 [ vrf {{vrf-name}} ]

spanning-tree mst configuration

switch-resource

tail-stamping

tam

tcp-connect {{addr}} port {{portno}}

vni {{vninum}}
```

```
vrrp ipv4

vrrp ipv6
```

Syntax

```
show configuration
```

Examples

Display the IPv4 ACL configuration

```
 ip access-list ipacl-example
  seq 10 permit ip host 10.1.1.1 host 20.1.1.1
  seq 20 permit ip host 10.1.1.2 host 20.1.1.2
  seq 30 permit ip host 10.1.1.3 host 20.1.1.3
  seq 40 permit ip host 10.1.1.4 host 20.1.1.4
```

Display the IPv6 ACL configuration

```
ipv6 access-list ipv6acl-example
  seq 100 permit ipv6 host abcd::1 host bcde::1
  seq 200 permit tcp host abcd::2 host bcde::2
  seq 300 permit udp host abcd::3 host bcde::3
```

Display the ARS profile configuration

```
sonic-cli(config-ars-profile)# show configuration
!
ars profile
 sampling-interval 10
 port-load past-weight 10
 port-load future-weight 10
```

Display the ARS port-profile configuration

```
sonic-cli(config-ars-port-profile)# show configuration
!
ars port-profile
```

```
load-scaling-factor 20
```

Display the ARS object configuration

```
sonic-cli(config-ars-object)# show configuration
!
ars object
 idle-time 20
```

Display the BFD configuration

```
device# configure terminal
device(config)# bfd
device(conf-bfd)# show configuration
!
bfd
 profile fast
  receive-interval 150
  transmit-interval 150

 peer 192.168.2.1 interface Ethernet0
  detect-multiplier 5
  echo-interval 200
  echo-mode
  receive-interval 200
  transmit-interval 200
 !
 peer 192.168.2.1 multihop local-address 192.168.2.2
  detect-multiplier 4
  receive-interval 150
  transmit-interval 150
 !
```

Display the BFD profile configuration

```
device# configure terminal
device(config)# bfd
device(conf-bfd-profile)#profile test
device(conf-bfd-profile)# show configuration
!
 profile test
  detect-multiplier 4
  echo-interval 123
  echo-mode
  receive-interval 123
  shutdown
  transmit-interval 123
  minimum-ttl 250
  passive-mode
```

Display the DAS configuration

```
sonic-cli(config)# aaa server radius dynamic-author
sonic-cli(config-radius-da)# show configuration
!
aaa server radius dynamic-author
 auth-type session-key
 port 8989
 client 7.7.7.7 server-key M2FsdGVkX17LcQREyGJP/aDuWTi34jJLzdqNy9W5WxI= encrypted
 ignore server-key
 server-key U2FsdGVkX18LcQREyGJP/aDuWTi34jJLzdqNy9W5WxI= encrypted
 request-timeout 10
 vrf mgmt
sonic-cli(config-radius-da)#
```

Display the drop-monitor configuration

```
sonic-cli(config-tam-dm)# show configuration
!
!
 drop-monitor
  aging-interval 23
```

Display the IFA configuration

```
sonic-cli(config-tam-ifa)# show configuration
!
!
 ifa
  session ifa1 flowgroup f1 collector c1 node-type EGRESS
```

Display the link state track configuration

```
sonic(config-link-track)# show configuration
link state track track1
description mlag
downstream all-mclag
threshold type percentage up 10
```

Display the MAC access-list configuration

```
mac access-list macacl-example
 seq 10 permit host 00:00:10:00:00:01 host 00:00:20:00:00:01
 seq 20 permit host 00:00:10:00:00:02 host 00:00:20:00:00:02
 seq 30 permit host 00:00:10:00:00:03 host 00:00:20:00:00:03
```

```
seq 40 permit host 00:00:10:00:00:04 host 00:00:20:00:00:04
```

Display the OSPFv2 configuration

```
sonic-cli(config-router-ospf)# show configuration
!
router ospf
 ospf router-id 10.1.1.1
 network 10.10.3.0/24 area 0.0.0.1
 network 10.10.4.0/24 area 0.0.0.1
```

Display the OSPFv3 configuration

```
sonic-cli(config-router-ospfv3)# show configuration
!
router ospfv3
 ospfv3 router-id 10.1.1.1
```

Display the tail-stamping configuration

```
sonic-cli(config-tam-ts)# show configuration
!
!
 tail-stamping
  session ss1 flowgroup f1 node-type normal
```

Display the TAM configuration

```
sonic-cli(config-tam)# show configuration
!
!
tam
 switch-id 3232
 enterprise-id 434
 collector c1 ip 1.1.1.1 port 1111 protocol UDP
 sampler s1 rate 1
 sampler s2 rate 655
 sampler s4 rate 65550
 sampler s5 rate 999999999
 flow-group f1 src-ip 10.1.1.10/24 dst-ip 30.1.1.10/24 protocol TCP l4-src-port 8080
priority 100
 flow-group f2 src-ip 10.1.1.10/32 dst-ip 30.1.1.10/32 protocol UDP priority 100
!
 drop-monitor
  aging-interval 23
!
```

```
ifa
 session ifa1 flowgroup f1 collector c1 node-type EGRESS
```

Display the PBF IP next-hop group configuration

```
sonic(config)# pbf next-hop-group test type ip
sonic(config-pbf-ip-nh-group)# show configuration
!
pbf next-hop-group test type ip
```

Display the PBF IPv6 next-hop group configuration

```
sonic(config)# pbf next-hop-group test type ipv6
sonic(config-pbf-ipv6-nh-group)# show configuration
!
pbf next-hop-group test type ipv6
```

Display the PBF IP replication group configuration

```
sonic(config)# pbf replication-group test type ip
sonic(config-pbf-ip-repl-group)# show configuration
!
pbf replication-group test type ip
```

Display the PBF IPv6 replication group configuration

```
sonic(config)# pbf replication-group test type ipv6
sonic(config-pbf-ipv6-repl-group)# show configuration
!
pbf replication-group test type ipv6
```

Display the ACL class-map configuration

```
sonic(config-class-map)#show configuration
class-map class-1 match-type acl
```

Display the fields match-all class-map configuration

```
sonic(config-class-map)#show configuration
class-map class-1 match-type fields match-all
```

Display the CoPP class-map configuration

```
sonic(config-class-map)#show configuration
class-map class-1 match-type copp
```

Display the policy_vrf policy-map configuration

```
sonic(config-policy-map)# show configuration
policy-map policy_vrf type forwarding
 class class_permit_ipv6 priority 10
  set ipv6 next-hop 1211::2  priority 20
  set ipv6 next-hop 1212::2 vrf Vrf-BLUE priority 30
 class class_permit_ip priority 10
  set ip next-hop 12.12.1.2 vrf default priority 30
  set ip next-hop 12.12.2.2 vrf Vrf-BLUE priority 20
  set ip next-hop 12.12.1.2  priority 10
```

Display the qos-test policy-map configuration

```
sonic(config-policy-map-flow)# show configuration
!
policy-map policy-qos-test type qos
 description "qos-test-policy"
 class class-qos-test priority 1020
  police cir 512000
 !
```

Display the monitoring policy-map configuration

```
sonic(config-policy-map-flow)# show configuration
!
policy-map policy-monitoring type monitoring
 description "monitoring-policy"
 class class-monitoring priority 1020
  set mirror-session test
 !
```

Display the forwarding-test policy-map configuration

```
sonic(config-policy-map-flow)# show configuration
!
policy-map policy-forwarding-test type forwarding
 description "forwarding-policy"
 class class_permit_ip priority 10
  set ip next-hop 12.12.1.2 vrf default priority 30
  set ip next-hop 12.12.2.2 vrf Vrf-BLUE priority 20
  set ip next-hop 12.12.1.2  priority 10
 !
```

Display the current CoPP policy-map configuration

```
sonic(config-policy-map-flow)# show configuration
!
policy-map copp-test-policy type copp
 description "copp-policy-test"
 class copp-system-vrrp priority 0
  set copp-action copp-system-vrrp
 !
```

Display the current ACL-CoPP policy-map configuration

```
sonic(config-policy-map-flow)# show configuration
!
policy-map acl-copp-test-policy type acl-copp
 description "acl-copp test policy"
 class class-acl-copp priority 1020
  set trap-queue 1
 !
```

Features this CLI belongs to

- ARS
- IPSLA
- NAT
- OSPFv2
- OSPFv3
- Switch-resource

show consistency-check status

This command displays the status of the consistency-checker.

Syntax

```
show consistency-check status { { [ access-list { [ brief ] | [ detail ] ] } [ errors ] ] } | [ route ] } ]
```

show copp

This command displays CoPP information.

Syntax

```
show copp { classifiers | protocols | actions | policy }
```

Examples

Display CoPP classifier information

```
sonic-cli# show copp classifiers
Classifier  match-type copp
  protocol arp_req
  protocol arp_resp
  protocol neigh_discovery
Classifier  match-type copp
  protocol bgp
```

Display CoPP protocols information

```
sonic-cli# show copp protocols
Classifier match-type copp protocols
protocol stp
protocol lacp
protocol eapol
protocol lldp
protocol pvrst
protocol igmp_query
protocol igmp_leave
protocol igmp_v1_report
```

```
protocol igmp_v2_report
...
```

Display CoPP actions information

```
sonic-cli# show copp actions
CoPP action group copp-system-arp
    trap-action copy
    trap-priority 3
    trap-queue 3
    police cir 6000 cbs 6000
      meter-type packets
      mode sr_tcm
      red-action drop
CoPP action group copp-system-bgp
    police cir 7000 cbs 7000
```

Display CoPP policy information

```
sonic-cli# show copp policy
Policy copp-system-policy Type copp
  Flow copp-system-arp
      trap-action copy
      trap-priority 3
      trap-queue 3
      police cir 6000 cbs 6000
        meter-type packets
        mode sr_tcm
        red-action drop
```

show core config

This command displays the coredump configuration. Use this command to display if the coredump feature is administratively enabled or disabled.

Syntax

```
show core config
```

Examples

Display the coredump configuration

```
sonic# show core config
Coredump : Enabled
```

Features this CLI belongs to

- COREDUMP

show core info

Use this command to display detailed information about a crash that has occurred in the system. This command takes the process ID or executable name as the input to search and display the corresponding crash information. If multiple core files are found which satisfy the match condition, the information for all core files is displayed.

The following information about the matching core files is displayed:

- Time: The time of the crash, as reported by the kernel in UTC.
- Executable: The full path to the application executable that crashed.
- Core File: The file name of the application core dump of the executable that crashed.
- PID: The identifier of the process that crashed.
- User ID: The user identifier of the process that crashed.
- Group ID: The group identifier of the process that crashed.
- Signal: The signal that caused the process to crash, when applicable.
- Command Line: The command line arguments of the process that crashed.
- Boot ID: The unique identifier of the local system that is generated and set on each system boot event.
- Machine ID: The unique machine identifier of the local system that is set during installation.
- Core File Found: An indicator for whether the captured core file exists on the local disk or has been removed.

- Crash Message: A copy of the application stack trace information of the process that crashed.

Syntax

```
show core info {{key}}
```

Parameters

Name	Description	Type
key	String	String

Examples

Display core details (including Stack Trace, if captured)

```
sonic# show core info clish
Time            : 2020-05-16 11:54:33
Executable      : /usr/sbin/cli/clish
Core File       : /var/lib/sys-
tem-
d/core-
dump/core.clish.1000.8f1cad11c59840318a6df3aa6ed3633e.26480.158963007300000000000.lz4
PID             : 26480
User ID         : 1000
Group ID        : 1000
Signal          : 11
Command Line    : /usr/sbin/cli/clish
Boot ID         : 8f1cad11c59840318a6df3aa6ed3633e
Machine ID      : fc0a437952314ee5a585a94ceaa480af
Core File Found : present
Crash Message   :
Process 26480 (clish) of user 1000 dumped core.
Stack trace of thread 152:
#0  0x00007f30f516357a PyEval_EvalFrameEx (libpython2.7.so.1.0)
#1  0x00007f30f52cc29c PyEval_EvalCodeEx (libpython2.7.so.1.0)
#2  0x00007f30f5220670 n/a (libpython2.7.so.1.0)
#3  0x00007f30f51b85c3 PyObject_Call (libpython2.7.so.1.0)
#4  0x00007f30f52cb6c7 PyEval_CallObjectWithKeywords (libpython2.7.so.1.0)
#5  0x00007f30ebb2f43a n/a (/usr/sbin/cli/.libs/clish_plugin_clish.so)
```

Features this CLI belongs to

- COREDUMP

show core list

Use this command to list a summary of the core files generated by the kernel.

The following information about each core file is also displayed:

- TIME: The time of the crash, as reported by the kernel in UTC.
- PID: The identifier of the process that crashed.
- SIG: The signal that caused the process to crash, when applicable.
- COREFILE: An indicator for whether the captured core file exists on the local disk or has been removed.
- EXE: The application executable that crashed.

Syntax

```
show core list
```

Examples

Display the list of core files generated

```
sonic# show core list
        TIME               PID SIG COREFILE EXE
2020-05-16 11:54:33      26480  11 present  clish
2020-05-15 01:25:16       6195  11 present  crashme
2020-05-15 00:45:28      13604  11 present  crashme
2020-05-14 02:11:11       3197  11 present  crashme
2020-05-13 01:10:56      17844  11 missing  crashme
2020-05-13 01:10:55      17728  11 present  crashme
```

Features this CLI belongs to

- COREDUMP

show crm

This command displays the CRM information.

Syntax

```
show crm { summary | { resources { { acl { group | table } } | all | dnat | fdb | ipmc
| l2mc | { ipv4 { neighbor | nexthop | route } } | { ipv6 { neighbor | nexthop | route
} } | { nexthop { { group { member | object } } } } | snat } } | { thresholds { { acl {
group | table } } | all | dnat | fdb | ipmc | l2mc | { ipv4 { neighbor | nexthop |
route } } | { ipv6 { neighbor | nexthop | route } } | { nexthop { { group { member |
object } } } } | snat } } }
```

show crypto ca-cert

This command displays the CA certificate.

Syntax

```
show crypto ca-cert { all | { file {{cert_name}} } | {{cert_name}} }
```

Parameters

Name	Description	Type
cert_name	String	String

show crypto cert

This command displays the host certificate.

Syntax

```
show crypto cert { all | { file {{cert_name}} } | {{cert_name}} }
```

Parameters

Name	Description	Type
cert_name	String	String

show crypto security-profile

This command displays the security profile information.

Syntax

```
show crypto security-profile [ {{secprof_name}} ]
```

Parameters

Name	Description	Type
secprof_name	String	String

show crypto ssh-key

This command displays information related to SSH public keys.

Syntax

```
show crypto ssh-key { ecdsa | rsa }
```

Examples

Display the SSH public key generated on the device (RSA)

```
sonic# show crypto ssh-key rsa
ssh-rsa AAAAB3Nz-
aC1yc2EAAAADAQABAAABAQDmK8cBo4pe7DHlH2JXiIMWg-
zo5VT4w4ce2vxZ218h-
nrRCaeGYPEKHr-
vf13Fav/r84j5IZ-
duj9VSlQsnd-
nA/Lca-
jXl-
bvWAJu3DH+Rv7krCNLTm-
wEzjn-
hyK6dUq0tHTbzm9jSrNG9Z6JPVeH1+XXb-
hW7QJhaijQE9gHKRblP39oItZ8Hxb2SilqxDw39-
vocNr2pL6XOhYWEv9l4W5dAvagSIBx-
wxp-
kkJj8YOLrWmRfXDGN3j1HUUiTZ0nD/3I7b2piVP4V26jQ1wy-
we+Y+WEYXT4lp1KWeQzX/EprWRdnTzb+3F/Sm8Nyi4jetAapw8PvTU8C6ijkmIDdBZHe7Z9vlV/ root@sonic
sonic#
```

Display the SSH public key generated on the device (ECDSA)

```
sonic# show crypto ssh-key ecdsa
ecdsa-sha2-nistp521 AAAAE2VjZHNhLXNoYTIt-
bmlzdHA1MjEAAAAIbm-
lzdHA1MjEAAACFBAF4l-
h/ubHv1UnNbqU6VjBmamGon-
vfTtRtSyU/6b58Qm-
w9r8wPK8G4Kbun0E7YRfOGMNNapG-
con-
OAXDCxNOY2PK73gFn9mx/gcSD7l/A+71pxqPCbIP05DI0em-
dgqIy45R9dwfzLlcSLGvimQyGC3yvKM+R2tVBan1JtNHLitmyISmYvoQ== root@sonic
sonic#
```

show crypto trust-store

This command displays the trust store information.

Syntax

```
show crypto trust-store [ {{truststore_name}} ]
```

Parameters

Name	Description	Type
truststore_name	String	String

show current

This command displays configurations that are activated under the MST configuration mode.

Parent Commands (Modes)

```
spanning-tree mst configuration
```

Syntax

```
show current
```

Examples

Display the MST configuration

```
sonic-cli(config)# spanning-tree mst configuration
sonic-cli(config-mst)# show current
Current MST Configuration
Name      [test]
Revision  10    Instances configured 4
Instance  Vlans mapped
-------------------------------------------------------------
0          1-9,11-19,21-4093
1          10
2          20
4094       4094
-------------------------------------------------------------
```

Features this CLI belongs to

- Multiple Spanning Tree Protocol

show database map

Use this command to display a summary of the databases currently in use in SONiC.

The following information about each database is also displayed:

- ID: The numeric database identifier.
- Name: The database name string used to refer to the database in the sonic-db-cli command and Database connector APIs.
- Instance: The Redis instance this database is part of.
- TCP Port: The TCP port used to connect to the Redis instance this database is part of.
- Unix Socket Path: The Unix socket path used to connect to the Redis instance this database is part of.

Syntax

```
show database map
```

Examples

Display switch database mapping

```
sonic# show database map
--------------------------------------------------------------------------------
 ID             Name         Instance  TCP Port  Unix Socket Path
--------------------------------------------------------------------------------
  0          APPL_DB           redis2     26379  /var/run/redis/redis2.sock
  1          ASIC_DB           redis3     36379  /var/run/redis/redis3.sock
  2      COUNTERS_DB            redis      6379  /var/run/redis/redis.sock
  3      LOGLEVEL_DB            redis      6379  /var/run/redis/redis.sock
  4        CONFIG_DB            redis      6379  /var/run/redis/redis.sock
  5        PFC_WD_DB            redis      6379  /var/run/redis/redis.sock
  6         STATE_DB            redis      6379  /var/run/redis/redis.sock
  7  SNMP_OVERLAY_DB            redis      6379  /var/run/redis/redis.sock
  8         ERROR_DB            redis      6379  /var/run/redis/redis.sock
```

show dcbx

This command displays DCBX information and statistics.

Syntax

```
show dcbx { { [ pfc { [ interface {{ifname}} ] } ] } | { [ ets { [ interface {{ifname}}
] } ] } | { [ interface {{ifname}} ] } } ]
```

Parameters

Name	Description	Type
ifname	EthernetNUM	

Examples

Display DCBX information and statistics

```
sonic-cli# show dcbx
ets        Show Ets
pfc        Show Pfc
interface  DCBX information of interface
```

Features this CLI belongs to

- DCBX

show dcbx statistics

This command displays information about DCBX statistics.

Syntax

```
show dcbx statistics [ interface {{ifname}} ]
```

Parameters

Name	Description	Type
ifname	EthernetNUM	

Examples

Display DCBX statistics information

```
sonic-cli# show dcbx statistics interface Ethernet92
DCBX Statistics
-------------------------------------------
Interface: Ethernet92
Transmitted PFC                  :22
Received    PFC                  :22
Err transmitted PFC              :0
Err received PFC                 :0
Last PFC received                :2 sec
Last PFC transmitted             :2 sec
Transmitted ETS conf             :25
Received ETS conf                :25
Err transmitted ETS conf         :0
Err received ETS conf            :0
Last ETS conf transmitted        :1 sec
Last ETS conf received           :1 sec
Transmitted ETS reco             :25
Received ETS reco                :25
Err transmitted ETS reco         :0
Err received ETS reco            :0
Last ETS reco transmitted        :1 sec
Last ETS reco received           :1 sec
```

Features this CLI belongs to

- DCBX

show debug ptp

This command displays debug commands enabled for PTP.

Syntax

```
show debug ptp
```

Examples

Display PTP debug settings

```
sonic# show debug ptp
PTP Debug Settings:
Debug PTP : ALL  Level : 1
Debug PTP : BMCA  Level : 1
Debug PTP : PROTOCOL  Level : 1
Debug PTP : SERVO  Level : 1
Debug PTP : SYSTEM  Level : 1
Debug PTP : TIMESTAMPS  Level : 1
```

show device

This command displays device-level watermark commands.

Syntax

```
show device { watermark | persistent-watermark }
```

show dot1x

This command displays DOT1X information.

Syntax

```
show dot1x
```

show dot1x detail

This command displays the details of the configuration for the specified port.

Syntax

```
show dot1x detail { all | {{port}} }
```

Parameters

Name	Description	Type
port	EthernetNUM	

show dropcounters capabilities

Use this command to display information about dropcounters capabilities.

Syntax

```
show dropcounters capabilities
```

Examples

Display information about dropcounters capabilities

```
_
                    sonic# show dropcounters capabilities
                    Counter Type          Total
                    ------------------  -------
                    PORT_INGRESS_DROPS        3

                    PORT_INGRESS_DROPS
                      IP_HEADER_ERROR
```

```
                                FDB_AND_BLACKHOLE_DISCARDS
```

show dropcounters configuration

Use this command to display information about dropcounters configuration.

Syntax

```
                          show dropcounters configuration
```

Examples

Display information about dropcounters configuration

```
sonic# show dropcounters configuration
Counter   Alias     Group  Type                Mirror          Reasons
--------  --------  -----  ------------------  -------         -------------------
DEBUG_0   RX_LEGIT  LEGIT  PORT_INGRESS_DROPS  Session1        SMAC_EQUALS_DMAC
                                                               INGRESS_VLAN_FILTER
DEBUG_1   TX_LEGIT  None   SWITCH_EGRESS_DROPS NA              EGRESS_VLAN_FILTER
```

show dropcounters configuration detail

This command displays detailed information about dropcounters configuration.

Syntax

```
                       show dropcounters configuration detail
```

show errdisable link-flap

This command displays error disable recovery information in case of excessive link flaps.

Syntax

```
show errdisable link-flap
```

Examples

Display the status of error disable recovery for excessive link flaps

```
sonic#show errdisable link-flap
Interface  Flap-threshold  Sampling-time   Recovery-timeout Status
-------------------------------------------------------------------------
Ethernet0  10              3               30              Err-disabled
Ethernet4  10              3               60              On
```

Features this CLI belongs to

- ERRDISABLE

show errdisable recovery

This command displays the status of error disable recovery for all supported features.

Syntax

```
show errdisable recovery
```

Examples

Display the status of error disable recovery for all supported features

```
show errdisable recovery
Errdisable Cause    Status
------------------  --------
udld                enabled
coa                 enabled
bpduguard           disabled
Timeout for Auto-recovery:  300 seconds

Note :- Err disable auto recovery for COA supports only on Campus builds.
```

Features this CLI belongs to

- ERRDISABLE

show error-database

This command displays error database tables.

Syntax

```
show error-database { ERROR_ROUTE_TABLE | ERROR_NEIGH_TABLE | ERROR_IPMC_ROUTE_TABLE |
ERROR_VLAN_MAPPING_TABLE | ERROR_VLAN_MEMBER_TABLE | ALL }
```

show event

This command displays a summary of events.

Syntax

```
show event { { [ from {{startid}} { [ to {{endid}} ] } ] } | { [ start {{starttime}} {
[ end {{endtime}} ] } ] } } ]
```

Parameters

Name	Description	Type
startid	String	String
endid	String	String
starttime	String	String
endtime	String	String

show event details

This command displays a detailed view of events.

Syntax

```
show event details
```

show event id

This command displays an event ID.

Syntax

```
show event id {{id}}
```

Parameters

Name	Description	Type
id	String	String

show event recent

This command displays recent events.

Syntax

```
show event recent {{interval}}
```

Parameters

Name	Description	Type
interval		Select [5min(5min) 60min(60min) 24hr(24hr)]

show event severity

This command displays all events of a given severity.

Syntax

```
show event severity {{sev}}
```

Parameters

Name	Description	Type
sev		Select [critical(critical) major(major) minor(minor) warning(warning) informational(informational)]

show event summary

This command displays an event summary.

Syntax

```
show event summary
```

show evpn

This command displays an EVPN information summary.

Syntax

```
show evpn
```

show evpn arp-cache vni

This command displays a VXLAN Network Identifier (VNI).

Syntax

```
show evpn arp-cache vni {{vninum}} { { [ ip {{ipvalue}} ] } | [ duplicate ] | { [ vtep {{vtepvalue}} ] } ] }
```

Parameters

Name	Description	Type
vninum	VNI	Integer
ipvalue	A.B.C.D/A::B	String
vtepvalue	A.B.C.D	String

show evpn arp-cache vni all

This command displays all VNIs.

Syntax

```
show evpn arp-cache vni all { [ detail ] | [ duplicate ] } ]
```

show evpn es

This command displays information for all or specified EVPN Ethernet Segments (ES).

Syntax

```
show evpn es [ {{esnum}} ]
```

Parameters

Name	Description	Type
esnum	nn:nn:nn:nn:nn:nn:nn:nn:nn:nn	String

Examples

Display information for EVPN Ethernet Segments

```
sonic# show evpn es
sonic#
```

show evpn es detail

This command displays detailed information for EVPN Ethernet Segments (ES).

Syntax

```
show evpn es detail
```

Examples

Display detailed information for EVPN Ethernet Segments

```
sonic# show evpn es detail
sonic#
```

show evpn es startup-delay

This command displays information for EVPN ES startup delay information.

Syntax

```
show evpn es startup-delay
```

Examples

Display information for EVPN startup delay

```
sonic# show evpn es startup-delay
sonic#
```

show evpn es-evi

This command displays information for all EVPN Ethernet Segments per EVI.

Syntax

```
show evpn es-evi
```

Examples

Display information for EVPN Ethernet Segments per EVI

```
sonic# show evpn es-evi
sonic#
```

show evpn es-evi detail

This command displays detailed information for EVPN Ethernet Segments per EVI.

Syntax

```
show evpn es-evi detail
```

Examples

Display detailed information for EVPN Ethernet Segments per EVI

```
sonic# show evpn es-evi detail
sonic#
```

show evpn es-evi vni

This command displays information for all EVPN Ethernet Segments per EVI for specific VNI.

Syntax

```
show evpn es-evi vni {{vninum}}
```

Parameters

Name	Description	Type
vninum	VNI	Integer

Examples

Display detailed information for EVPN Ethernet Segments per EVI for specific VNI

```
sonic# show evpn es-evi vni {vni}
sonic#
```

show evpn l2-nh

This command displays information for EVPN L2 next-hops.

Syntax

```
show evpn l2-nh
```

Examples

Display detailed information for EVPN L2 next-hops

```
sonic# show evpn l2-nh
sonic#
```

show evpn mac vni

This command displays the MAC address details for a specific VXLAN Network Identifier and MAC address.

Syntax

```
show evpn mac vni {{vninum}} { { [ mac {{macvalue}} ] } | [ duplicate ] | { [ vtep
{{vtepvalue}} ] } ] }
```

Parameters

Name	Description	Type
vninum	VNI	Integer
macvalue	nn:nn:nn:nn:nn:nn	String
vtepvalue	A.B.C.D	String

show evpn mac vni all

This command displays the MAC address details for all VXLAN Network Identifiers.

Syntax

```
show evpn mac vni all { [ detail ] | [ duplicate ] | { [ vtep {{vtepvalue}} ] } } ]
```

Parameters

Name	Description	Type
vtepvalue	A.B.C.D	String

show evpn next-hops vni

This command displays the Remote VXLAN Tunnel Endpoint details for a specific VXLAN Network Identifier and next-hop IP address.

Syntax

```
show evpn next-hops vni {{vninum}} { [ ip {{ipvalue}} ] }
```

Parameters

Name	Description	Type
vninum	VNI	Integer
ipvalue	A.B.C.D/A::B	String

show evpn next-hops vni all

This command displays the Remote VXLAN Tunnel Endpoint details for all VXLAN Tunnel Endpoints and next-hop IP addresses.

Syntax

```
show evpn next-hops vni all
```

show evpn rmac vni

This command displays the Remote MAC address details for a specific VXLAN Network Identifier and MAC address.

Syntax

```
show evpn rmac vni {{vninum}} { [ mac {{macvalue}} ] }
```

Parameters

Name	Description	Type
vninum	VNI	Integer
macvalue	nn:nn:nn:nn:nn:nn	String

show evpn rmac vni all

This command displays the Remote MAC address details for all VXLAN Network Identifiers and MAC addresses.

Syntax

```
show evpn rmac vni all
```

show evpn vni

This command displays the VXLAN Network Identifier details for a specific VXLAN Network Identifier.

Syntax

```
show evpn vni {{vninum}}
```

Parameters

Name	Description	Type
vninum	VNI	Integer

show evpn vni detail

This command displays detailed information on each VNI.

Syntax

```
show evpn vni detail
```

show fips status

This command displays the status of FIPS mode.

Syntax

```
show fips status
```

Examples

```
sonic# show fips status
FIPS Mode           : Disabled
```

Features this CLI belongs to

- FIPS

show hardware tcam allocation

This command displays the TCAM allocation.

Syntax

```
show hardware tcam allocation { [ mac-acl ] | [ ip-acl ] | [ ipv6-acl ] | [ forwarding-fbs ] | [ qos-fbs ] | [ monitoring-fbs ] } ] { [ ingress ] | [ egress ] } ]
```

show hardware tcam key-profile

This command displays the TCAM key-profile.

Syntax

```
show hardware tcam key-profile { [ mac-acl ] | [ ip-acl ] | [ ipv6-acl ] | [ fbs ] } ] [ {{key-profile-name}} ]
```

Parameters

Name	Description	Type
key-profile-name	WORD	String

show histogram memory

This command displays histogram information.

Syntax

```
show histogram memory { system | docker | process } [ verbose ] [ stime {{_stime}} ] [
etime {{_etime}} ] [ filter {{filtername}} ] [ analyze {{_analyze}} ]
```

Parameters

Name	Description	Type
_stime	Time in ISO format	String
_etime	Time in ISO format	String
filtername	WORD	String
_analyze	WORD	String

show hosts

This command displays IP name servers.

Syntax

```
show hosts
```

show image firmware

This command displays firmware image information.

Syntax

```
show image firmware
```

show image firmware status

This command displays the firmware image staging status.

Syntax

```
show image firmware status
```

show image list

This command displays the list of images.

Syntax

```
show image list
```

show image patch history

This command displays the history of patch installation.

Syntax

```
show image patch history
```

show image patch list

This command displays the list of patches installed.

Syntax

```
show image patch list
```

show image patch status

This command displays the patch installation status.

Syntax

```
show image patch status
```

show image status

This command displays the image installation status.

Syntax

```
show image status
```

show in-memory-logging

This command displays in-memory-logging information.

Syntax

```
show in-memory-logging
```

show in-memory-logging count

This command displays the total count of in-memory-logging.

Syntax

```
show in-memory-logging count
```

show in-memory-logging lines

This command displays the output of the last NUM lines.

Syntax

```
show in-memory-logging lines [ {{lines}} ]
```

Parameters

Name	Description	Type
lines	Port	Integer

show interface

This command displays interface information.

Syntax

```
show interface { { advertise [ {{phy-if-range}} ] } | { fec { status [ {{phy-if-range}}
] } } | { link-training [ {{phy-if-range}} ] } | { unreliable-los { status [ {{phy-if-
range}} ] } } | { counters { [ rate ] | [ {{phy-if-name}} ] | [ Ethernet ] | [ Eth ] |
[ {{po-name}} ] | [ PortChannel ] | { [ rif { [ {{phy-if-name}} ] | [ {{po-name}} ] | [
{{vlan-name}} ] | [ {{phy-sub-name}} ] | [ {{po-sub-name}} ] ] } ] } | { [ flf { [
{{phy-if-name}} ] ] } ] } ] } } | { Eth { [ {{iface_num}} { { [ vlan-mappings [ dot1q-
tunnel ] ] } | { [ l2proto-tunnel { [ lldp ] | [ stp ] | [ cdp ] | [ lacp ] ] } ] } ] }
] } } | { Ethernet { [ {{iface_num}} { { [ vlan-mappings [ dot1q-tunnel ] ] } | { [
l2proto-tunnel { [ lldp ] | [ stp ] | [ cdp ] | [ lacp ] ] } ] } ] } ] } } | { {{iface_
range_num}} { { [ vlan-mappings [ dot1q-tunnel ] ] } ] } } | { po_range_num { [ vlan-
mappings [ dot1q-tunnel ] ] } } | PortChannel | {{mgmt-if-name}} | Management | {{vlan_
range_num}} | {{lo-id}} | Loopback | { status [ {{if-reason}} ] } | { description { [
{{eth-if-name}} ] | [ Eth ] | [ Ethernet ] | [ {{lo-if-name}} ] | [ Loopback ] | [
{{mgmt-if-name}} ] | [ Management ] | [ {{vlan-if-name}} ] | [ Vlan ] | [ {{po-if-
name}} ] | [ PortChannel ] ] } } | { phy { { [ status [ {{phy-if-name}} ] ] } | { [
counters [ {{phy-if-name}} ] ] } } } | { dropcounters { [ {{phy-if-name}} ] ] } } }
```

Parameters

Name	Description	Type
phy-if-range	Interface Ethernet range	
phy-if-name	EthernetNUM	
po-name	Interface portchannel range	
vlan-name	Interface VLAN range	
phy-sub-name	EthernetX.Y	
po-sub-name	Interface type	

Name	Description	Type
iface_num	EthernetSLOTPORT	
iface_range_num	Interface Ethernet range	
mgmt-if-name		
vlan_range_num	Interface VLAN range	
lo-id		
if-reason	Interface status reason	Select [admin-down(admin_down) no-transceiver(no_transceiver) err-disabled(err_disabled) phy-link-down(phy_link_down) oper-up(oper_up) all-links-down(all_links_down) lacp-fail(lacp_fail) min-links(min_links)]
eth-if-name	EthernetNUM	
lo-if-name		
vlan-if-name	VlanNUM	
po-if-name	PortChannelNUM	

show interface breakout

This command displays information related to dynamic port breakout.

Syntax

```
show interface breakout { { [ dependencies { port {{slotport}} } ] } | { [ modes { [
port {{slotport}} ] } ] } | { [ port {{slotport}} ] } | [ resources ] | [ detail ] } ]
```

Parameters

Name	Description	Type
slotport	Front-panel port (slot/port)	

Examples

Display breakout information

```
sonic# show interface breakout modes
-------------------------------------------------------------------------
-
Port  Interface   Supported Modes                          Default Mode
-------------------------------------------------------------------------
-
1/1   Ethernet0   1x100G, 1x40G, 4x25G, 4x10G              1x100G
1/3   Ethernet8   1x100G, 1x40G, 4x25G, 4x10G              1x100G
1/5   Ethernet16  1x100G, 1x40G, 4x25G, 4x10G              1x100G
1/7   Ethernet24  1x100G, 1x40G, 4x25G, 4x10G              1x100G
1/9   Ethernet32  1x100G, 1x40G, 4x25G, 4x10G              1x100G
1/11  Ethernet40  1x100G, 1x40G, 4x25G, 4x10G              1x100G
1/13  Ethernet48  1x100G, 1x40G, 4x25G, 4x10G              1x100G
1/15  Ethernet56  1x100G, 1x40G, 4x25G, 4x10G              1x100G
1/17  Ethernet64  1x100G, 1x40G, 4x25G, 4x10G              1x100G
1/19  Ethernet72  1x100G, 1x40G, 4x25G, 4x10G              1x100G
1/21  Ethernet80  1x100G, 1x40G, 4x25G, 4x10G              1x100G
1/23  Ethernet88  1x100G, 1x40G, 4x25G, 4x10G              1x100G
1/25  Ethernet96  1x100G, 1x40G, 4x25G, 4x10G              1x100G
1/27  Ethernet104 1x100G, 1x40G, 4x25G, 4x10G              1x100G
1/29  Ethernet112 1x100G, 1x40G, 4x25G, 4x10G              1x100G
1/31  Ethernet120 1x100G, 1x40G, 4x25G, 4x10G              1x100G
sonic#
sonic# show interface breakout dependencies port 1/1
---------------------------------
Dependent Configurations
---------------------------------
VLAN|Vlan100
VLAN_MEMBER|Vlan100|Ethernet2
sonic#
sonic# show interface breakout port 1/1
-----------------------------------------------
Port  Breakout Mode  Status        Interfaces
-----------------------------------------------
1/1   4x25G          Completed     Ethernet0
                                   Ethernet1
                                   Ethernet2
                                   Ethernet3
sonic#
sonic# show interface breakout
-----------------------------------------------
Port  Breakout Mode  Status        Interfaces
-----------------------------------------------
1/1   4x25G          Completed     Ethernet0
                                   Ethernet1
                                   Ethernet2
                                   Ethernet3
1/3   4x10G          Completed     Ethernet8
                                   Ethernet9
                                   Ethernet10
                                   Ethernet11
sonic#
```

show interface l2proto-tunnel

This command displays L2 proto-tunnel information.

Syntax

```
show interface l2proto-tunnel
```

show interface port-locator

This command displays the port locator LED status.

Syntax

```
show interface port-locator [ {{port}} ]
```

Parameters

Name	Description	Type
port	Interface Ethernet range	

show interface transceiver

This command displays transceiver diagnostics' capabilities and configurations on an interface.

Syntax

```
show interface transceiver [ {{phy-if-name}} ] { [ dom ] | { [ diagnostics { capability
| status } ] } } ] [ summary ]
```

Parameters

Name	Description	Type
phy-if-name	EthernetNUM	

Examples

Display a diagnostics capability summary of the transceivers on all interfaces

```
sonic# show interface transceiver diagnostics capability summary | no-more
```

Display the diagnostics capability details of the transceiver on an interface

```
sonic# show interface transceiver diagnostics capability Ethernet 0 | no-more
```

Display an operational diagnostics status summary of the transceivers on all interfaces

```
sonic# show interface transceiver diagnostics status summary | no-more
```

Display the operational diagnostics status details of the transceiver on an interface

```
sonic# show interface transceiver diagnostics status Ethernet 32
```

show interface transceiver cmis

This command displays the operational transceiver CMIS status on an interface.

Syntax

```
show interface transceiver cmis { status [ {{phy-if-name}} ] }
```

Parameters

Name	Description	Type
phy-if-name	Interface Ethernet range	

Examples

Display the operational transceiver CMIS status on the interfaces in the given range

```
sonic# show interface transceiver cmis status Ethernet 168-240 | no-more
```

show interface transceiver laser

This command displays the operational transceiver laser status on an interface.

Syntax

```
show interface transceiver laser { status [ {{phy-if-name}} ] }
```

Parameters

Name	Description	Type
phy-if-name	Interface Ethernet range	

Examples

Display the operational transceiver laser status of the transceiver on an interface

```
sonic# show interface transceiver laser status Ethernet 192 | no-more
```

show interface transceiver wattage

This command displays the transceiver wattage information.

Syntax

```
show interface transceiver wattage
```

show interface vlan-mappings

This command displays the VLAN mapping information.

Syntax

```
show interface vlan-mappings [ dot1q-tunnel ] ]
```

show interface-naming

This command displays the interface naming mode.

Syntax

```
show interface-naming
```

show ip access-group

This command displays the IPv4 ACL binding summary.

Syntax

```
show ip access-group
```

Examples

Display the IP access-group

```
Ingress IP access-list ipacl-example on PortChannel1
```

show ip access-lists

This command displays IPv4 ACL rules and statistics. The ACL name and interface names are optional. If the ACL name is not specified, then all IPv4 ACLs will be displayed. ACL statistics will be shown only if the ACL is applied globally or to any interface.

Syntax

```
show ip access-lists [ {{access-list-name}} { { [ interface { Ethernet | {{PortChan-
nel}} | {{Vlan}} | {{eth-sub-if-id}} | {{po-sub-if-id}} } ] } | [ Switch ] ] } ]
```

Parameters

Name	Description	Type
access-list-name	String (Max: 72 characters)	String
PortChannel	PortChannelNUM	
Vlan	VlanNUM	
eth-sub-if-id	EthernetX.Y	
po-sub-if-id	PortChannelNUM	

Examples

Display IP access-lists

```
ip access-list ipacl-example
    seq 10 permit ip host 10.1.1.1 host 20.1.1.1 (0 packets) [0 bytes]
    seq 20 permit ip host 10.1.1.2 host 20.1.1.2 (0 packets) [0 bytes]
    seq 30 permit ip host 10.1.1.3 host 20.1.1.3 (0 packets) [0 bytes]
    seq 40 permit ip host 10.1.1.4 host 20.1.1.4 (0 packets) [0 bytes]
```

show ip arp

This command displays ARP table entries. To filter the output, specify an interface, port channel, or VLAN, an IP address, a MAC address, or a combination of more than one value to match. You can also display the total number of ARP entries using the "summary" option.

Syntax

```
show ip arp [ vrf { {{vrfname}} | mgmt | all } ] { [ {{ip-addr}} ] | { [ mac-address {{mac-addr}} ] } | [ summary ] } ]
```

Parameters

Name	Description	Type
vrfname	WORD	String
ip-addr	A.B.C.D	String
mac-addr	nn:nn:nn:nn:nn:nn	String

Examples

Display IP ARP information

```
sonic# show ip arp
------------------------------------------------------------------------
Address         Hardware address    Interface        Egress Interface
------------------------------------------------------------------------
192.168.1.4     00:01:02:03:44:55   Ethernet8         -
192.168.2.4     00:01:02:03:ab:cd   PortChannel200    -
192.168.3.6     00:01:02:03:04:05   Vlan100           Ethernet4
10.11.48.254    00:01:e8:8b:44:71   eth0              -
10.14.8.102     00:01:e8:8b:44:71   eth0              -
```

Display IP ARP interface information

```
sonic# show ip arp interface Vlan 100
------------------------------------------------------------------------
Address         Hardware address    Interface        Egress Interface
------------------------------------------------------------------------
192.168.3.6     00:01:02:03:04:05   Vlan100          Ethernet4

sonic# show ip arp interface Management 0
------------------------------------------------------------------------
Address         Hardware address    Interface        Egress Interface
------------------------------------------------------------------------
10.11.48.254    00:01:e8:8b:44:71   eth0              -
10.14.8.102     00:01:e8:8b:44:71   eth0              -
```

Display IP ARP IP information

```
sonic# show ip arp 192.168.1.4
------------------------------------------------------------------------
Address         Hardware address    Interface        Egress Interface
------------------------------------------------------------------------
192.168.1.4     00:01:02:03:44:55   Ethernet8         -
```

Display IP ARP MAC address information

```
sonic# show ip arp mac-address 00:01:02:03:ab:cd
------------------------------------------------------------------------
Address         Hardware address    Interface        Egress Interface
------------------------------------------------------------------------
192.168.2.4     00:01:02:03:ab:cd   PortChannel200    -
```

show ip arp interface

This command displays the ARP entries for this interface.

Syntax

```
show ip arp interface { { {{phy-if-name}} [ summary ] } | { {{vlan-if-name}} [ summary
] } | { po-if-name [ summary ] } | { {{phy-subif-name}} [ summary ] } | { {{lo-if-
name}} [ summary ] } | { {{Management}} [ summary ] } | { Vxlan { {{vxlan-if-name}} [
summary ] } } }
```

Parameters

Name	Description	Type
phy-if-name	EthernetNUM	
vlan-if-name	VlanNUM	
phy-subif-name	Interface type	
lo-if-name		
Management		
vxlan-if-name	WORD	String

show ip dhcp snooping

This command displays general information about IPv4 DHCP snooping.

Syntax

```
show ip dhcp snooping
```

Examples

Display general information about IPv4 DHCP snooping

```
console#show ip dhcp snooping

 snooping is Enabled
 snooping source MAC verification is disabled
 snooping is enabled on the following VLANs: 10,20

rface   Trusted
------- ----------
rnet1   Yes
console#
```

Features this CLI belongs to

- DHCP Snooping

show ip dhcp snooping binding

This command displays the DHCPv4 snooping binding database.

Syntax

```
show ip dhcp snooping binding
```

show ip dhcp snooping statistics

This command displays DHCPv4 snooping statistics.

Syntax

```
show ip dhcp snooping statistics
```

show ip dhcp snooping statistics detail

This command displays DHCPv4 snooping detailed statistics.

Syntax

```
show ip dhcp snooping statistics detail
```

show ip dhcp-relay

This command displays IP DHCP relay information.

Syntax

```
show ip dhcp-relay { [ brief ] | { [ detailed { [ {{intfName1}} ] | [ {{pchName1}} ] |
[ {{vlanName1}} ] } ] } | { [ statistics { [ {{intfName}} ] | [ {{pchName}} ] | [
{{vlanName}} ] } ] } }
```

Parameters

Name	Description	Type
intfName1	EthernetX.Y	
pchName1	PortChannelNUM	
vlanName1	VlanNUM	
intfName	EthernetX.Y	
pchName	PortChannelNUM	
vlanName	VlanNUM	

show ip forward-protocol

This command displays IP helper global information.

Syntax

```
show ip forward-protocol
```

Examples

Display helper global information

```
sonic# show ip forward-protocol
UDP forwarding  : Enabled
UDP rate limit  : 2000 pps
UDP forwarding enabled on the ports: TFTP, DNS, NTP, TACACS, 12200, 12202
UDP forwarding disabled on the ports: NetBios-Name-Server, NetBios-Datagram-Server
sonic#
```

Features this CLI belongs to

- IP Helper

show ip helper-address

This command displays the IP helper server addresses configured on the interface.

Syntax

```
show ip helper-address [ {{iface}} ]
```

Parameters

Name	Description	Type
iface	Interface Type - Ranges	

Examples

Display all helper address configuration

```
sonic# show ip helper-address
Interface    Vrf    Relay Address
```

```
-----------  -----  ---------------
  Vlan200              4.4.4.4
  Ethernet0            1.1.1.1
               Vrf1    2.2.2.2
  Vlan100              3.3.3.3
  Ethernet4            5.5.5.5
                       7.7.7.7
sonic#
```

Display helper address configuration on a specific interface

```
sonic# show ip helper-address Ethernet0
Interface    Vrf    Relay Address
-----------  -----  ---------------
  Ethernet0    Vrf1   2.2.2.2
                      1.1.1.1
sonic#
```

Features this CLI belongs to

- IP Helper

This command displays IP helper packet counters and statistics on the interface.

Syntax

```
show ip helper-address statistics [ {{iface}} ]
```

Parameters

Name	Description	Type
iface	Interface Type - Ranges	

Examples

Display all helper statistics

```
sonic# show ip helper-address statistics
Ethernet0
-----------
  Packets received                        : 0
  Packets relayed                         : 24
  Packets dropped                         : 0
```

```
  Invalid TTL packets                      : 0
  All ones broadcast packets received      : 0
  Net directed broadcast packets received  : 0
Vlan100
-----------
  Packets received                         : 45678
  Packets relayed                          : 0
  Packets dropped                          : 0
  Invalid TTL packets                      : 0
  All ones broadcast packets received      : 0
  Net directed broadcast packets received  : 0
Ethernet4
-----------
  Packets received                         : 0
  Packets relayed                          : 0
  Packets dropped                          : 24444
  Invalid TTL packets                      : 0
  All ones broadcast packets received      : 0
  Net directed broadcast packets received  : 0
sonic#
```

Display the helper statistics for a specific interface

```
sonic# show ip helper-address statistics Vlan100
  Packets received                         : 45678
  Packets relayed                          : 0
  Packets dropped                          : 0
  Invalid TTL packets                      : 0
  All ones broadcast packets received      : 0
  Net directed broadcast packets received  : 0
sonic#
```

Features this CLI belongs to

- IP Helper

show ip igmp

This command either displays IGMP snooping configuration across all VLANs or a specified VLAN, or displays IGMP snooping groups learned across all VLANs or a specified VLAN.

Syntax

```
show ip igmp snooping { [ vlan-id ] { [ groups [ vlan-id ] ] } }
```

Examples

Display IGMP snooping information

```
sonic# show ip igmp snooping
Vlan ID: 100
Querier: Disabled
IGMP Operation mode: IGMPv1
Is Fast-Leave Enabled: Disabled
Query interval: 125
Last Member Query Interval: 1000
Max Response time: 10

Vlan ID: 200
Querier: Enabled
IGMP Operation mode: IGMPv2
Is Fast-Leave Enabled: Disabled
Query interval: 125
Last Member Query Interval: 1000
Max Response time: 10

Vlan ID: 300
Querier: Enabled
IGMP Operation mode: IGMPv3
Is Fast-Leave Enabled: Disabled
Query interval: 20
Last Member Query Interval: 1000
Max Response time: 10


sonic# show ip igmp snooping vlan 200
Vlan ID: 200
Querier: Enabled
IGMP Operation mode: IGMPv2
Is Fast-Leave Enabled: Disabled
Query interval: 125
Last Member Query Interval: 1000
Max Response time: 10
```

Display IGMP snooping group information

```
sonic# show ip igmp snooping groups
Vlan ID: 100
-----------
1 (*, 225.1.1.1)
  Outgoing Ports: Ethernet4,PortChannel3
2 (*, 225.1.1.2)
  Outgoing Ports: Ethernet8
Total number of entries: 2

Vlan ID : 300
-------------
1 (100.10.2.3, 226.0.0.1 )
  Outgoing Ports: Ethernet8,Portchannel2
Total number of entries: 1
```

```
sonic# show ip igmp snooping groups vlan 100
Vlan ID: 100
-----------
1 (*, 225.1.1.1)
  Outgoing Ports: Ethernet4, PortChannel3
2 (*, 225.1.1.2)
  Outgoing Ports: Ethernet8
Total number of entries: 2
```

show ip igmp groups

This command displays information related to IGMP groups.

Syntax

```
show ip igmp groups
```

Examples

Display IP IGMP groups

```
#show ip igmp groups

Interface        Address         Group              Mode Timer    Srcs    V    Uptime
Vlan301          33.33.33.1      232.1.1.1       ----
00:00:03    1         2    00:00:02
```

show ip igmp interface

This command displays information related to an IGMP interface.

Syntax

```
show ip igmp interface [ {{interfacename}} ] [ detail ]
```

Parameters

Name	Description	Type
interfacename	Interface Type - Ranges	

Examples

Display information for IP IGMP interface Vlan301

```
Interface : Vlan301
State     : up
Address   : 33.33.33.1
Uptime    : 00:00:48
Version   : 2

    Querier
-------
    Querier     : local
    Start Count : 0
    Query Timer : 00:00:01
    Other Timer : --:--:--


Timers
    ------
Group Membership Interval      : 5s
Last Member Query Count        : 2
Last Member Query Time         : 2s
Older Host Present Interval    : 5s
Other Querier Present Interval : 4s
Query Interval                 : 2s
Query Response Interval        : 1s
Robustness Variable            : 2
Startup Query Interval         : 1s

Flags
-----
    All Multicast   : no
    Broadcast       : yes
    Deleted         : no
    Interface Index : 185
    Multicast       : yes
    Multicast Loop  : 0
    Promiscuous     : no
```

show ip igmp join

This command displays IGMP static join information.

Syntax

```
show ip igmp join
```

Examples

Display IP IGMP join information

```
#show ip igmp join
Interface        Address         Source          Group           Socket Uptime
Ethernet8        *               90.0.0.2        232.1.1.1           15 00:00:07
Ethernet8        *               91.0.0.2        232.1.1.1           16 00:00:07
```

show ip igmp sources

This command displays IGMP sources information.

Syntax

```
show ip igmp sources
```

Examples

Display IP IGMP sources information

```
#show ip igmp sources

Interface        Address         Group           Source  Timer    Fwd    Uptime
Vlan301          33.33.33.1      232.1.1.1         *    00:00:03   Y     00:00:02
```

show ip igmp statistics

This command displays IGMP RX statistics information.

Syntax

```
show ip igmp statistics [ interface {{interfacename}} ]
```

Parameters

Name	Description	Type
interfacename	Interface Type - Ranges	

Examples

Display IP IGMP statistics information

```
#show ip igmp statistics
IGMP RX statistics
Interface       : global
V1 query        : 0
V2 query        : 0
V3 query        : 36
V2 leave        : 0
V1 report       : 0
V2 report       : 0
V3 report       : 74
mtrace response : 0
mtrace request  : 0
unsupported     : 0
```

show ip igmp vrf

This command displays IGMP VRF information.

Syntax

```
show ip igmp vrf { {{vrf-name}} | all } { { interface [ {{interfacename}} ] [ detail ]
} | { [ statistics { [ interface {{interfacename}} ] } ] } | [ groups ] | [ sources ] |
[ join ] }
```

Parameters

Name	Description	Type
vrf-name	WORD	String
interfacename	Interface Type - Ranges	

show ip interfaces

This command displays IP information for interfaces.

Syntax

```
show ip interfaces
```

show ip load-share

This command displays the load share information for ECMP paths on a system.

Syntax

```
show ip load-share [ resilient ]
```

Examples

Display the hash param for load balancing

```
sonic-cli# show ip load-share
```

Features this CLI belongs to

- HASH

show ip mroute

This command displays multicast route information.

Syntax

```
show ip mroute [ vrf { {{vrf-name}} | all } ] { { [ {{grp-addr}} [ {{src-addr}} ] ] } |
[ summary ] } ]
```

Parameters

Name	Description	Type
vrf-name	WORD	String
grp-addr	A.B.C.D	String
src-addr	A.B.C.D	String

Examples

Display ip mroute [vrf {{{vrf-name}} | all}]

```
sonic# show ip mroute

IP multicast routing table for VRF: default
* -}} indicates installed route

  Source          Group           Input         Output        Uptime
* 71.0.0.11       233.0.0.1       Vlan100       Vlan200       00:41:59
* 71.0.0.22       233.0.0.1       Vlan100       Vlan200       00:41:54
                                                 Vlan201       00:41:59
* 71.0.0.11       234.0.0.1       Vlan100       Vlan200       00:41:34
* 71.0.0.33       234.0.0.1       Vlan100       Vlan200       00:41:31
                                                 Vlan201       00:41:44
* 71.0.0.22       235.0.0.1       Vlan100       Vlan200       00:41:16
* 71.0.0.33       235.0.0.1       Vlan100       Vlan200       00:41:14
```

Display ip mroute [vrf {{{vrf-name}} | all}] summary

```
sonic# show ip mroute summary

IP multicast routing table summary for VRF: default
Mroute Type      Installed/Total
(S, G)           7/7
```

show ip ospf

This command displays global, neighbors, route, interfaces, and other information related to an OSPFv2 router. The user can optionally specify the VRF on which the router must be configured. If the VRF name is not specified, then the command is considered to be for the default VRF.

For technical details on OSPFv2 support, refer to https://docs.frrouting.org/en/latest/.

Syntax

```
show ip ospf [ vrf { {{vrf-name}} } ] { [ border-routers ] | { [ database { { [ asbr-
summary [ {{lsid}} ] { { [ adv-router {{advrouter}} ] } | [ self-originate ] ] } ] } |
{ [ external [ {{lsid}} ] { { [ adv-router {{advrouter}} ] } | [ self-originate ] ] } ]
} | [ max-age ] | { [ network [ {{lsid}} ] { { [ adv-router {{advrouter}} ] } | [ self-
originate ] ] } ] } | { [ nssa-external [ {{lsid}} ] { { [ adv-router {{advrouter}} ] }
| [ self-originate ] ] } ] } | { [ opaque-area [ {{lsid}} ] { { [ adv-router {{adv-
router}} ] } | [ self-originate ] ] } ] } | { [ opaque-as [ {{lsid}} ] { { [ adv-router
{{advrouter}} ] } | [ self-originate ] ] } ] } | { [ opaque-link [ {{lsid}} ] { { [
adv-router {{advrouter}} ] } | [ self-originate ] ] } ] } | { [ router [ {{lsid}} ] { {
[ adv-router {{advrouter}} ] } | [ self-originate ] ] } ] } | [ self-originate ] | { [
summary [ {{lsid}} ] { { [ adv-router {{advrouter}} ] } | [ self-originate ] ] } ] } ]
} ] } | { [ interface [ traffic ] [ {{interfacename}} ] ] } | [ route ] | { [ neighbor
{ [ {{neighip}} ] | [ all ] | [ {{interfacename}} ] ] } [ detail ] ] } | { [ graceful-
restart { helper { [ detail ] ] } } ] } } ]
```

Parameters

Name	Description	Type
vrf-name	WORD	String
lsid	A.B.C.D	String
advrouter	A.B.C.D	String
interfacename	Interface Type - Ranges	
neighip	A.B.C.D	String

Examples

Display global OSPF information for the default VRF

```
device# show ip ospf
 OSPF Routing Process, Router ID: 1.1.1.1
 Supports only single TOS (TOS0) routes
 This implementation conforms to RFC2328
 RFC1583Compatibility flag is enabled
```

```
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
time is 92031756
SPF algorithm last executed 1065d4h22m ago
Last SPF duration 0.0s
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 0x0
Number of opaque AS LSA 0. Checksum Sum 0x0
Number of areas attached to this router: 2
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 8 times
  Number of LSA 3
  Number of router LSA 2. Checksum Sum 0x40f64b4000000000
  Number of network LSA 1. Checksum Sum 0x40d5adc000000000
  Number of summary LSA 0. Checksum Sum 0x0
  Number of ASBR summary LSA 0. Checksum Sum 0x0
  Number of NSSA LSA 0. Checksum Sum 0x0
  Number of opaque link LSA . Checksum Sum 0x
  Number of opaque area LSA 0. Checksum Sum 0x0
Area ID: 0.0.0.1
  Number of interfaces in this area: Total: 1 , Active: 1
  Number of fully adjacent neighbors in this area: 0
  Area has no authentication
  SPF algorithm executed 1 times
  Number of LSA 2
  Number of router LSA 0. Checksum Sum 0x0
  Number of network LSA 0. Checksum Sum 0x0
  Number of summary LSA 2. Checksum Sum 0x40f1f61000000000
  Number of ASBR summary LSA 0. Checksum Sum 0x0
  Number of NSSA LSA 0. Checksum Sum 0x0
  Number of opaque link LSA . Checksum Sum 0x
  Number of opaque area LSA 0. Checksum Sum 0x0
```

Display neighbor information for OSPF on the default VRF

```
sonic# show ip ospf neighbor | no-more

Neighbor ID     Pri State           Dead Time
Address         Interface            RXmtL RqstL DBsmL
10.59.142.247     1 Full/Backup       37.343s
64.1.1.2        Ethernet64:64.1.1.1      0     0     0

Leaf1# show ip ospf neighbor Ethernet66 | no-more

Neighbor ID     Pri State           Dead Time
Address         Interface            RXmtL RqstL DBsmL
2.2.2.2           1 Full/Backup       38.245s
64.1.1.2        Ethernet66:64.1.1.1      0     0     0
```

Display detailed neighbor information for OSPF on the default VRF

```
sonic# show ip ospf neighbor detail | no-more
Neighbor 10.59.142.247, interface address 64.1.1.2
    In the area 0.0.0.0 via interface Ethernet64
    Neighbor priority is 1, State is Full, 6 state changes
    Most recent state change statistics:
      Progressive change 7h3m25s ago
    DR is 64.1.1.1, BDR is 64.1.1.2
    Options 2 *|-|-|-|-|-|E|-
    Dead timer due in 30.687s
    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

Leaf1# show ip ospf neighbor 2.2.2.2 | no-more
Neighbor 2.2.2.2, interface address 64.1.1.2
    In the area 0.0.0.0 via interface Ethernet66
    Neighbor priority is 1, State is Full, 5 state changes
    Most recent state change statistics:
      Progressive change 0h1m11s ago
    DR is 64.1.1.1, BDR is 64.1.1.2
    Options 2 *|-|-|-|-|-|E|-
    Dead timer due in 33.203s
    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

Neighbor 2.2.2.2, interface address 65.1.1.2
    In the area 0.0.0.1 via interface Ethernet67
    Neighbor priority is 1, State is Full, 5 state changes
    Most recent state change statistics:
      Progressive change 0h1m10s ago
    DR is 65.1.1.1, BDR is 65.1.1.2
    Options 2 *|-|-|-|-|-|E|-
    Dead timer due in 34.590s
    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
```

Display interface information for OSPF on the default VRF

```
sonic# show ip ospf interface | no-more
VRF Name: default
Ethernet64 is up
  ifindex 128, MTU 9100 bytes, BW 25000 Mbit UP,BROADCAST,RUNNING,MULTICAST
  Internet Address 64.1.1.1/24, Broadcast 64.1.1.255, Area 0.0.0.0
  MTU mismatch detection: enabled
  Router ID 10.59.143.131, Network Type BROADCAST, Cost: 4
  Transmit Delay is 1 sec, State DR, Priority 1
  Backup Designated Router (ID) 10.59.142.247, Interface Address 64.1.1.2
  Saved Network-LSA sequence number 0x8000000f
  Multicast group memberships: OSPFAllRouters OSPFDesignatedRouters
  Timer intervals configured, Hello 10s, Dead 40s, Wait 40s, Retransmit 5
    Hello due in 9.023s
  Neighbor Count is 1, Adjacent neighbor count is 1

Leaf1# show ip ospf interface Ethernet67 | no-more
VRF Name: default
Ethernet67 is up
  ifindex 926, MTU 9100 bytes, BW 25000 Mbit UP,BROADCAST,RUNNING,MULTICAST
  Internet Address 65.1.1.1/24, Broadcast 65.1.1.255, Area 0.0.0.1
  MTU mismatch detection: enabled
  Router ID 1.1.1.1, Network Type BROADCAST, Cost: 4
  Transmit Delay is 1 sec, State DR, Priority 1
  Backup Designated Router (ID) 2.2.2.2, Interface Address 65.1.1.2
  Multicast group memberships: OSPFAllRouters OSPFDesignatedRouters
  Timer intervals configured, Hello 10s, Dead 40s, Wait 40s, Retransmit 5
    Hello due in 7.957s
  Neighbor Count is 1, Adjacent neighbor count is 1
```

Display interface traffic information for OSPF on the default VRF

```
sonic# show ip ospf interface traffic | no-more

Interface       HELLO            DB-Desc         LS-Req           LS-Update        LS-
Ack
                Rx/Tx            Rx/Tx            Rx/Tx            Rx/Tx            Rx/-
Tx
-------------------------------------------------------------------------------------
-----
Ethernet64     2563/2563           3/3             1/1            17/30           29/16

Leaf1# show ip ospf interface traffic Ethernet67 | no-more

Interface       HELLO            DB-Desc         LS-Req           LS-Update        LS-
Ack
                Rx/Tx            Rx/Tx            Rx/Tx            Rx/Tx            Rx/-
Tx
-------------------------------------------------------------------------------------
-----
Ethernet67       19/22             2/3             1/1              3/3             2/2
```

Display OSPF route information for a user VRF

```
sonic# show ip ospf vrf Vrf-Blue route | no-more
VRF Name: Vrf-Blue
============ OSPF network routing table ============
N    10.1.1.1/32           [10] area: 0.0.0.0
                           directly attached to Loopback0
N    10.1.1.2/32           [14] area: 0.0.0.0
                     via 10.10.3.2, Ethernet64
                     via 10.10.8.2, Ethernet65.8
N    10.10.3.0/24          [4] area: 0.0.0.0
                           directly attached to Ethernet64
N    10.10.4.0/24          [10] area: 0.0.0.0
                           directly attached to Vlan2
N    10.10.5.0/24          [10] area: 0.0.0.0
                           directly attached to Vlan3
N    10.10.6.0/24          [10] area: 0.0.0.0
                           directly attached to PortChannel1
N    10.10.8.0/24          [4] area: 0.0.0.0
                           directly attached to Ethernet65.8

============ OSPF router routing table =============
R    10.1.1.2              [4] area: 0.0.0.0, ASBR
                     via 10.10.3.2, Ethernet64
                     via 10.10.8.2, Ethernet65.8

============ OSPF external routing table ===========
N E2 18.18.18.0/24         [4/20] tag: 0
                     via 10.10.3.2, Ethernet64
                     via 10.10.8.2, Ethernet65.8
```

Display database information for OSPF on the default VRF

```
sonic# show ip ospf database | no-more
VRF Name: default

       OSPF Router with ID (10.59.143.131)

                Router Link States (Area 0.0.0.0)

Link ID         ADV Router      Age  Seq#       CkSum  Link count
10.59.142.247   10.59.142       1682 0x80000011 0xb56b 1
10.59.143.131   10.59.143       1498 0x80000011 0xdc2c 1

                Net Link States (Area 0.0.0.0)

Link ID         ADV Router      Age  Seq#       CkSum
64.1.1.1        10.59.143.131   1538 0x8000000f 0x1c70
```

Display database router information for OSPF on the default VRF

```
sonic# show ip ospf database router | no-more
```

```
VRF Name: default

       OSPF Router with ID (10.59.143.131)


                Router Link States (Area 0.0.0.0)

  LS age: 1709
  Options: 0x2  : *|-|-|-|-|-|E|-
  LS Flags: 0x6
  Flags: 0x0  :
  LS Type: router-LSA
  Link State ID: 10.59.142.247
  Advertising Router: 10.59.142
  LS Seq Number: 80000011
  Checksum: 0xb56b
  Length: 36

   Number of Links: 1

    Link connected to: a Transit Network
     (Link ID) Designated Router address: 64.1.1.1
     (Link Data) Router Interface address: 64.1.1.2
      Number of TOS metrics: 0
       TOS 0 Metric: 4


  LS age: 1525
  Options: 0x2  : *|-|-|-|-|-|E|-
  LS Flags: 0x3
  Flags: 0x0  :
  LS Type: router-LSA
  Link State ID: 10.59.143.131
  Advertising Router: 10.59.143
  LS Seq Number: 80000011
  Checksum: 0xdc2c
  Length: 36

   Number of Links: 1

    Link connected to: a Transit Network
     (Link ID) Designated Router address: 64.1.1.1
     (Link Data) Router Interface address: 64.1.1.1
      Number of TOS metrics: 0
       TOS 0 Metric: 4
```

Display database network information for OSPF on the default VRF

```
sonic# show ip ospf database network | no-more
VRF Name: default

       OSPF Router with ID (10.59.143.131)


                Net Link States (Area 0.0.0.0)

  LS age: 1602
```

```
Options: 0x2  : *|-|-|-|-|-|E|-
LS Flags: 0x3
LS Type: network-LSA
Link State ID: 64.1.1.1 (address of Designated Router)
Advertising Router: 10.59.143.131
LS Seq Number: 8000000f
Checksum: 0x1c70
Length: 32

Network Mask: /24
      Attached Router: 10.59.142.247

      Attached Router: 10.59.143.131
```

Display database summary information for OSPF on the default VRF

```
Leaf1# show ip ospf database summary | no-more
VRF Name: default

       OSPF Router with ID (1.1.1.1)


                Summary Link States (Area 0.0.0.0)

  LS age: 468
  Options: 0x2  : *|-|-|-|-|-|E|-
  LS Flags: 0x11
  LS Type: summary-LSA
  Link State ID: 65.1.1.0 (summary Network Number)
  Advertising Router: 1.1.1.1
  LS Seq Number: 80000001
  Checksum: 0x0e04
  Length: 28

  Network Mask: /24
        TOS: 0  Metric: 4


  LS age: 429
  Options: 0x2  : *|-|-|-|-|-|E|-
  LS Flags: 0x6
  LS Type: summary-LSA
  Link State ID: 65.1.1.0 (summary Network Number)
  Advertising Router: 2.2.2.2
  LS Seq Number: 80000002
  Checksum: 0xed1f
  Length: 28

  Network Mask: /24
        TOS: 0  Metric: 4


                Summary Link States (Area 0.0.0.1)

  LS age: 468
  Options: 0x2  : *|-|-|-|-|-|E|-
  LS Flags: 0x11
```

```
    LS Type: summary-LSA
    Link State ID: 64.1.1.0 (summary Network Number)
    Advertising Router: 1.1.1.1
    LS Seq Number: 80000001
    Checksum: 0x1bf7
    Length: 28

    Network Mask: /24
          TOS: 0  Metric: 4


    LS age: 429
    Options: 0x2  : *|-|-|-|-|-|E|-
    LS Flags: 0x6
    LS Type: summary-LSA
    Link State ID: 64.1.1.0 (summary Network Number)
    Advertising Router: 2.2.2.2
    LS Seq Number: 80000002
    Checksum: 0xfa13
    Length: 28

    Network Mask: /24
          TOS: 0  Metric: 4
```

Display database asbr-summary information for OSPF on the default VRF

```
Leaf1# show ip ospf database asbr-summary | no-more
VRF Name: default

       OSPF Router with ID (1.1.1.1)


                ASBR-Summary Link States (Area 0.0.0.0)

  LS age: 38
  Options: 0x2  : *|-|-|-|-|-|E|-
  LS Type: summary-LSA
  Link State ID: 2.2.2.2 (AS Boundary Router address)
  Advertising Router: 1.1.1.1
  LS Seq Number: 80000001
  Checksum: 0x0b41
  Length: 28

  Network Mask: /0
        TOS: 0  Metric: 4
```

Display database external information for OSPF on the default VRF

```
Leaf1# show ip ospf database external | no-more
VRF Name: default

       OSPF Router with ID (1.1.1.1)
```

```
                    AS External Link States

        LS age: 52
        Options: 0x2  : *|-|-|-|-|-|E|-
        LS Flags: 0x6
        LS Type: AS-external-LSA
        Link State ID: 25.1.1.1 (External Network Number)
        Advertising Router: 2.2.2.2
        LS Seq Number: 80000001
        Checksum: 0x0892
        Length: 36

        Network Mask: /32
              Metric Type: 2 (Larger than any link state path)
              TOS: 0
              Metric: 20
              Forward Address: 0.0.0.0
              External Route Tag: 0
```

Display database max-age LSA information for OSPF on the default VRF

```
                Leaf1# show ip ospf database max-age
                       OSPF Router with ID (1.1.1.1)
                                MaxAge Link States:
```

Display self-originated database information for OSPF on the default VRF

```
Leaf1# show ip ospf database self-originate | no-more
VRF Name: default

       OSPF Router with ID (1.1.1.1)

                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          777 0x80000004 0x7b42 1

                Net Link States (Area 0.0.0.0)

Link ID         ADV Router      Age  Seq#       CkSum
64.1.1.1        1.1.1.1          777 0x80000001 0x8581

                Summary Link States (Area 0.0.0.0)

Link ID         ADV Router      Age  Seq#       CkSum  Route
65.1.1.0        1.1.1.1          816 0x80000001 0x0e04 65.1.1.0/24

                ASBR-Summary Link States (Area 0.0.0.0)

Link ID         ADV Router      Age  Seq#       CkSum
```

```
2.2.2.2         1.1.1.1          360 0x80000001 0x0b41

                Router Link States (Area 0.0.0.1)

Link ID         ADV Router      Age  Seq#       CkSum  Link count
1.1.1.1         1.1.1.1          776 0x80000004 0x8d2e 1

                Net Link States (Area 0.0.0.1)

Link ID         ADV Router      Age  Seq#       CkSum
65.1.1.1        1.1.1.1          776 0x80000001 0x788d

                Summary Link States (Area 0.0.0.1)

Link ID         ADV Router      Age  Seq#       CkSum  Route
64.1.1.0        1.1.1.1          816 0x80000001 0x1bf7 64.1.1.0/24
```

Display database network information with the advertising-router option for OSPF on the default VRF

```
Leaf1# show ip ospf database network adv-router 1.1.1.1 | no-more
VRF Name: default

       OSPF Router with ID (1.1.1.1)


                Net Link States (Area 0.0.0.0)

  LS age: 886
  Options: 0x2  : *|-|-|-|-|-|E|-
  LS Flags: 0x3
  LS Type: network-LSA
  Link State ID: 64.1.1.1 (address of Designated Router)
  Advertising Router: 1.1.1.1
  LS Seq Number: 80000001
  Checksum: 0x8581
  Length: 32

  Network Mask: /24
        Attached Router: 1.1.1.1

        Attached Router: 2.2.2.2


                Net Link States (Area 0.0.0.1)

  LS age: 886
  Options: 0x2  : *|-|-|-|-|-|E|-
  LS Flags: 0x3
  LS Type: network-LSA
  Link State ID: 65.1.1.1 (address of Designated Router)
  Advertising Router: 1.1.1.1
  LS Seq Number: 80000001
  Checksum: 0x788d
  Length: 32

  Network Mask: /24
```

```
                Attached Router: 1.1.1.1

                Attached Router: 2.2.2.2
```

Display Graceful Restart helper information for OSPF on the default VRF

```
                sonic# show ip ospf graceful-restart helper detail

                OSPF Router with ID (192.168.10.2)

                Graceful restart helper support enabled.
                Strict LSA check is enabled.
                Helper supported for planned restarts only.
                Supported Graceful restart interval: 500(in seconds).
```

Features this CLI belongs to

- OSPFv2

show ip pim

This command displays PIM table entries. The available options are interface, neighbor, ssm, topology, and rpf. Results can also be filtered based on the VRF name.

Syntax

```
show ip pim [ vrf { {{vrf-name}} | all } ] { [ assert ] | { [ interface [ {{ifName}} ]
{ [ intf-detail ] | [ traffic ] ] } ] } | { [ nbr [ {{nbr-addr}} ] [ nbr-detail ] ] } |
[ rpf ] | [ ssm ] | { [ topology { [ {{grp-addr}} [ {{src-addr}} ] ] } ] } | { rp { [
{{rp-grp-addr}} ] | [ mapping ] ] } } | [ multicast ] }
```

Parameters

Name	Description	Type
vrf-name	WORD	String
ifName	Interface Type - Ranges	
nbr-addr	A.B.C.D	String
grp-addr	A.B.C.D	String
src-addr	A.B.C.D	String
rp-grp-addr	A.B.C.D	String

Examples

Display IP PIM [vrf {{{vrf-name}} | all}] assert

```
sonic# show ip pim assert

PIM assert information for VRF: default
Interface              Address           Source            Group             State    W-
inner            Uptime         Timer
Ethernet11             11.1.1.1          *                 226.1.1.1         NOINFO   *-
                 22:08:44       --:--
Ethernet11             11.1.1.1          *                 227.1.1.1         NOINFO   *-
                 22:08:44       --:--
```

Display IP PIM [vrf {{{vrf-name}} | all}] interface [{{intf-name}}]

```
sonic # show ip pim interface

PIM interface information for VRF: default
Interface       State       Address         PIM Nbrs       PIM DR          Hello-
interval       PIM DR-Priority
Vlan100         up          100.0.0.2       1              100.0.0.2       30          -
         1
Vlan200         up          200.0.0.2       1              200.0.0.3       30          -
         1

-------------------------------------------------------------------------------------
-------------------------

sonic # show ip pim interface vlan 100

PIM interface information for VRF: default
Interface       State       Address         PIM Nbrs       PIM DR          Hello-
interval       PIM DR-Priority
Vlan100         up          100.0.0.2       1              100.0.0.2       30          -
         1

sonic# show ip pim interface detail | no-more
PIM interface detail information for VRF: default
Interface  : Ethernet12
State      : up
Address    : 11.11.11.12 (primary)

PIM Neighbors
-------------
11.11.11.12        : up for 00:12:26,holdtime expires in 00:01:18

Designated Router
-----------------
Address                : 11.11.11.12
Local DR Priority      : 1
Neighbors that didnot
 advertise DR Priority :
Uptime                 : 00:12:26
Elections              : 1
Changes                : 0
```

```
Hellos
------
Period         : 30
HoldTime       : 1
Timer          :
Receive        : 25
Receive Failed : 0
Send           : 26
Send Failed    : 0
Generation ID  : 1072931673

Flags
-----
All Multicast   : no
Broadcast       : yes
Multicast       : yes

Join Prune Interval
-------------------
LAN Delay                    : yes
Join Prune Override Interval :  3000 msec

LAN Prune Delay
---------------
Propagation Delay            :  500 msec
Override Interval            :  2500 msec

sonic# show ip pim interface traffic
Interface              HELLO            JOIN            PRUNE         REGISTER      REG-
ISTER-STOP      ASSERT           BSM
                       Rx/Tx            Rx/Tx           Rx/Tx           Rx/Tx          -
 Rx/Tx           Rx/Tx           Rx/Tx
-------------------------------------------------------------------------------------
----------------------------------------
Ethernet32           3471/14976         42/33            2/3             0/0           -
  0/0             0/0             0/0
```

Display IP PIM [vrf {{{vrf-name}} | all}] neighbor [{{nbr-ipv4-address}}]

```
sonic# show ip pim neighbor

PIM neighbor information for VRF: default
Interface       Neighbor        Uptime          Expirytime       DR-Priority
Vlan100         100.0.0.1       01:38:52        00:01:22         1
Vlan200         200.0.0.3       01:22:33        00:01:13         1

-------------------------------------------------------------------------------

sonic# show ip pim neighbor 100.0.0.1

PIM neighbor information for VRF: default
Interface       Neighbor        Uptime          Expirytime       DR-Priority
Vlan100         100.0.0.1       01:38:52        00:01:22         1

sonic# show ip pim neighbor detail
PIM neighbor information for VRF: default
Interface :Ethernet12
```

```
Neighbor  :11.11.11.1
    Uptime                          : 00:18:40
    Holdtime                        : 00:01:34
    DR Priority                     : 1
    Generation ID                   : 0x3ff3a359
    Override Interval (msec)        : 2500
    Propogation Delay (msec)        : 500
    Hello Option - Address List     : no
    Hello Option - DR Priority      : True
    Hello Option - Generation ID    : True
    Hello Option - Holdtime         : True
    Hello Option - LAN Prune Delay  : True
    Hello Option - T-bit            : no
```

Display IP PIM [vrf {{{vrf-name}} | all}] ssm

```
If IP-prefix list is associated:
================================
sonic# show ip pim ssm

PIM SSM information for VRF: default
SSM group range : PIM_PLIST1

----------------------------------------

If IP-prefix list is not associated:
====================================
sonic# show ip pim ssm

PIM SSM information for VRF: default
SSM group range : 232.0.0.0/8
```

Display IP PIM [vrf {{{vrf-name}} | all}] topology [Group-addr |]

```
sonic# show ip pim topology

PIM multicast routing table for VRF: default
(71.0.0.11, 233.0.0.1), uptime 13:08:24, expires 00:00:12
  Incoming interface: vlan100, RPF neighbor 100.0.0.1
  Outgoing interface list:
    vlan200   uptime/expiry-time: 13:07:50/00:01:39
    vlan122   uptime/expiry-time: 12:33:21/Never

(71.0.0.22, 233.0.0.1), uptime 13:08:45, expires 00:00:18
  Incoming interface: vlan100, RPF neighbor 100.0.0.1
  Outgoing interface list:
    vlan200   uptime/expiry-time: 13:22:52/00:01:45
    vlan124   uptime/expiry-time: 12:42:28/Never

(101.0.0.22, 225.1.1.1), uptime 13:07:51, expires 00:06:09
  Incoming interface: vlan105, RPF neighbor 105.0.0.1
  Outgoing interface list:
    vlan200   uptime/expiry-time: 13:03:50/00:01:39
    vlan123   uptime/expiry-time: 13:02:40/Never
```

```
------------------------------------------------------------------------------

sonic# show ip pim topology 233.0.0.1

PIM multicast routing table for VRF: default
(71.0.0.11, 233.0.0.1), uptime 13:08:24, expires 00:00:12
  Incoming interface: vlan100, RPF neighbor 100.0.0.1
  Outgoing interface list:
    vlan200   uptime/expiry-time: 13:07:50/00:01:39
    vlan122   uptime/expiry-time: 12:33:21/Never

(71.0.0.22, 233.0.0.1), uptime 13:08:45, expires 00:00:18
  Incoming interface: vlan100, RPF neighbor 100.0.0.1
  Outgoing interface list:
    vlan200   uptime/expiry-time: 13:22:52/00:01:45
    vlan124   uptime/expiry-time: 12:42:28/Never

------------------------------------------------------------------------------

sonic# show ip pim topology 225.1.1.1 101.0.0.22

PIM multicast routing table for VRF: default
(101.0.0.22, 225.1.1.1), uptime 13:07:51, expires 00:06:09
  Incoming interface: vlan105, RPF neighbor 105.0.0.1
  Outgoing interface list:
    vlan200   uptime/expiry-time: 13:03:50/00:01:39
    vlan123   uptime/expiry-time: 13:02:40/Never
```

Display IP PIM [vrf {{{vrf-name}} | all}] rpf

```
sonic# show ip pim rpf

PIM RPF information for VRF: default
Source          Group           RpfIface       RpfAddress       RibNextHop       Metric-
      Pref
71.0.0.11       233.0.0.1       Vlan100        100.0.0.1        100.0.0.1        0     -
      1
71.0.0.22       235.0.0.1       Vlan100        100.0.0.1        100.0.0.1        0     -
      1
```

Display IP PIM [vrf {{{vrf-name}} | all}] rp [Group-addr]

```
sonic# show ip pim rp
PIM RP information for VRF: default
Group            RP
225.1.1.1        1.1.1.1
226.1.1.1        10.1.1.1
227.1.1.1        10.1.1.1
```

Display IP PIM [vrf {{{vrf-name}} | all}] rp mapping

```
sonic# show ip pim rp mapping
PIM RP information for VRF: default
Group(s):p1, Static
RP:1.1.1.1, v2
Group(s):224.0.0.0/4, Static
RP:10.1.1.1, v2
```

Display IP PIM [vrf {{{vrf-name}} | all}] multicast

```
sonic# show ip pim multicast

PIM multicast information for VRF: default
VRF Name :default

Total Dynamic Multicast Routes In VRF :0
Total Dynamic Uninstalled Multicast Routes In VRF :0

Total Dynamic Multicast Routes Across All VRFs :0
Total Dynamic Uninstalled Multicast Routes Across All VRFs :0

Upstream Join Timer in secs :60
JoinPrune Holdtime in secs :
PIM ECMP :Disable
PIM ECMP Rebalance :Disable

rpfCacheRefreshDelayMsecs :50
rpfCacheRefreshTimer :0
rpfCacheRefreshRequests :0
rpfCacheRefreshEvents :0
rpfCacheRefreshLast :--:--:--
nexthopLookups :0
nexthopLookupsAvoided :0

Multicast Count:
---------------
Interface         State     Address       ifIndex     Vif       PktsIn         PktsOut -
       BytesIn    BytesOut
Ethernet1         up        1.1.1.1           30      1         0              0       -
       0          0
```

show ip prefix-list

This command displays the IPv4 prefix-list.

Syntax

```
show ip prefix-list [ {{list-name}} ]
```

Parameters

Name	Description	Type
list-name	WORD	String

show ip rest

This command displays configurations for the REST server.

Syntax

```
show ip rest { [ authentication ] | [ log-level ] | [ request-limit ] | [ read-timeout
] | [ security-profile ] | [ port ] | [ api-timeout ] | [ cipher-suite ] | [ vrf ] } ]
```

show ip route

This command displays IP route information.

Syntax

```
show ip route [ vrf { { all summary } | {{vrfname}} } ] { { [ {{address}} [ verbose ] ]
} | { [ {{prefix}} [ verbose ] ] } | [ summary ] | { [ not-installed [ summary ] [ verb-
ose ] ] } | { [ bgp [ verbose ] ] } | { [ connected [ verbose ] ] } | { [ attached-host
[ verbose ] ] } | { [ static [ verbose ] ] } | { [ ospf [ verbose ] ] } | { [ nexthop-
group [ verbose ] ] } | [ verbose ] } ]
```

Parameters

Name	Description	Type
vrfname	WORD	String
address	A.B.C.D	String
prefix	A.B.C.D/mask	String

show ip sla

This command displays either the IP SLA (Internet protocol service level agreement) information for all instances on a system, the IP SLA detailed information for a particular instance, or the history information of a particular instance.

Syntax

```
show ip sla [ {{id}} [ history ] ]
```

Parameters

Name	Description	Type
id		Integer

Examples

Display IP SLA information

```
sonic-cli(config)# show ip sla
                or
sonic-cli(config)# show ip sla 10
                or
sonic-cli(config)# show ip sla 10 history
```

Display IP SLA summary information

```
sonic# show ip sla
SLA#    Type         State Target                    VRF          Transitions  Last
change
----    ----         ----- ------------------------  -----------  -----------  --------
---
10      ICMP-echo    Up    30.30.1.2                 default      1            00:06:41
ago
20      TCP-connect  Up    40.40.1.2(100)            default      1            00:05:40
ago
```

Display an IP SLA instance with operation type ICMP detailed information

```
sonic# show ip sla 10
IP SLA Operation Number: 10
Type of Operation: ICMP-echo
ICMP destination IP address: 30.30.1.2
ICMP source IP address: 30.30.1.1
ICMP source interface:
ICMP request data size: 32
ICMP Time-To-Live(TTL): 0
ICMP Type-of-Service(ToS): 0
```

```
Source VRF: default
Operation frequency (sec): 30
Operation timeout (sec): 5
Operation threshold: 3
Operation state: Up
Operation state transitions: 1
Operation last state change: 00:08:39 ago
ICMP Echo Request counter: 107
ICMP Echo Reply counter: 107
ICMP Error counter: 0
ICMP Invalid responses: 0
```

Display an IP SLA instance with operation type TCP detailed information

```
sonic# show ip sla 20
Type of Operation: TCP-connect
TCP destination IP address: 40.40.1.2
TCP destination port: 100
TCP source IP address: 40.40.1.1
TCP source port: 200
TCP source interface:
TCP Time-To-Live(TTL): 0
TCP Type-of-Service(ToS): 0
Source VRF: default
Operation frequency (sec): 30
Operation timeout (sec): 3
Operation threshold: 3
Operation state: Up
Operation state transitions: 1
Operation last state change: 00:28:59 ago
TCP connect request counter: 58
TCP connect success counter: 58
TCP connect error counter: 0
```

Display IP SLA summary information

```
sonic# show ip sla 10 history
Timestamp                Event
---------                -----
Fri Sep 25 22:54:36 2020  State changed to: Up
Fri Sep 25 22:54:21 2020  Started
```

Features this CLI belongs to

- IPSLA

show ip ssh

This command displays the SSH configuration parameters.

Syntax

```
show ip ssh
```

Examples

Display SSH global information

```
sonic# show ip ssh
---------------------------------------
SSH Global Information
---------------------------------------
Ciphers                         : aes128-ctr,aes192-ctr
Disable-forwarding              : True
Kexalgorithms                   : curve25519-sha256,curve25519-sha256@libssh.org
Macs                            : umac-128-etm@openssh.com,hmac-sha2-256-etm@openssh.-
com,hmac-sha2-512-etm@openssh.com,umac-128@openssh.com,hmac-sha2-256,hmac-sha2-512
HostKeyalgorithms               : ecdsa-sha2-nistp256,rsa-sha2-256,rsa-sha2-512
Max-auth-retries                : 5
Permit-root-login               : True
Permit-user-environment         : True
X11-forwarding                  : True
```

show ip ssh client

This command displays the SSH client configuration parameters.

Syntax

```
show ip ssh client
```

Examples

Display SSH client information

```
sonic# show ip ssh client
```

```
---------------------------------------
SSH Client Configuration Parameters
---------------------------------------
Ciphers              : aes256-ctr
Kexalgorithms        : diffie-hellman-group16-sha512
Macs                 : hmac-sha2-256,hmac-sha2-512,hmac-sha2-256-etm@openssh.com,hmac-
sha2-512-etm@openssh.com
```

show ip static-anycast-gateway

This command displays IPv4 static-anycast-gateway information.

Syntax

```
show ip static-anycast-gateway
```

Examples

Display IPv4 SAG information

```
sonic# show ip static-anycast-gateway
Configured Anycast Gateway MAC address: 00:22:33:44:55:66
IPv4 Anycast Gateway MAC address: enable
Total number of gateway: 3
Total number of gateway admin UP: 3
Total number of gateway oper UP: 3
Interfaces Gateway Address      Vrf        Admin/Oper
---------- ---------------      ------     ----------
Vlan3      30.30.1.1/24                       up/up
Vlan5      50.0.0.1/24                        up/up
Vlan54     54.1.1.1/24                        up/up
```

show ip telemetry

This command displays configurations for telemetry server.

Syntax

```
show ip telemetry { [ authentication ] | [ log-level ] | [ jwt-refresh ] | [ jwt-valid
] | [ security-profile ] | [ port ] | [ api-timeout ] | [ vrf ] } ]
```

show ip vrf

This command displays configuration information for a specified VRF and its associated interfaces, or for all VRF and their associated interfaces.

Syntax

```
show ip vrf [ {{vrf-name}} ]
```

Parameters

Name	Description	Type
vrf-name	WORD	String

Examples

Display all VRF with their associated interfaces

```
sonic# show ip vrf
VRF-NAME            INTERFACES
-----------------------------------------------------------------
mgmt                eth0
Vrf_red             Ethernet16
                    Ethernet8
```

Display a specified VRF with its associated interfaces

```
sonic# show ip vrf Vrf_red
VRF-NAME            INTERFACES
-----------------------------------------------------------------
Vrf_red             Ethernet16
                    Ethernet8
```

show ip vrf mgmt

This command displays the configuration information for management VRF.

Syntax

```
show ip vrf mgmt
```

Examples

Display management VRF

```
sonic# show ip vrf mgmt
VRF-NAME            INTERFACES
------------------------------------------------------------------
mgmt                eth0
```

show ipv6 access-group

This command displays an IPv6 ACL binding summary.

Syntax

```
show ipv6 access-group
```

Examples

Display IPv6 access-group

```
Ingress IPV6 access-list ipv6acl-example on Ethernet0
```

show ipv6 access-lists

This command displays IPv6 ACL rules and statistics. The ACL name and interface names are optional. If the ACL name is not specified, then all IPv6 ACLs will be displayed. ACL statistics will be shown only if the ACL is applied globally or to any interface.

Syntax

```
show ipv6 access-lists [ {{access-list-name}} { { [ interface { Ethernet | {{PortChan-
nel}} | {{Vlan}} | {{eth-sub-if-id}} | {{po-sub-if-id}} } ] } | [ Switch ] ] } ]
```

Parameters

Name	Description	Type
access-list-name	String (Max: 72 characters)	String
PortChannel	PortChannelNUM	
Vlan	VlanNUM	
eth-sub-if-id	EthernetX.Y	
po-sub-if-id	PortChannelNUM	

Examples

Display IPv6 access-lists

```
ipv6 access-list ipv6acl-example
    seq 100 permit ipv6 host abcd::1 host bcde::1 (0 packets) [0 bytes]
    seq 200 permit tcp host abcd::2 host bcde::2 (0 packets) [0 bytes]
    seq 300 permit udp host abcd::3 host bcde::3 (0 packets) [0 bytes]
```

show ipv6 dhcp snooping

This command displays the DHCP snooping IPv6 global configuration.

Syntax

```
show ipv6 dhcp snooping
```

show ipv6 dhcp snooping binding

This command displays the DHCP snooping IPv6 binding database.

Syntax

```
show ipv6 dhcp snooping binding
```

show ipv6 dhcp snooping statistics

This command displays DHCPv6 snooping statistics.

Syntax

```
show ipv6 dhcp snooping statistics
```

show ipv6 dhcp snooping statistics detail

This command displays detailed DHCPv6 snooping statistics.

Syntax

```
show ipv6 dhcp snooping statistics detail
```

show ipv6 dhcp-relay

This command displays IPv6 DHCP relay information.

Syntax

```
show ipv6 dhcp-relay { [ brief ] | { [ detailed { [ {{intfName1}} ] | [ {{pchName1}} ]
| [ {{vlanName1}} ] } ] } | { [ statistics { [ {{intfName}} ] | [ {{pchName}} ] | [
{{vlanName}} ] } ] } }
```

Parameters

Name	Description	Type
intfName1	EthernetX.Y	
pchName1	PortChannelNUM	
vlanName1	VlanNUM	
intfName	EthernetX.Y	
pchName	PortChannelNUM	
vlanName	VlanNUM	

show ipv6 interfaces

This command displays information on IPv6 interfaces.

Syntax

```
show ipv6 interfaces
```

show ipv6 nd

This command displays NDP RA-interfaces.

Syntax

```
show ipv6 nd ra-interfaces [ {{ifName}} ]
```

Parameters

Name	Description	Type
ifName	Interface Type - Ranges	

Examples

Display IPv6 NDP RA-interfaces

```
sonic(config)# do show ipv6 nd ra-interfaces | no-more
Interfaces:
    Vlan100
  ND advertised reachable time is 0 milliseconds
  ND advertised retransmit interval is 0 milliseconds
  ND advertised hop-count limit is 64 hops
  ND router advertisements sent: 0 rcvd: 0
  ND router advertisements are sent every 600 seconds
  ND router advertisements lifetime tracks ra-interval
  ND router advertisement default router preference is MEDIUM
  Hosts use stateless autoconfig for addresses.
  ND router advertisements with Adv. Interval option.
  Advertised Link MTU is 1200
  rdnss 2001::1 1234
  rdnss 2002::1 infinite
  rdnss 2003::1
  dnssl mybroadcom1 1234
  dnssl mybroadcom2
  dnssl mybroadcom3 infinite
  prefix 2001::1/128 5000 4000
  prefix 2002::1/128 no-autoconfig off-link
```

show ipv6 neighbors

This command displays NDP table entries. To filter the output, specify an interface, port channel, VLAN, IPv6 address, MAC address, or a combination of more than one value to match. You can also display the total number of ARP entries using the "summary" option.

Syntax

```
show ipv6 neighbors [ vrf { {{vrfname}} | mgmt | all } ] { [ {{ip-addr}} ] | { [ mac-address {{mac-addr}} ] } | [ summary ] } ]
```

Parameters

Name	Description	Type
vrfname	VRF name (prefixed by Vrf, Max: 15 characters)	String
ip-addr	A::B	String
mac-addr	nn:nn:nn:nn:nn:nn	String

Examples

Display IPv6 neighbors' information

```
sonic# show ipv6 neighbors
------------------------------------------------------------------------------
Address                   Hardware address    Interface        Egress Interface
------------------------------------------------------------------------------
20::1                     00:01:02:03:44:55   Ethernet8         -
20::2                     00:01:02:03:ab:cd   PortChannel200    -
20::3                     00:01:02:03:04:05   Vlan100           Ethernet4
fe80::e6f0:4ff:fe79:34c7  00:01:e8:8b:44:71   eth0              -
```

Display IPv6 neighbors' interface information

```
sonic# show ipv6 neighbors Vlan 100
------------------------------------------------------------------------------
Address                   Hardware address    Interface        Egress Interface
------------------------------------------------------------------------------
20::3                     00:01:02:03:04:05   Vlan100           Ethernet4

sonic# show ipv6 neighbors interface Management 0
------------------------------------------------------------------------------
Address                   Hardware address    Interface        Egress Interface
------------------------------------------------------------------------------
fe80::e6f0:4ff:fe79:34c7  00:01:e8:8b:44:71   eth0              -
```

Display IPv6 neighbors' IP information

```
sonic# show ipv6 neighbors 20::2
------------------------------------------------------------------------------
Address                   Hardware address    Interface        Egress Interface
------------------------------------------------------------------------------
20::2                     00:01:02:03:ab:cd   PortChannel200    -
```

Display IPv6 neighbors' MAC address information

```
sonic# show ipv6 neighbors mac-address 00:01:02:03:04:05
------------------------------------------------------------------------------
Address                   Hardware address    Interface        Egress Interface
------------------------------------------------------------------------------
20::3                     00:01:02:03:04:05   Vlan100           Ethernet4
```

show ipv6 neighbors interface

This command displays NDP entries for the specified interface.

Syntax

```
show ipv6 neighbors interface { { [ {{phy-if-name}} [ summary ] ] } | { [ {{subif-name}} [ summary ] ] } | { {{Loopback}} [ summary ] } | { {{Management}} [ summary ] } | { {{PortChannel}} [ summary ] } | { {{Vlan}} [ summary ] } | { Vxlan { {{vxlan-if-name}} [ summary ] } } }
```

Parameters

Name	Description	Type
phy-if-name	EthernetNUM	
subif-name	Interface type	
Loopback		
Management		
PortChannel	PortChannelNUM	
Vlan	VlanNUM	
vxlan-if-name	WORD	String

show ipv6 ospfv3

This command displays global, neighbors, route, interfaces, etc. information related to an OSPFv3 router. The user can optionally specify the VRF on which the router must be configured. If the VRF name is not specified, then the command is considered to be for the default VRF.

For technical details on OSPFv3 support, refer to https://docs.frrouting.org/en/latest/.

Syntax

```
show ipv6 ospfv3 [ vrf { {{vrf-name}} } ] { { [ border-routers [ detail ] [ {{router-
ip}} ] ] } | { [ database { { [ external [ detail ] [ {{lsid}} ] { { [ adv-router {{adv-
router}} ] } | [ self-originate ] ] } ] } | { [ network [ detail ] [ {{lsid}} ] { { [
adv-router {{advrouter}} ] } | [ self-originate ] ] } ] } | { [ nssa-external [ detail
] [ {{lsid}} ] { { [ adv-router {{advrouter}} ] } | [ self-originate ] ] } ] } | { [
inter-prefix [ detail ] [ {{lsid}} ] { { [ adv-router {{advrouter}} ] } | [ self-ori-
ginate ] ] } ] } | { [ inter-router [ detail ] [ {{lsid}} ] { { [ adv-router {{adv-
router}} ] } | [ self-originate ] ] } ] } | { [ intra-prefix [ detail ] [ {{lsid}} ] {
{ [ adv-router {{advrouter}} ] } | [ self-originate ] ] } ] } | { [ router [ detail ] [
{{lsid}} ] { { [ adv-router {{advrouter}} ] } | [ self-originate ] ] } ] } | [ self-ori-
ginate ] | { [ adv-router {{advrouter}} ] } | { [ link [ detail ] [ {{lsid}} ] { { [
adv-router {{advrouter}} ] } | [ self-originate ] ] } ] } ] } ] } | { [ interface [
traffic ] [ {{interfacename}} ] ] } | { [ route { [ {{routeip}} ] | [ {{routeipmask}} ]
| [ intra-area ] | [ inter-area ] | [ external-1 ] | [ external-2 ] | [ detail ] | [
summary ] ] } ] } | { [ neighbor { [ {{neighip}} ] | [ all ] | [ {{interfacename}} ] ]
} [ detail ] ] } | { [ graceful-restart { helper { [ detail ] ] } } ] } } ]
```

Parameters

Name	Description	Type
vrf-name	WORD	String
router-ip	A.B.C.D	String
lsid	A.B.C.D	String
advrouter	A.B.C.D	String
interfacename	Interface Type - Ranges	
routeip	A::B	String
routeipmask	A::B/mask	String
neighip	A.B.C.D	String

Examples

Display global OSPFv3 information for the default VRF

```
device# show ipv6 ospf
 OSPFv3Routing Process, Router ID: 1.1.1.1
 Supports only single TOS (TOS0) routes
 This implementation conforms to RFC2328
 RFC1583Compatibility flag is enabled
 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
 time is 92031756
```

```
SPF algorithm last executed 1065d4h22m ago
Last SPF duration 0.0s
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 0x0
Number of opaque AS LSA 0. Checksum Sum 0x0
Number of areas attached to this router: 2
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
  SPF algorithm executed 8 times
  Number of LSA 3
  Number of router LSA 2. Checksum Sum 0x40f64b4000000000
  Number of network LSA 1. Checksum Sum 0x40d5adc000000000
  Number of summary LSA 0. Checksum Sum 0x0
  Number of ASBR summary LSA 0. Checksum Sum 0x0
  Number of NSSA LSA 0. Checksum Sum 0x0
  Number of opaque link LSA . Checksum Sum 0x
  Number of opaque area LSA 0. Checksum Sum 0x0
Area ID: 0.0.0.1
  Number of interfaces in this area: Total: 1 , Active: 1
  Number of fully adjacent neighbors in this area: 0
  SPF algorithm executed 1 times
  Number of LSA 2
  Number of router LSA 0. Checksum Sum 0x0
  Number of network LSA 0. Checksum Sum 0x0
  Number of summary LSA 2. Checksum Sum 0x40f1f61000000000
  Number of ASBR summary LSA 0. Checksum Sum 0x0
  Number of NSSA LSA 0. Checksum Sum 0x0
  Number of opaque link LSA . Checksum Sum 0x
  Number of opaque area LSA 0. Checksum Sum 0x0
```

Display neighbor information for OSPFv3 on the default VRF

```
sonic# show ipv6 ospfv3 neighbor | no-more

Neighbor ID     Pri State           Dead Time
Address         Interface            RXmtL RqstL DBsmL
10.59.142.247     1 Full/Backup       37.343s
64.1.1.2        Ethernet64:64.1.1.1      0     0     0

Leaf1# show ipv6 ospfv3 neighbor Ethernet66 | no-more

Neighbor ID     Pri State           Dead Time
Address         Interface            RXmtL RqstL DBsmL
2.2.2.2           1 Full/Backup       38.245s
64.1.1.2        Ethernet66:64.1.1.1      0     0     0
```

Display neighbor detailed information for OSPFv3 on the default VRF

```
sonic# show ipv6 ospfv3 neighbor detail | no-more
```

```
 Neighbor 10.59.142.247, interface address 64.1.1.2
     In the area 0.0.0.0 via interface Ethernet64
     Neighbor priority is 1, State is Full, 6 state changes
     Most recent state change statistics:
       Progressive change 7h3m25s ago
     DR is 64.1.1.1, BDR is 64.1.1.2
     Options 2 *|-|-|-|-|-|E|-
     Dead timer due in 30.687s
     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

 Leaf1# show ipv6 ospfv3 neighbor 2.2.2.2 | no-more
 Neighbor 2.2.2.2, interface address 64.1.1.2
     In the area 0.0.0.0 via interface Ethernet66
     Neighbor priority is 1, State is Full, 5 state changes
     Most recent state change statistics:
       Progressive change 0h1m11s ago
     DR is 64.1.1.1, BDR is 64.1.1.2
     Options 2 *|-|-|-|-|-|E|-
     Dead timer due in 33.203s
     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

 Neighbor 2.2.2.2, interface address 65.1.1.2
     In the area 0.0.0.1 via interface Ethernet67
     Neighbor priority is 1, State is Full, 5 state changes
     Most recent state change statistics:
       Progressive change 0h1m10s ago
     DR is 65.1.1.1, BDR is 65.1.1.2
     Options 2 *|-|-|-|-|-|E|-
     Dead timer due in 34.590s
     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
```

Display interface information for OSPFv3 on the default VRF

```
sonic# show ipv6 ospfv3 interface | no-more
VRF Name: default
Ethernet1 is up
 Internet Address:
   inet6 (link-local): fe80::b4bb:43ff:fe62:d0f3/64
   inet6: 2000::1/64
```

```
 Area ID 0.0.0.0
 MTU mismatch detection: enabled
 Router ID 10.59.143.131, Network Type BROADCAST, Cost: 1000
 Transmit Delay is 1 sec, State BDR, Priority 1
 Designated Router: 1.1.1.1, Backup Designated Router: 3.3.3.3
 Timer intervals configured, Hello 10s, Dead 40s, Retransmit 5

Leaf1# show ipv6 ospfv3 interface Ethernet1 | no-more
VRF Name: default
Ethernet1 is up
 Internet Address:
   inet6 (link-local): fe80::b4bb:43ff:fe62:d0f3/64
   inet: 2000::1/64
 Area ID 0.0.0.0
 MTU mismatch detection: enabled
 Router ID 10.59.143.131, Network Type BROADCAST, Cost: 1000
 Transmit Delay is 1 sec, State BDR, Priority 1
 Designated Router: 1.1.1.1, Backup Designated Router: 3.3.3.3
 Timer intervals configured, Hello 10s, Dead 40s, Retransmit 5
```

Display interface traffic information for OSPFv3 on the default VRF

```
sonic# show ipv6 ospfv3 interface traffic | no-more

Interface       HELLO            DB-Desc         LS-Req           LS-Update        LS-
Ack
                Rx/Tx            Rx/Tx            Rx/Tx            Rx/Tx            Rx/-
Tx
-------------------------------------------------------------------------------------
-----
Ethernet64     2563/2563           3/3             1/1            17/30           29/16

Leaf1# show ipv6 ospfv3 interface traffic Ethernet67 | no-more

Interface       HELLO            DB-Desc         LS-Req           LS-Update        LS-
Ack
                Rx/Tx            Rx/Tx            Rx/Tx            Rx/Tx            Rx/-
Tx
-------------------------------------------------------------------------------------
-----
Ethernet67       19/22             2/3             1/1             3/3             2/2
```

Display OSPFv3 route information for a user VRF

```
sonic# show ipv6 ospfv3 vrf Vrf-Blue route | no-more
OSPF Type: IA - Intra, OA - Inter, E1 - External Type1, E2 - External Type2

Destination                     Nexthop                     Interface            Upti-
me
IA
1000::/64                      ::                          Ethernet1            01:45:2-
7
```

```
E2
3000::/64                       fe80::434:6fff:fe43:9ca4    Ethernet1               01:4-
5:27
```

Display database information for OSPFv3 on the default VRF

```
sonic# show ipv6 ospfv3 database
VRF Name: default
OSPF Router with ID (1.1.1.1)
        Area Scoped Link State Database (Area 0)

Type LSId           AdvRouter       Age   SeqNum                       Payload
Rtr  0.0.0.0        1.1.1.1         650 80000005              1.1.1.1/0.0.0.10
Rtr  0.0.0.0        3.3.3.3         651 80000005              1.1.1.1/0.0.0.10
Net  0.0.0.10       1.1.1.1         650 80000004                       1.1.1.1
Net  0.0.0.10       1.1.1.1         650 80000004                       3.3.3.3
INP  0.0.0.10       1.1.1.1         650 80000004                    1000::/64

        I/F Scoped Link State Database

Type LSId           AdvRouter       Age   SeqNum                       Payload
Lnk  0.0.0.10       1.1.1.1         690 80000004     fe80::a432:33ff:fe43:8c97
Lnk  0.0.0.10       1.1.1.1         690 80000004                         1000::
Lnk  0.0.0.8        3.3.3.3         655 80000004      fe80::434:6fff:fe43:9ca4
Lnk  0.0.0.8        3.3.3.3         655 80000004                         1000::

        AS Scoped Link State Database

Type LSId           AdvRouter       Age   SeqNum                       Payload
ASE  0.0.0.1        3.3.3.3           3 80000001                    3000::/64
```

Display database router information for OSPFv3 on the default VRF

```
sonic# show ipv6 ospfv3 database router | no-more
VRF Name: default

       OSPFv3Router with ID (10.59.143.131)


                Router Link States (Area 0.0.0.0)

  LS age: 1709
  Options: 0x2  : *|-|-|-|-|-|E|-
  LS Flags: 0x6
  Flags: 0x0  :
  LS Type: router-LSA
  Link State ID: 10.59.142.247
  Advertising Router: 10.59.142
  LS Seq Number: 80000011
  Checksum: 0xb56b
  Length: 36

   Number of Links: 1
```

```
                  Link connected to: a Transit Network
                   (Link ID) Designated Router address: 64.1.1.1
                   (Link Data) Router Interface address: 64.1.1.2
                    Number of TOS metrics: 0
                      TOS 0 Metric: 4


                LS age: 1525
                Options: 0x2  : *|-|-|-|-|-|E|-
                LS Flags: 0x3
                Flags: 0x0  :
                LS Type: router-LSA
                Link State ID: 10.59.143.131
                Advertising Router: 10.59.143
                LS Seq Number: 80000011
                Checksum: 0xdc2c
                Length: 36

                 Number of Links: 1

                  Link connected to: a Transit Network
                   (Link ID) Designated Router address: 64.1.1.1
                   (Link Data) Router Interface address: 64.1.1.1
                    Number of TOS metrics: 0
                      TOS 0 Metric: 4
```

Display database network information for OSPFv3 on the default VRF

```
sonic# show ipv6 ospfv3 database network
VRF Name: default

       OSPFv3 Router with ID (3.3.3.3)

        Area Scoped Link State Database (Area 0.0.0.0)

Type  LSId           AdvRouter       Age   SeqNum                              Payload
Net   0.0.0.55       3.3.3.3         245   0x8000000f                          3.3.3.3
Net   0.0.0.55       3.3.3.3         245   0x8000000f                          1.1.1.1
```

Display database external information for OSPFv3 on the default VRF

```
12004# show ipv6 ospfv3 database external | no-more
VRF Name: default

       OSPFv3 Router with ID (3.3.3.3)

        AS Scoped Link State Database

Type  LSId           AdvRouter       Age   SeqNum                               Payload
ASE   0.0.0.1        1.1.1.1         71    0x80000001                          1::1/128
ASE   0.0.0.2        1.1.1.1         71    0x80000001                          2::1/128
ASE   0.0.0.3        1.1.1.1         71    0x80000001                          3::1/128
```

Display database network information with the advertising-router option for OSPFv3 on the default VRF

```
sonic# show ipv6 ospfv3 database adv-router 3.3.3.3
VRF Name: default

       OSPFv3 Router with ID (3.3.3.3)

        Area Scoped Link State Database (Area 0.0.0.0)

Type  LSId           AdvRouter       Age   SeqNum                          Payload
Rtr   0.0.0.0        3.3.3.3         1624  0x8000000f              3.3.3.3/0.0.0.55
Net   0.0.0.55       3.3.3.3         1624  0x8000000e                      3.3.3.3
Net   0.0.0.55       3.3.3.3         1624  0x8000000e                      1.1.1.1


        I/F Scoped Link State Database (I/F Ethernet0 in Area 0.0.0.0)

Type  LSId           AdvRouter       Age   SeqNum                          Payload
Lnk   0.0.0.55       1.1.1.1         1675  0x8000000e      fe80::1a5a:58ff:fef8:e1a5
Lnk   0.0.0.55       3.3.3.3         1664  0x8000000e      fe80::eab5:d0ff:fe0d:fc85
```

Display graceful restart helper information for OSPFv3 on the default VRF

```
sonic# show ipv6 ospfv3 graceful-restart helper detail

OSPFv3Router with ID (192.168.10.2)

Graceful restart helper support enabled.
Strict LSA check is enabled.
Helper supported for planned restarts only.
Supported Graceful restart interval: 500(in seconds).
```

Features this CLI belongs to

- OSPFv3

show ipv6 prefix-list

This command displays the IPv6 prefix-list.

Syntax

```
show ipv6 prefix-list [ {{list-name}} ]
```

Parameters

Name	Description	Type
list-name	WORD	String

show ipv6 route

This command displays IP route information.

Syntax

```
show ipv6 route [ vrf { { all summary } | {{vrfname}} } ] { { [ {{address}} [ verbose ]
] } | { [ {{prefix}} [ verbose ] ] } | [ summary ] | { [ not-installed [ summary ] [
verbose ] ] } | { [ bgp [ verbose ] ] } | { [ connected [ verbose ] ] } | { [ attached-
host [ verbose ] ] } | { [ static [ verbose ] ] } | { [ ospfv3 [ verbose ] ] } | { [
nexthop-group [ verbose ] ] } | [ verbose ] } ]
```

Parameters

Name	Description	Type
vrfname	WORD	String
address	A::B	String
prefix	A::B/mask	String

show ipv6 static-anycast-gateway

This command displays IPv6 Static-anycast-gateway information.

Syntax

```
show ipv6 static-anycast-gateway
```

Examples

Display IPv6 SAG information

```
sonic# show ipv6 static-anycast-gateway
```

```
Configured Anycast Gateway MAC address: 00:22:33:44:55:66
IPv6 Anycast Gateway MAC address: enable
Total number of gateway: 2
Total number of gateway admin UP: 2
Total number of gateway oper UP: 2
Interfaces Gateway Address      Vrf        Admin/Oper
---------- ---------------      ------     ----------
Vlan3      30::1/64                           up/up
Vlan5      50::1/64                           up/up
```

show kdump files

This command displays the locally stored kdump kernel core dump files.

Syntax

```
show kdump files
```

Examples

Display kdump files generated

```
sonic# show kdump files
Record Key           Filename
-------------------------------------------------------------
     1 202002101809 /var/crash/202002101809/dmesg.202002101809
                    /var/crash/202002101809/kdump.202002101809
```

Features this CLI belongs to

- KDUMP

show kdump log

This command displays a kdump kernel core dump file kernel log from a locally stored file. It is mandatory to enter the number of the kernel core dump files which are stored locally, and optional to enter the number of lines displayed (by default, 20).

Syntax

```
show kdump log {{record}} [ {{lines}} ]
```

Parameters

Name	Description	Type
record	Kdump dump file record number	Integer
lines		Integer

Examples

Display kdump logs

```
sonic# show kdump log 1 5
File: /var/crash/202002101809/dmesg.202002101809
[326785.222049]  [{{ffffffffa0c0484e}}] ? entry_SYSCALL_64_after_swapgs+0x58/0xc6
[326785.229926] Code: 41 5c 41 5d 41 5e 41 5f e9 6c 2f cf ff 66 2e 0f 1f 84 00 00 00 00
00 66 90 0f 1f 44 00 00 c7 05 29 28 a8 00 01 00 00 00 0f ae f8 {{c6}} 04 25 00 00 00 00
01 c3 0f 1f 44 00 00 0f 1f 44 00 00 53 8d
[326785.251451] RIP  [{{ffffffffa0a2a562}}] sysrq_handle_crash+0x12/0x20
[326785.258463]  RSP {{ffffafd2c6523e78}}
[326785.262453] CR2: 0000000000000000

In this example, we show the kernel log for the first kernel core dump file stored loc-
ally.
We display only the first 5 lines of the log.
```

Features this CLI belongs to

- KDUMP

show kdump memory

This command displays the amount of memory reserved and allocated for kdump operation. This command also displays the actual memory allocated.

Syntax

```
show kdump memory
```

Examples

Display kdump memory

```
sonic# show kdump memory
Memory Reserved: 0M-2G:256M,2G-4G:256M,4G-8G:384M,8G-:448M
Memory Allocated: 448M
```

Features this CLI belongs to

- KDUMP

show kdump num-dumps

This command displays the maximum number of kernel core dump files which can be stored locally.

Syntax

```
show kdump num-dumps
```

Examples

Display kdump and maximum files that can be generated

```
sonic# show kdump num-dumps
Maximum number of Kernel Core files Stored: 3
```

Features this CLI belongs to

- KDUMP

show kdump status

This command displays the status of the kdump operation.

Syntax

```
show kdump status
```

Examples

Display kdump status

```
sonic# show kdump status
Kdump Administrative Mode:  Enabled
Kdump Operational State:    Ready
Memory Reserved: 512M
Maximum number of Kernel Core files Stored: 3
Record Key           Filename
-------------------------------------------------------------
     1 202002101809 /var/crash/202002101809/dmesg.202002101809
                    /var/crash/202002101809/kdump.202002101809
```

Features this CLI belongs to

- KDUMP

show ldap-server

This command displays LDAP information.

Syntax

```
show ldap-server
```

Examples

Display LDAP information

```
sonic-cli# show ldap-server
---------------------------------------------------------
LDAP Global Configuration
---------------------------------------------------------
binddn               : dc=sji,dc=example,dc=com
---------------------------------------------------------
LDAP NSS Configuration
```

```
-------------------------------------------------------
ssl                  : start_tls
-------------------------------------------------------------------------------
HOST            USE-TYPE  PORT      PRIORITY SSL       RETRY
-------------------------------------------------------------------------------
1.1.1.1         NSS       -         1        START_TLS 2
sonic-cli#
```

show license

This command displays license information.

Syntax

```
show license status
```

show link state tracking

This command displays the link state tracking group operational state information. The link state tracking group name can be a maximum of 63 characters. The name must begin with A to Z, a to z, or 0 to 9. Underscores and hyphens can be used, except as the first character. If the group name is not specified, then a summary of all configured groups will be displayed.

Syntax

```
show link state tracking [ {{grp-name}} ]
```

Parameters

Name	Description	Type
grp-name	Name	String

Examples

Display link state tracking group information

```
sonic# show link state tracking FooBar
```

```
Name: FooBar
Description: Example description
Timeout: 120 seconds
Upstream Interfaces:
    Ethernet0 (Up)
    Ethernet4 (Up)
    Vlan100 (Up)
Downstream Interfaces:
    PortChannel1 (Up)
    PortChannel2 (Up)
    Ethernet4 (Up)
```

show lldp neighbor

This command displays LLDP neighbor information in detail.

Syntax

```
show lldp neighbor [ {{ifname}} ]
```

Parameters

Name	Description	Type
ifname	EthernetNUM	

Examples

Display detailed LLDP neighbor information

```
sonic-cli# show lldp neighbor
------------------------------------------------------------
LLDP Neighbors
------------------------------------------------------------
Interface:   Ethernet64,via: LLDP
Chassis:
    ChassisID:    80:a2:35:26:48:5e
    SysName:      Leaf9
    SysDescr:     Debian GNU/Linux 9 (stretch) Linux 4.9.0-11-2-amd64 #1 SMP Debian
4.9.189-3+deb9u2 (2019-11-11) x86_64
    MgmtIP:       10.59.132.165
    MgmtIP:       10.59.132.165
    Capability:   MAC_BRIDGE, ON
    Capability:   ROUTER, ON
Port
    PortID:       hundredGigE53
    PortDescr:    Ethernet64
```

```
-------------------------------------------------------
```

show lldp statistics

This command displays information about LLDP statistics.

Syntax

```
show lldp statistics [ {{ifname}} ]
```

Parameters

Name	Description	Type
ifname	EthernetNUM	

Examples

Display information about LLDP statistics

```
sonic-cli# show lldp statistics
LLDP Statistics
---------------------------------
Interface: Ethernet0
    Transmitted      : 10
    Received         : 12
    Discarded        : 1
    Unrecognized TLV : 0
    Ageout           : 0
---------------------------------
```

show lldp table

This command displays LLDP neighbor information in brief.

Syntax

```
show lldp table
```

Examples

Display LLDP neighbor information in brief

```
sonic-cli# show lldp table
-------------------------------------------------------------------------------------
---------------
LocalPort           RemoteDevice        RemotePortID        Capability           Remote-
PortDescr
-------------------------------------------------------------------------------------
----------------
Ethernet64          Leaf9               hundredGigE53       BR                   Etherne-
t64
```

show locator-led

This command displays the Locator LED state.

Syntax

```
show locator-led chassis
```

show logging

This command displays logging information.

Syntax

```
show logging
```

show logging count

This command displays the total count for logging.

Syntax

```
show logging count
```

show logging filter

This command displays filter logs.

Syntax

```
show logging filter { { since {{since_date}} { { [ level {{log_level}} ] } | { [ sever-
ity {{log_severity}} ] } ] } } | { level {{log_level}} { [ since {{since_date}} ] } } |
{ severity {{log_severity}} { [ since {{since_date}} ] } } | { type {{log_type}} { [
since {{since_date}} ] } { { [ level {{log_level}} ] } | { [ severity {{log_severity}}
] } ] } } }
```

Parameters

Name	Description	Type
since_date	String	String
log_level	DEBUG or INFO or WARNING or NOTICE or ERR or CRIT	Select [DEBUG INFO WARNING NOTICE ERR CRIT]
log_severity	DEBUG or INFO or WARNING or NOTICE or ERR or CRIT	Select [DEBUG INFO WARNING NOTICE ERR CRIT]
log_type	Either syslog, inmem, or all	Select [syslog inmem all]

show logging lines

This command displays the output of the last NUM lines.

Syntax

```
show logging lines [ {{lines}} ]
```

Parameters

Name	Description	Type
lines	Port	Integer

show logging servers

This command displays the list of remote syslog servers.

Syntax

```
show logging servers
```

Examples

Display remote syslog server information

```
sonic# show logging servers
            ------------------------------------------------------------------------------
----------------------
            HOST            PORT      SOURCE-INTERFACE    VRF            MESSAGE-
TYPE    SEVERITY    PROTOCOL
            ------------------------------------------------------------------------------
----------------------
            30.1.1.1         514       -
                  Vrf2             log            -          tcp
            40.1.1.1         514       -                  -
               log            info       udp
            50.1.1.1         514       -                  -
               log            info       tls
```

show mab

This command displays MAB information.

Syntax

```
show mab
```

show MAB interface

This command enters the client interface to show the MAB interface.

Syntax

```
show mab interface {{port}}
```

Parameters

Name	Description	Type
port	EthernetNUM	

show mac access-group

This command displays MAC the ACL binding summary.

Syntax

```
show mac access-group
```

Examples

Display MAC access-group

```
Ingress MAC access-list macacl-example on Vlan100
```

show mac access-lists

This command displays MAC ACL rules and statistics. The ACL name and interface names are optional. If the ACL name is not specified, then all MAC ACLs will be displayed. ACL statistics will be shown only if the ACL is applied globally or to any interface.

Syntax

```
show mac access-lists [ {{access-list-name}} { { [ interface { Ethernet | {{PortChan-
nel}} | {{Vlan}} | {{eth-sub-if-id}} | {{po-sub-if-id}} } ] } | [ Switch ] ] } ]
```

Parameters

Name	Description	Type
access-list-name	String (Max: 72 characters)	String
PortChannel	PortChannelNUM	

Name	Description	Type
Vlan	VlanNUM	
eth-sub-if-id	EthernetX.Y	
po-sub-if-id	PortChannelNUM	

Examples

Display MAC access-lists

```
mac access-list macacl-example
    seq 10 permit host 00:00:10:00:00:01 host 00:00:20:00:00:01 (10 packets) [1000
bytes]
    seq 20 permit host 00:00:10:00:00:02 host 00:00:20:00:00:02 (20 packets) [2000
bytes]
    seq 30 permit host 00:00:10:00:00:03 host 00:00:20:00:00:03 (30 packets) [3000
bytes]
    seq 40 permit host 00:00:10:00:00:04 host 00:00:20:00:00:04 (40 packets) [4000
bytes]
```

show mac address-table

This command displays the MAC address-table.

Syntax

```
show mac address-table [ {{vlan-if-name}} ] ]
```

Parameters

Name	Description	Type
vlan-if-name	VlanNUM	

show mac address-table address

This command displays the MAC address-table address for a MAC address.

Syntax

```
show mac address-table address {{mac-addr}}
```

Parameters

Name	Description	Type
mac-addr	nn:nn:nn:nn:nn:nn	String

show mac address-table aging-time

This command displays the MAC aging-time.

Syntax

```
show mac address-table aging-time
```

show mac address-table count

This command displays the count keyword.

Syntax

```
show mac address-table count [ {{vlan-if-name}} ] ]
```

Parameters

Name	Description	Type
vlan-if-name	VlanNUM	

show mac address-table dynamic

This command displays the MAC address-table for dynamic commands.

Syntax

```
show mac address-table dynamic { { [ address {{mac-addr}} ] } | [ Vlan ] | { [ inter-
face { {{phy-if-name}} | {{PortChannel}} } ] } } ]
```

Parameters

Name	Description	Type
mac-addr	nn:nn:nn:nn:nn:nn	String
phy-if-name	EthernetNUM	
PortChannel	PortChannelNUM	

show mac address-table interface

This command displays the MAC address-table for interfaces.

Syntax

```
show mac address-table interface { {{phy-if-name}} | {{PortChannel}} }
```

Parameters

Name	Description	Type
phy-if-name	EthernetNUM	
PortChannel	PortChannelNUM	

show mac address-table static

This command displays the MAC address-table for static commands.

Syntax

```
show mac address-table static { { [ address {{mac-addr}} ] } | [ Vlan ] | { [ interface
{ {{phy-if-name}} | {{PortChannel}} } ] } } ]
```

Parameters

Name	Description	Type
mac-addr	nn:nn:nn:nn:nn:nn	String
phy-if-name	EthernetNUM	
PortChannel	PortChannelNUM	

show mac address-table sticky-mac

This command displays the MAC address-table for sticky-mac.

Syntax

```
show mac address-table sticky-mac { { [ address {{mac-addr}} ] } | [ Vlan ] | { [ inter-
face { {{phy-if-name}} | {{PortChannel}} } ] } } ]
```

Parameters

Name	Description	Type
mac-addr	nn:nn:nn:nn:nn:nn	String
phy-if-name	EthernetNUM	
PortChannel	PortChannelNUM	

show mac dampening

This command displays the MAC dampening configuration.

Syntax

```
show mac dampening
```

show mac dampening-disabled-ports

This command displays MAC dampening-disabled-ports.

Syntax

```
show mac dampening-disabled-ports
```

show mclag brief

This command displays the MCLAG domain summary.

Syntax

```
show mclag brief
```

Examples

Display the MCLAG domain summary

```
sonic-cli# show mclag brief

Domain ID            : 10
Role                 :
Session Status       :
Peer Link Status     :
Source Address       : 1.1.1.1
Peer Address         :
Peer Link            : Eth1/12/1
Keepalive Interval   : 1 secs
Session Timeout      : 30 secs
Delay Restore        : 300 secs
System Mac           :
Mclag System Mac     : 00:bb:bb:bb:cc:cc

Number of MLAG Interfaces:1
------------------------------------------------------------
MLAG Interface       Local/Remote Status
------------------------------------------------------------
PortChannel10            down/down
```

show mclag interface

Use this command to display MCLAG interface information.

Syntax

```
show mclag interface {{ifid}} {{domain_id}}
```

Parameters

Name	Description	Type
ifid		Integer
domain_id	1..4095	String

Examples

Display information for MCLAG interface 10 100

```
sonic-cli# show mclag 10 100
Local/Remote Status   : down/down
TrafficDisable        : No
IsolateWithPeerLink   : No
```

show mclag mac remote

This command displays the list of MCLAG remote MACs learned.

Syntax

```
show mclag mac remote { [ {{vlan-if-id}} ] | [ {{phy-if-name}} ] | [ {{PortChannel}} ]
} ]
```

Parameters

Name	Description	Type
vlan-if-id	VlanNUM	
phy-if-name	EthernetNUM	
PortChannel	PortChannelNUM	

Examples

Display MCLAG MAC remote

```
sonic-cli# show mclag mac remote
=====================================================================
Vlan           Mac                Port         Type
=====================================================================
Vlan300   00:0a:0a:0a:0a:0a    PortChannel10    static
Vlan400   00:0a:0a:0a:0b:0b      Ethernet12    dynamic
Vlan400   00:0a:0a:0a:0a:0a    PortChannel101  dynamic
```

show mclag mac remote count

This command displays the MCLAG remote MAC count.

Syntax

```
show mclag mac remote count
```

Examples

Display the MCLAG remote MAC count

```
sonic-cli# show mclag remote mac count
```

show mclag peer-gateway-interfaces

Use this command to display the VLAN interfaces on which an MCLAG Peer Gateway is configured.

Syntax

```
show mclag peer-gateway-interfaces
```

Examples

Display MCLAG peer-gateway-interfaces

```
sonic-cli# show mclag peer-gateway-interfaces

Interface Name
==================
Vlan10
==================
Total count : 1
==================
```

show mclag separate-ip-interfaces

Use this command to display the VLAN interfaces on which an MCLAG separate IP is configured.

Syntax

```
show mclag separate-ip-interfaces
```

Examples

Display MCLAG separate-ip-interfaces

```
sonic-cli# show mclag separate-ip-interfaces

Interface Name
==================
Vlan10
==================
Total count : 1
==================
```

show mfa

This command displays MFA information.

Syntax

```
show mfa
```

show mfa rsa-servers

This command displays RSA server information.

Syntax

```
show mfa rsa-servers
```

show mirror-session

This command displays configured mirror sessions.

Syntax

```
show mirror-session [ {{session-name}} ]
```

Parameters

Name	Description	Type
session-name	String (Max: 24 characters)	String

Examples

Display SPAN and ERSPAN information

```
sonic# show mirror-session
ERSPAN Sessions
------------------------------------------------------------------------------------------
------------------------
Name      Status    SRC-IP          DST-
IP          GRE    DSCP  TTL   Queue   Policer   SRC-Port        Direction
------------------------------------------------------------------------------------------
------------------------
```

```
Mirror2   active    11.1.1.1        10.1.1.1        0x88ee
10    10    10                Ethernet4       rx
SPAN Sessions
------------------------------------------------------------
Name      Status    DST-Port        SRC-Port        Direction
------------------------------------------------------------
Mirror1   active    Ethernet0       Ethernet4       rx
```

show nat

This command displays NAT information.

Syntax

```
show nat { { translations [ count ] } | statistics | { config { [ static ] | [ pool ] |
[ bindings ] | [ globalvalues ] | [ zones ] ] } } }
```

show neighbor-suppress-status

This command displays the ARP and ND suppression status.

Syntax

```
show neighbor-suppress-status [ {{id}} ]
```

Parameters

Name	Description	Type
id		Integer

show ntp associations

This command displays associated NTP servers and their properties.

Syntax

```
show ntp associations
```

Examples

Display associated NTP servers and their properties

```
sonic# show ntp associations
remote                        refid            st   t  when   poll   reach  delay
offset       jitter
------------------------------------------------------------------------------
---------------
*10.11.0.1                    10.14.1.1        4    u  44     64     255    0.258
17915.100    151.732
+10.11.0.2                    10.11.0.1        5    u  48     64     255    0.306
17774.800    86.586
------------------------------------------------------------------------------
---------------
* master (synced), # master (unsynced), + selected, - candidate, ~ configured
```

show ntp global

This command displays the global configuration for NTP, which includes VRF configuration and source interface configuration.

Syntax

```
show ntp global
```

Examples

Display the NTP global configuration

```
sonic# show ntp global
-----------------------------------------------
NTP Global Configuration
-----------------------------------------------
NTP source-interface:   Ethernet8
NTP vrf:                default
```

show ntp server

This command displays configured NTP servers.

Syntax

```
show ntp server
```

Examples

Display configured NTP servers

```
sonic# show ntp server
-------------------------------
NTP Servers
-------------------------------
10.11.0.1
10.11.0.2
```

show object-groups

This command displays object groups. The object group type and name are optional.

- If both the object group name and object group type are not specified, then all object groups will be displayed.
- If the object group type is specified, then all the object groups of a given type will be displayed.
- If the object group name is specified, then the specified object group will be displayed.

Syntax

```
show object-groups { [ {{show-object-group-name}} ] | [ type ] } ] network
```

Parameters

Name	Description	Type
show-object-group-name	String (Max: 72 characters)	String

Examples

Display object-groups

```
object-group object-group-example type network
    description: Object group example
    network-object host 1.1.1.1
```

show pbf next-hop-group

This command displays next-hop group information.

Syntax

```
show pbf next-hop-group { [ {{show-fbs-group-name}} ] | [ type ] } ] { ip | ipv6 }
```

Parameters

Name	Description	Type
show-fbs-group-name	WORD	String

show pbf next-hop-group status Switch

This command displays next-hop group status on the switch.

Syntax

```
show pbf next-hop-group status Switch { [ {{show-fbs-group-name}} ] | [ type ] } ] { ip
| ipv6 }
```

Parameters

Name	Description	Type
show-fbs-group-name	WORD	String

show pbf next-hop-group status interface

This command displays next-hop group status on an interface.

Syntax

```
show pbf next-hop-group status interface { {{eth-if-id}} | {{po-if-id}} | {{vlan-if-id}} | {{eth-sub-if-id}} | {{po-sub-if-id}} } { [ {{show-fbs-group-name}} ] | [ type ] } ] { ip | ipv6 }
```

Parameters

Name	Description	Type
eth-if-id	EthernetNUM	
po-if-id	PortChannelNUM	
vlan-if-id	VlanNUM	
eth-sub-if-id	EthernetX.Y	
po-sub-if-id	PortChannelNUM	
show-fbs-group-name	WORD	String

show pbf replication-group

This command displays replication group information.

Syntax

```
show pbf replication-group { [ {{show-fbs-group-name}} ] | [ type ] } ] { ip | ipv6 }
```

Parameters

Name	Description	Type
show-fbs-group-name	WORD	String

show pbf replication-group status Switch

This command displays replication group status on the switch.

Syntax

```
show pbf replication-group status Switch { [ {{show-fbs-group-name}} ] | [ type ] } ] {
ip | ipv6 }
```

Parameters

Name	Description	Type
show-fbs-group-name	WORD	String

show pbf replication-group status interface

This command displays replication group status on an interface.

Syntax

```
show pbf replication-group status interface { {{eth-if-id}} | {{po-if-id}} | {{vlan-if-
id}} | {{eth-sub-if-id}} | {{po-sub-if-id}} } { [ {{show-fbs-group-name}} ] | [ type ]
} ] { ip | ipv6 }
```

Parameters

Name	Description	Type
eth-if-id	EthernetNUM	
po-if-id	PortChannelNUM	
vlan-if-id	VlanNUM	
eth-sub-if-id	EthernetX.Y	
po-sub-if-id	PortChannelNUM	
show-fbs-group-name	WORD	String

show pending

This command displays pending configurations that are not yet activated under the MST configuration mode.

Parent Commands (Modes)

```
spanning-tree mst configuration
```

Syntax

```
show pending
```

Examples

Display pending configurations

```
sonic-cli(config)# spanning-tree mst configuration
sonic-cli(config-mst)# show pending
Pending MST Configuration
Name      [test]
Revision  10    Instances configured 4
Instance  Vlans mapped
------------------------------------------------------------
0          1-9,11-19,21-4093
1          10
2          20
4094       4094
------------------------------------------------------------
sonic-cli(config-mst)#
```

Features this CLI belongs to

- Multiple Spanning Tree Protocol

show platform environment

This command displays the platform environment.

Syntax

```
show platform environment
```

show platform fanstatus

This command displays the platform fan status.

Syntax

```
show platform fanstatus
```

show platform firmware

This command displays the platform firmware.

Syntax

```
show platform firmware
```

show platform firmware detail

This command displays detailed platform firmware information.

Syntax

```
show platform firmware detail
```

show platform i2c errors

This command displays platform I^2C errors.

Syntax

```
show platform i2c errors [ {{comp_name}} ]
```

Parameters

Name	Description	Type
comp_name	String	String

show platform psustatus

This command displays the platform PSU status.

Syntax

```
show platform psustatus
```

show platform psusummary

This command displays the platform PSU summary.

Syntax

```
show platform psusummary
```

show platform sbstatus

This command displays the secure boot status.

Syntax

```
show platform sbstatus
```

show platform ssdhealth

This command displays the SSD health status.

Syntax

```
show platform ssdhealth
```

show platform syseeprom

This command displays the platform EEPROM information.

Syntax

```
show platform syseeprom
```

show platform temperature

This command displays the platform temperature sensors.

Syntax

```
show platform temperature
```

show platform temperature detail

This command displays detailed temperature sensor information.

Syntax

```
show platform temperature detail
```

show poe

This command displays global-level PoE information.

Syntax

```
show poe
```

Examples

Display PoE global-level information

```
sonic-cli# show poe
```

show poe port configuration

This command displays port-level PoE configurations.

Syntax

```
show poe port configuration { all | {{intf-name}} }
```

Parameters

Name	Description	Type
intf-name	EthernetNUM	

Examples

Display port-level PoE configurations

```
sonic-cli# show poe port configuration all
sonic-cli# show poe port configuration Ethernet0
```

show poe port info

This command displays port-level PoE operational information.

Syntax

```
show poe port info { all | {{intf-name}} }
```

Parameters

Name	Description	Type
intf-name	EthernetNUM	

Examples

Display port-level PoE operational details

```
sonic-cli# show poe port info all
sonic-cli# show poe port info Ethernet0
```

show policy-map

This command displays flow-based services policy-map related information. The policy-map type and policy-map name arguments are optional. If the type or name are not provided, the command will show all policy-map information. Otherwise, it shows the corresponding policy-map information of the given type or given name.

Syntax

```
show policy-map { [ {{show-fbs-policy-name}} ] | [ type ] } ] { qos | monitoring | for-
warding | copp | acl-copp }
```

Parameters

Name	Description	Type
show-fbs-policy-name	WORD	String

Examples

Display policy-map information

```
Policy policy_mirror Type monitoring
  Description:
  Flow class1 at priority 10
    Description:
    set mirror-session mirror1
  Applied to:
    Vlan100 at Ingress

Policy policy_qos Type qos
  Description:
  Flow class_permit_ipv6 at priority 10
    Description:
    police cir 300000000 cbs 300000000 pir 300000000 pbs 300000000
  Flow class_permit_ip at priority 10
    Description:
    police cir 300000000 cbs 300000000 pir 300000000 pbs 300000000
  Applied to:
    Vlan100 at Egress

Policy policy_vrf Type forwarding
  Description:
  Flow class_permit_ipv6 at priority 10
    Description:
    set ipv6 nexthop 1211::2 priority 20
    set ipv6 nexthop 1212::2 vrf Vrf-BLUE priority 30
  Flow class_permit_ip at priority 10
    Description:
    set ip nexthop 12.12.1.2 vrf default priority 30
    set ip nexthop 12.12.2.2 vrf Vrf-BLUE priority 20
    set ip nexthop 12.12.1.2 priority 10
  Applied to:
    Vlan100 at Ingress
    Switch at Ingress
```

show port-group

This command displays the list of port-groups, member ports, and valid speeds. Port-groups are not supported across all hardware platforms.

Syntax

```
show port-group
```

Examples

Display port-group information

```
show sonic# show port-group
-------------------------------------------------------------------------
Port-group  Interface range            Valid speeds      Default Speed
-------------------------------------------------------------------------
1           Ethernet0 - Ethernet11     10G, 25G          25G
2           Ethernet12 - Ethernet23    10G, 25G          25G
3           Ethernet24 - Ethernet35    10G, 25G          25G
4           Ethernet36 - Ethernet47    10G, 25G          25G
sonic#
```

show port-security

This command (after you enable PMS on the desired ports) displays information for all port MAC security-enabled ports.

Syntax

```
show port-security
```

Examples

Display port MAC security information

```
sonic-cli# show port-security
Secure Port       MaxSecureAddr    CurrentAddr  SecurityViolation  SecurityAction

Ethernet0             11               11             0               Protect
Ethernet1             15                5             0               Protect
PortChannel10          5                4             0               Protect
```

show port-security interface

This command (after you enable PMS on the desired port) displays interface-level PMS information on this port.

Syntax

```
show port-security interface {{interface-name}}
```

Parameters

Name	Description	Type
interface-name	Interface Type - Ranges	

Examples

Display interface-level PMS information on this interface

```
sonic-cli# show port-security interface Ethernet0
Port Security: Enabled
Violation mode: Shutdown
Maximum MAC Addresses: 11
Total MAC Addresses: 11
Security Violation count: 0
```

show PortChannel summary

This command displays LAG status and configuration.

Syntax

```
show PortChannel summary
```

show priority-flow-control

This command displays the PFC summary.

Syntax

```
show priority-flow-control watchdog
```

show priority-group

This command displays priority group shared/headroom watermarks, persistent-watermarks, etc. There are various CLI options available to display information for shared, headroom, and interface watermarks.

Syntax

```
show priority-group { { watermark { { headroom { [ interface { {{phy-intf-name}} } ] }
} | { shared { [ interface { {{phy-intf-name}} } ] } } | { percentage { { headroom { [
interface { {{phy-intf-name}} } ] } } | { shared { [ interface { {{phy-intf-name}} } ]
} } } } } } | { persistent-watermark { { headroom { [ interface { {{phy-intf-name}} } ]
} } | { shared { [ interface { {{phy-intf-name}} } ] } } | { percentage { { headroom {
[ interface { {{phy-intf-name}} } ] } } | { shared { [ interface { {{phy-intf-name}} }
] } } } } } } }
```

Parameters

Name	Description	Type
phy-intf-name	EthernetNUM	

Examples

Display priority group information

```
sonic# show priority-group watermark shared
Ingress shared pool watermark per PG:
----------------------------------------------------------------------
Port        PG0  PG1  PG2  PG3  PG4  PG5  PG6  PG7
----------------------------------------------------------------------
Ethernet0   0    0    0    0    0    0    0    0
Ethernet4   0    0    0    0    0    0    0    0
Ethernet8   0    0    0    0    0    0    0    0
Ethernet12  0    0    0    0    0    0    0    0
Ethernet16  0    0    0    0    0    0    0    0

sonic# show priority-group persistent-watermark headroom
Ingress headroom persistent watermark per PG:
----------------------------------------------------------------------
Port        PG0  PG1  PG2  PG3  PG4  PG5  PG6  PG7
----------------------------------------------------------------------
Ethernet0   0    0    0    0    0    0    0    0
Ethernet4   0    0    0    0    0    0    0    0
Ethernet8   0    0    0    0    0    0    0    0
Ethernet12  0    0    0    0    0    0    0    0
Ethernet16  0    0    0    0    0    0    0    0
Ethernet20  0    0    0    0    0    0    0    0
Ethernet24  0    0    0    0    0    0    0    0
```

show ptp

This command displays the PTP status/configuration.

Syntax

```
show ptp
```

Examples

Display PTP information

```
sonic# show ptp
-------------------------------------------------------------
Interface            State
-------------------------------------------------------------
Ethernet56           master
Ethernet64           slave
```

show ptp clock

This command displays the PTP clock configuration/status.

Syntax

```
show ptp clock
```

Examples

Display PTP clock information

```
sonic# show ptp clock
Mode                    BC
Domain Profile          ieee1588
Network Transport       UDPv4 unicast
Domain Number           1
Clock Identity          3c2c99.fffe.2d7c35
Priority1               128
Priority2               128
Two Step                Enabled
```

```
Slave Only            False
Number Ports          2
Clock Quality:
Clock Class         248
Clock Accuracy      254
Ofst Scaled Log Var 65535
Mean Path Delay       0
Steps Removed         0
Offset from master    0
```

show ptp clock detail

This command displays the PTP clock configuration detail status.

Syntax

```
show ptp clock detail
```

Examples

Display PTP clock detailed information

```
sonic# show ptp clock detail
PTP Clock             BC
Clock Identity        3c2c99.fffe.2d7c35
Clock Mode            Two Step
Clock Quality:
  Clock Class         248
  Clock Accuracy      254
  Offset Scaled Log   65535
Domain Profile        ieee1588
Domain Number         1
Priority1             128
Priority2             128
Slave Only            False
Number Ports          2
Grandmaster Identity  3c99cc.fffe.1c7b35
Mean Path Delay       0
Steps Removed         0
Offset from master    0
------------------------------------------------------------
Interface            State        Port Number
------------------------------------------------------------
Ethernet56           master        1
Ethernet64           slave        2
Number of slave ports    : 1
Number of master ports   : 1
```

show ptp parent

This command displays the PTP parent status.

Syntax

```
show ptp parent
```

Examples

Display PTP parent information

```
sonic# show ptp parent
Parent Clock Identity          3c2c99.fffe.2d7c35
Port Number                    0
Grandmaster Clock Class        248
Grandmaster Off Scaled Log Var 65535
Grandmaster Clock Accuracy     254
Grandmaster Identity           3c2c99.fffe.2d7c35
Grandmaster Priority1          128
Grandmaster Priority2          128
Stats Valid                    False
Observed Off Scaled Log Var    65535
Observed Clock Phase Chg Rate  2147483647
```

show ptp port

This command displays the PTP port status/configuration.

Syntax

```
show ptp port {{Ethernet}}
```

Parameters

Name	Description	Type
Ethernet	EthernetNUM	

Examples

Display PTP information per port

```
sonic# show ptp port Ethernet 64
Port Number                     64
Port State                      master
Log Min delay Req Intvl         0
Peer Mean Path Delay            0
Log Announce Interval           1
Log Sync Interval               0
Log Min PDelay Req Interval     0
Version Number                  2
Unicast Master Table:
                                10.1.1.1
```

show ptp servo

This command displays the PTP clock servo status.

Syntax

```
show ptp servo
```

Examples

Display PTP servo information

```
sonic# show ptp servo
Servo State          : Locked
Lock Status          : Phase-Locked
```

show ptp time-property

This command displays the PTP time-property status.

Syntax

```
show ptp time-property
```

Examples

Display PTP time-property information

```
sonic# show ptp time-property
Curr UTC Offset Vld  False
Curr UTC Offset      37
Leap59               False
Leap61               False
Time Traceable       False
Freq Traceable       False
PTP Timescale        True
```

show qos

This command displays QoS information.

Syntax

```
show qos interface { CPU | { {{phy-intf-name}} { { [ queue {{queue-id}} { [ priority-
flow-control watchdog-statistics ] } ] } | { [ priority-flow-control statistics ] } ] }
} | {{po-intf-name}} | {{vlan-intf-name}} | {{phy-sub-if-name}} }
```

Parameters

Name	Description	Type
phy-intf-name	EthernetNUM	
queue-id		
po-intf-name	PortChannelNUM	
vlan-intf-name	VlanNUM	
phy-sub-if-name	Interface type	

show qos map dot1p-tc

This command displays the configured dot1p-tc-map.

Syntax

```
show qos map dot1p-tc [ {{map_dot1p_tc}} ]
```

Parameters

Name	Description	Type
map_dot1p_tc	WORD	String

show qos map dscp-tc

This command displays the configured dscp-tc-map.

Syntax

```
show qos map dscp-tc [ {{map_dscp_tc}} ]
```

Parameters

Name	Description	Type
map_dscp_tc	WORD	String

show qos map pfc-priority-pg

This command displays the configured pfc-priority-pg-map.

Syntax

```
show qos map pfc-priority-pg [ {{map_pfc_pg}} ]
```

Parameters

Name	Description	Type
map_pfc_pg	WORD	String

show qos map pfc-priority-queue

This command displays the configured pfc-priority-queue-map.

Syntax

```
show qos map pfc-priority-queue [ {{map_pfc_queue}} ]
```

Parameters

Name	Description	Type
map_pfc_queue	WORD	String

show qos map tc-dot1p

This command displays the configured tc-dot1p-map.

Syntax

```
show qos map tc-dot1p [ {{map_tc_dot1p}} ]
```

Parameters

Name	Description	Type
map_tc_dot1p	WORD	String

show qos map tc-dscp

This command displays the configured tc-dscp-map.

Syntax

```
show qos map tc-dscp [ {{map_tc_dscp}} ]
```

Parameters

Name	Description	Type
map_tc_dscp	WORD	String

show qos map tc-pg

This command displays the configured traffic-class-priority-group-map.

Syntax

```
show qos map tc-pg [ {{map_tc_pg}} ]
```

Parameters

Name	Description	Type
map_tc_pg	WORD	String

show qos map tc-queue

This command displays the configured traffic-class-queue-map.

Syntax

```
show qos map tc-queue [ {{map_tc_queue}} ]
```

Parameters

Name	Description	Type
map_tc_queue	WORD	String

show qos scheduler-policy

This command displays scheduler policy information.

Syntax

```
show qos scheduler-policy [ {{name}} ]
```

Parameters

Name	Description	Type
name	WORD	String

show qos wred-policy

This command displays the WRED policies configured on the device. The user must first configure WRED policies to use in interface queues.

The user can provide the WRED profile name and optional CLI key to display only that profile. If the profile name is not specified, this command displays all policies.

Syntax

```
show qos wred-policy [ {{name}} ]
```

Parameters

Name	Description	Type
name	WORD	String

Examples

Display all WRED policies configured on the device

```
sonic# show qos wred-policy
-------------------------------------------------
Profile                : test
-------------------------------------------------
Profile                : wred-green
ecn                    : ecn_all
green-min-threshold    : 100  KBytes
green-max-threshold    : 200  KBytes
greep-drop-rate        : 50
```

show queue

This command displays queue counters, WRED ECN counters, watermarks, persistent-watermarks and breaches, etc. There are various CLI options available to display information for a queue, an interface, and all interfaces.

Syntax

```
show queue { { counters { [ interface { { {{phy-intf-name}} { [ queue {{queue-id}} ] }
} | { CPU { [ queue {{queue-id}} ] } } } ] } } | { wred-ecn { counters { [ interface {
{{phy-intf-name}} } ] } } } | { watermark { { unicast { [ interface { {{phy-intf-name}}
} ] } } | { multicast { [ interface { {{phy-intf-name}} } ] } } | CPU | { percentage {
{ unicast { [ interface { {{phy-intf-name}} } ] } } | { multicast { [ interface {
{{phy-intf-name}} } ] } } | CPU } } } } | { persistent-watermark { { unicast { [ inter-
face { {{phy-intf-name}} } ] } } | { multicast { [ interface { {{phy-intf-name}} } ] }
} | CPU | { percentage { { unicast { [ interface { {{phy-intf-name}} } ] } } | { mul-
ticast { [ interface { {{phy-intf-name}} } ] } } | CPU } } } } }
```

Parameters

Name	Description	Type
phy-intf-name	EthernetNUM	
queue-id		Integer

Examples

Display queue information

```
sonic# show queue counters
-------------------------------------------------------------------------
Port        TxQ  Counter/pkts   Counter/bytes  Drop/pkts   Drop/bytes
-------------------------------------------------------------------------
Ethernet0   UC0  0              0              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

sonic# show queue watermark unicast
Egress queue watermark per unicast queue:
-----------------------------------------------------------------
Port        UC0  UC1  UC2  UC3  UC4  UC5  UC6  UC7
-----------------------------------------------------------------
Ethernet0   0    0    0    0    0    0    0    0
Ethernet4   0    0    0    0    0    0    0    0
Ethernet8   0    0    0    0    0    0    0    0
Ethernet12  0    0    0    0    0    0    0    0
Ethernet16  0    0    0    0    0    0    0    0
Ethernet20  0    0    0    0    0    0    0    0
Ethernet24  0    0    0    0    0    0    0    0

sonic# show queue persistent-watermark multicast
Egress queue persistent watermark per multicast queue:
-----------------------------------------------------------------
Port        MC8  MC9  MC10 MC11 MC12 MC13 MC14 MC15
-----------------------------------------------------------------
Ethernet0   0    0    0    0    0    0    0    0
Ethernet4   0    0    0    0    0    0    0    0
Ethernet8   0    0    0    0    0    0    0    0
Ethernet12  0    0    0    0    0    0    0    0
Ethernet16  0    0    0    0    0    0    0    0
Ethernet20  0    0    0    0    0    0    0    0
Ethernet24  0    0    0    0    0    0    0    0
Ethernet28  0    0    0    0    0    0    0    0

sonic# show queue wred-ecn counters interface Eth1/56
-----------------------------------------------------------------
TxQ WRED Drops/Pkts ECN Marked/Pkts ECN Marked/Bytes
-----------------------------------------------------------------
UC0              0             0               0
UC1              0             0               0
UC2              0     837922938    107207451904
UC3         390634             0               0
UC4         400000             0               0
UC5              0             0               0
UC6              0             0               0
UC7              0             0               0
UC8              0             0               0
UC9              0             0               0
```

show radius-server

This command displays RADIUS information.

Syntax

```
show radius-server
```

show radius-server dynamic-author

This command displays Dynamic Authorization Server (DAS) parameters.

Syntax

```
show radius-server dynamic-author
```

Examples

Display RADIUS DAS information

```
sonic-cli# show radius-server dynamic-author

Admin Mode..................................... Disabled
Port........................................... 7676
Auth Type...................................... session-key
Global Secret Key.............................. U2Fs-
dGVkX18LcQREyGJP/aDuWTi34jJLzdqNy9W5WxI=
Ignore Server Key.............................. Disabled
Ignore Session Key............................. Disabled
CoA Bounce-Host-Port........................... Accept
CoA Disable-Host-Port.......................... Accept
VRF............................................ Not Configured
Request Timeout................................ 3

------------------------------------------------------------------------
Client Address                Secret
------------------------------------------------------------------------
7.7.7.7                       M2FsdGVkX17LcQREyGJP/aDuWTi34jJLzdqNy9W5WxI=
test                          N/A
```

show radius-server dynamic-author statistics

This command displays DAS global and per-client counters.

Syntax

```
show radius-server dynamic-author statistics [ client { all | {{ipaddr_hostname}} } ]
```

Parameters

Name	Description	Type
ipaddr_hostname	WORD	String

Examples

Display RADIUS DAS statistics

```
sonic-cli# show radius-server dynamic-author statistics

Number of CoA Requests Received..................... 79
Number of CoA ACK Responses Sent.................... 17
Number of CoA NAK Responses Sent.................... 77
Number of CoA Requests Ignored...................... 78
Number of CoA Missing/Unsupported Attribute Requests.. 23
Number of CoA Session Context Not Found Requests..... 89
Number of CoA Invalid Attribute Value Requests........ 13
Number of Administratively Prohibited Requests........ 12
sonic-cli#

sonic-cli# show radius-server dynamic-author statistics client all

DAC Address.......................................... 1.1.1.1
Number of CoA Requests Received..................... 77
Number of CoA ACK Responses Sent.................... 88
Number of CoA NAK Responses Sent.................... 66
Number of CoA Requests Ignored...................... 7
Number of CoA Missing/Unsupported Attribute Requests.. 3
Number of CoA Session Context Not Found Requests..... 4
Number of CoA Invalid Attribute Value Requests........ 2
Number of Administratively Prohibited Requests........ 8

DAC Address.......................................... test
Number of CoA Requests Received..................... 90
Number of CoA ACK Responses Sent.................... 32
Number of CoA NAK Responses Sent.................... 36
Number of CoA Requests Ignored...................... 79
Number of CoA Missing/Unsupported Attribute Requests.. 50
Number of CoA Session Context Not Found Requests..... 28
Number of CoA Invalid Attribute Value Requests........ 39
Number of Administratively Prohibited Requests........ 45
sonic-cli#
```

show reboot-cause

This command displays the cause of the most recent reboot.

Syntax

```
show reboot-cause
```

show route-map

This command displays the route map information.

Syntax

```
show route-map [ {{rt-map-name}} ]
```

Parameters

Name	Description	Type
rt-map-name	WORD	String

show running-configuration

This command displays the current operating configuration.

Syntax

```
show running-configuration
```

show running-configuration ars

This command displays all ARS configurations.

Syntax

```
show running-configuration ars
```

show running-configuration bfd

This command displays Bidirectional Forwarding Detection (BFD) configurations.

Syntax

```
show running-configuration bfd
```

Examples

Display BFD configurations

```
device# show running-configuration bfd
!
bfd
 peer 192.168.2.1 interface Ethernet0
  detect-multiplier 5
  echo-interval 200
  echo-mode
  receive-interval 200
  transmit-interval 200
 !
 peer 192.168.2.1 multihop local-address 192.168.2.2
  detect-multiplier 4
  receive-interval 150
  transmit-interval 150
 !
```

show running-configuration bgp

This command displays the current BGP configurations.

Syntax

```
show running-configuration bgp [ vrf {{vrf-name-opt}} ]
```

Parameters

Name	Description	Type
vrf-name-opt	WORD	String

show running-configuration bgp as-path-access-list

This command displays the current BGP AS-path access list configuration.

Syntax

```
show running-configuration bgp as-path-access-list [ {{aspath-list-name}} ]
```

Parameters

Name	Description	Type
aspath-list-name	WORD	String

show running-configuration bgp community-list

This command displays the current BGP community-list configuration.

Syntax

```
show running-configuration bgp community-list [ {{community-list-name}} ]
```

Parameters

Name	Description	Type
community-list-name	WORD	String

show running-configuration bgp extcommunity-list

This command displays the current BGP extended community-list configuration.

Syntax

```
show running-configuration bgp extcommunity-list [ {{extcommunity-list-name}} ]
```

Parameters

Name	Description	Type
extcommunity-list-name	WORD	String

show running-configuration bgp neighbor

This command displays the current BGP neighbor configurations.

Syntax

```
show running-configuration bgp neighbor vrf { {{vrf-name}} { [ {{ip}} ] | { [ interface
{ Ethernet | PortChannel | Vlan } ] } ] } }
```

Parameters

Name	Description	Type
vrf-name	WORD	String
ip	A.B.C.D/A::B	String

show running-configuration bgp peer-group

This command displays the current BGP peer-group configurations.

Syntax

```
show running-configuration bgp peer-group vrf { {{vrf-name}} [ {{peer-group-name}} ] }
```

Parameters

Name	Description	Type
vrf-name	WORD	String
peer-group-name	WORD	String

show running-configuration class-map

This command displays the current configuration of class-map(s). The class-map name is optional. If the class-map name is not provided, it will show the running configurations of all class-maps configured.

Syntax

```
show running-configuration class-map [ {{show-fbs-class-name}} ]
```

Parameters

Name	Description	Type
show-fbs-class-name	WORD	String

show running-configuration das

This command displays all current DAS configurations.

Syntax

```
show running-configuration das
```

show running-configuration dropcounters

This command displays the current configuration of dropcounters.

Syntax

```
show running-configuration dropcounters
```

show running-configuration evpn-mh

This command displays the current EVPN ESI-Multihoming configuration.

Syntax

```
show running-configuration evpn-mh
```

show running-configuration hardware

This command displays the current hardware configuration.

Syntax

```
show running-configuration hardware
```

show running-configuration hardware access-list

This command displays the current hardware ACL configuration.

Syntax

```
show running-configuration hardware access-list
```

show running-configuration hardware tcam

This command displays the current hardware TCAM configuration.

Syntax

```
show running-configuration hardware tcam
```

show running-configuration igmp

This command displays all current IGMP configurations.

Syntax

```
show running-configuration igmp
```

show running-configuration interface

This command displays the current interface information.

Syntax

```
show running-configuration interface { [ {{port}} ] | [ {{vlan}} ] | [ {{lag}} ] | [
{{loopback}} ] | [ {{management}} ] | { [ Eth [ {{iface_num}} ] ] } | { [ Ethernet [
{{iface_num}} ] ] } } ]
```

Parameters

Name	Description	Type
port	EthernetNUM	
vlan	VlanNUM	
lag	PortChannelNUM	
loopback		
management		
iface_num	EthernetSLOTPORT	

show running-configuration interface Loopback

This command displays the current interface loopback information.

Syntax

```
show running-configuration interface Loopback [ {{lo-id}} ]
```

Parameters

Name	Description	Type
lo-id		Integer

show running-configuration interface Management

This command displays the current interface management information.

Syntax

```
show running-configuration interface Management [ {{mgmt-if-id}} ]
```

Parameters

Name	Description	Type
mgmt-if-id		Integer

show running-configuration interface PortChannel

This command displays the current interface port channel information.

Syntax

```
show running-configuration interface PortChannel [ {{po-id}} ]
```

Parameters

Name	Description	Type
po-id		Integer

show running-configuration interface Vlan

This command displays the current interface VLAN information.

Syntax

```
show running-configuration interface Vlan [ {{vlan-id}} ]
```

Parameters

Name	Description	Type
vlan-id		Integer

show running-configuration interface vxlan

This command displays the current VXLAN configuration.

Syntax

```
show running-configuration interface vxlan
```

show running-configuration ip access-list

This command displays the current IPv4 ACL configuration. The ACL name is optional. If no ACL name is specified, then the configuration for all IPv4 ACLs will be displayed.

Syntax

```
show running-configuration ip access-list [ {{access-list-name}} ]
```

Parameters

Name	Description	Type
access-list-name	String (Max: 72 characters)	String

show running-configuration ip prefix-list

This command displays the current IPv4 prefix-list configuration.

Syntax

```
show running-configuration ip prefix-list [ {{prefix-list-name}} ]
```

Parameters

Name	Description	Type
prefix-list-name	WORD	String

show running-configuration ip protocol

This command displays the current IPv4 protocol configuration.

Syntax

```
show running-configuration ip protocol
```

show running-configuration ipv6 access-list

This command displays the current IPv6 ACL configuration. The ACL name is optional. If no ACL name is specified, then the configuration for all IPv6 ACLs will be displayed.

Syntax

```
show running-configuration ipv6 access-list [ {{access-list-name}} ]
```

Parameters

Name	Description	Type
access-list-name	String (Max: 72 characters)	String

show running-configuration ipv6 prefix-list

This command displays the current IPv6 prefix-list configuration.

Syntax

```
show running-configuration ipv6 prefix-list [ {{prefix-list-name}} ]
```

Parameters

Name	Description	Type
prefix-list-name	WORD	String

show running-configuration ipv6 protocol

This command displays the current IPv6 protocol configuration.

Syntax

```
show running-configuration ipv6 protocol
```

show running-configuration line vty

This command displays the current session configuration.

Syntax

```
show running-configuration line vty
```

show running-configuration link state tracking

This command displays the current link state tracking configuration.

Syntax

```
show running-configuration link state tracking [ {{show-runn-grp-name}} ]
```

Parameters

Name	Description	Type
show-runn-grp-name	Name	String

show running-configuration mac access-list

This command displays the current MAC ACL configuration. The ACL name is optional. If no ACL name is specified, then the configuration for all MAC ACLs will be displayed.

Syntax

```
show running-configuration mac access-list [ {{access-list-name}} ]
```

Parameters

Name	Description	Type
access-list-name	String (Max: 72 characters)	String

show running-configuration mclag

This command displays the current MCLAG domain configuration.

Syntax

```
show running-configuration mclag
```

show running-configuration mfa

This command displays the current multi-factor authentication configuration.

Syntax

```
show running-configuration mfa
```

show running-configuration mirror-session

This command displays the current mirror session info.

Syntax

```
show running-configuration mirror-session
```

show running-configuration nat

This command displays all current NAT configurations.

Syntax

```
show running-configuration nat
```

show running-configuration ospf

This command displays all current OSPFv2 router configurations.

Syntax

```
show running-configuration ospf
```

show running-configuration ospf interface

This command displays all current OSPFv2 interface configurations.

Syntax

```
show running-configuration ospf interface
```

show running-configuration ospfv3

This command displays all current OSPFv3 router configurations.

Syntax

```
show running-configuration ospfv3
```

show running-configuration ospfv3 interface

This command displays all current OSPFv3 interface configurations.

Syntax

```
show running-configuration ospfv3 interface
```

show running-configuration pac

This command displays the current Port Access Control (PAC) configuration.

Syntax

```
show running-configuration pac
```

show running-configuration pbf next-hop-group

This command displays the configuration of the current PBF next-hop groups.

Syntax

```
show running-configuration pbf next-hop-group [ {{show-fbs-group-name}} ]
```

Parameters

Name	Description	Type
show-fbs-group-name	WORD	String

show running-configuration pbf replication-group

This command displays the configuration of the current PBF replication groups.

Syntax

```
show running-configuration pbf replication-group [ {{show-fbs-group-name}} ]
```

Parameters

Name	Description	Type
show-fbs-group-name	WORD	String

show running-configuration pim

This command displays the current operational PIM configurations.

Syntax

```
show running-configuration pim
```

show running-configuration policy-map

This command displays the current policy-map(s) configuration. The policy-map name is optional. If no policy-map name is provided, it will show the running configuration of all policy-maps configured.

Syntax

```
show running-configuration policy-map [ {{show-fbs-policy-name}} ]
```

Parameters

Name	Description	Type
show-fbs-policy-name	WORD	String

show running-configuration ptp

This command displays the current PTP configuration.

Syntax

```
show running-configuration ptp
```

show running-configuration route-map

This command displays the current route map configuration.

Syntax

```
show running-configuration route-map [ {{rt-map-name}} [ {{seq-nu}} ] ]
```

Parameters

Name	Description	Type
rt-map-name	WORD	String
seq-nu		Integer

show running-configuration spanning-tree

This command displays the current spanning-tree configuration.

Syntax

```
show running-configuration spanning-tree
```

show running-configuration subinterface

This command displays the current configuration of subinterfaces or the specified subinterface.

Syntax

```
show running-configuration subinterface { [ {{subifname}} ] | [ {{lag-sub-if-name}} ] }
]
```

Parameters

Name	Description	Type
subifname	EthernetX.Y	
lag-sub-if-name	PortChannelX.Y	

Features this CLI belongs to

- Subinterface

show running-configuration tam

This command displays the current TAM configuration.

Syntax

```
show running-configuration tam
```

show running-configuration vrf

This command displays the current VRF configuration.

Syntax

```
show running-configuration vrf {{vrf-name}}
```

Parameters

Name	Description	Type
vrf-name	WORD	String

show service-policy

This command displays information for global/switch-level flow-based services applied policies.

Syntax

```
show service-policy { Switch | CtrlPlane } [ type { qos | monitoring | forwarding |
copp | acl-copp } ]
```

Examples

Display the service policies applied at the switch level

```
Sonic# show service-policy Switch
Switch
  Policy policy_vrf type forwarding at ingress
  Description:
    Flow class_permit_ipv6 at priority 10 (Inactive)
      Description:
      set ipv6 nexthop 1211::2 priority 20
      set ipv6 nexthop 1212::2 vrf Vrf-BLUE priority 30
      Packet matches: 0 frames 0 bytes
    Flow class_permit_ip at priority 10 (Inactive)
      Description:
      set ip nexthop 12.12.1.2 vrf default priority 30
      set ip nexthop 12.12.2.2 vrf Vrf-BLUE priority 20
      set ip nexthop 12.12.1.2 priority 10
      Packet matches: 0 frames 0 bytes
```

show service-policy interface

This command displays information for flow-based services applied policies by interface name. The policy-map type is optional. If the type is not specified, then all policies applied to this given interface will be shown. If the type is also provided, then only the corresponding type policies applied on the given interface will be shown.

Syntax

```
show service-policy interface { {{eth-if-id}} | {{po-if-id}} | {{vlan-if-id}} | {{eth-sub-if-id}} | {{po-sub-if-id}} | CPU } [ type { qos | monitoring | forwarding | copp | acl-copp } ]
```

Parameters

Name	Description	Type
eth-if-id	EthernetNUM	
po-if-id	PortChannelNUM	
vlan-if-id	VlanNUM	
eth-sub-if-id	EthernetX.Y	
po-sub-if-id	PortChannelNUM	

Examples

Display the FBS services applied on interface Vlan 100

```
show service-policy interface Vlan 100
Vlan100
  Policy policy_mirror type monitoring at ingress
  Description:
    Flow class1 at priority 10 (Active)
      Description:
      Packet matches: 0 frames 0 bytes
  Policy policy_vrf type forwarding at ingress
  Description:
    Flow class_permit_ipv6 at priority 10 (Inactive)
      Description:
      set ipv6 nexthop 1211::2 priority 20
      set ipv6 nexthop 1212::2 vrf Vrf-BLUE priority 30
      Packet matches: 0 frames 0 bytes
    Flow class_permit_ip at priority 10 (Active)
      Description:
      set ip nexthop 12.12.1.2 vrf default priority 30
      set ip nexthop 12.12.2.2 vrf Vrf-BLUE priority 20
      set ip nexthop 12.12.1.2 priority 10
      Packet matches: 0 frames 0 bytes
  Policy policy_qos type qos at egress
  Description:
    Flow class_permit_ipv6 at priority 10 (Inactive)
      Description:
      police: cir 300000000 cbs 300000000 pir 300000000 pbs 300000000 (Active)
        type bytes mode color-blind
        operational cir 0 cbs 0 pir 0 pbs 0
        green 0 packets 0 bytes action forward
        yellow 0 packets 0 bytes action forward
```

```
    red 0 packets 0 bytes action drop
  Packet matches: 0 frames 0 bytes
Flow class_permit_ip at priority 10 (Inactive)
  Description:
  police: cir 300000000 cbs 300000000 pir 300000000 pbs 300000000 (Active)
    type bytes mode color-blind
    operational cir 0 cbs 0 pir 0 pbs 0
    green 0 packets 0 bytes action forward
    yellow 0 packets 0 bytes action forward
    red 0 packets 0 bytes action drop
  Packet matches: 0 frames 0 bytes
```

show service-policy policy-map

This command displays information for flow-based services applied policies by policy name. The policy-map interface argument is optional. If the interface is not specified, then it shows information for all services applied interfaces for the given policy. If the interface is also specified, then it gives the information information for services applied for the given policy name and given interface.

Syntax

```
show service-policy policy-map {{fbs-policy-name}} { { [ interface { {{eth-if-id}} |
{{po-if-id}} | {{vlan-if-id}} | {{eth-sub-if-id}} | {{po-sub-if-id}} | CPU } ] } | [
Switch ] | [ CtrlPlane ] } ]
```

Parameters

Name	Description	Type
fbs-policy-name	WORD	String
eth-if-id	EthernetNUM	
po-if-id	PortChannelNUM	
vlan-if-id	VlanNUM	
eth-sub-if-id	EthernetX.Y	
po-sub-if-id	PortChannelNUM	

Examples

Display the FBS services applied for policy policy_vrf

```
show service-policy policy-map policy_vrf
Vlan100
  Policy policy_vrf type forwarding at ingress
  Description:
    Flow class_permit_ipv6 at priority 10 (Inactive)
      Description:
      set ipv6 nexthop 1211::2 priority 20
      set ipv6 nexthop 1212::2 vrf Vrf-BLUE priority 30
      Packet matches: 0 frames 0 bytes
    Flow class_permit_ip at priority 10 (Inactive)
      Description:
      set ip nexthop 12.12.1.2 vrf default priority 30
      set ip nexthop 12.12.2.2 vrf Vrf-BLUE priority 20
      set ip nexthop 12.12.1.2 priority 10
      Packet matches: 0 frames 0 bytes
Switch
  Policy policy_vrf type forwarding at ingress
  Description:
    Flow class_permit_ipv6 at priority 10 (Inactive)
      Description:
      set ipv6 nexthop 1211::2 priority 20
      set ipv6 nexthop 1212::2 vrf Vrf-BLUE priority 30
      Packet matches: 0 frames 0 bytes
    Flow class_permit_ip at priority 10 (Inactive)
      Description:
      set ip nexthop 12.12.1.2 vrf default priority 30
      set ip nexthop 12.12.2.2 vrf Vrf-BLUE priority 20
      set ip nexthop 12.12.1.2 priority 10
      Packet matches: 0 frames 0 bytes
```

show service-policy summary

This command displays a summary of applied flow-based services policies. The interface argument is optional. If the interface is not specified, it shows all service applied interfaces and their policy information. If the interface is specified, it shows the service applied policy information for the given interface. If the interface is a switch, it shows global/switch-level service policies.

Syntax

```
show service-policy summary { { [ interface { {{eth-if-id}} | {{po-if-id}} | {{vlan-if-id}} | {{eth-sub-if-id}} | {{po-sub-if-id}} | CPU } ] } | [ Switch ] | [ CtrlPlane ] } ] [ type { qos | monitoring | forwarding | copp | acl-copp } ]
```

Parameters

Name	Description	Type
eth-if-id	EthernetNUM	
po-if-id	PortChannelNUM	
vlan-if-id	VlanNUM	
eth-sub-if-id	EthernetX.Y	
po-sub-if-id	PortChannelNUM	

Examples

Display the summary of applied flow-based service policies

```
sonic# show service-policy summary
Vlan100
    monitoring policy policy_mirror at ingress
    forwarding policy policy_vrf at ingress
    qos policy policy_qos at egress
Switch
    forwarding policy policy_vrf at ingress
CtrlPlane
    qos policy oob-qos-policy at ingress
```

show session-config

This command displays the cached configuration changes made in the session and the applied configurations from running-configuration together.

Parent Commands (Modes)

```
configure session
```

Syntax

```
show session-config
```

Examples

Display cached and applied configurations

```
sonic(config-s)# show session-config
!
ip load-share hash ipv4 ipv4-src-ip
ip load-share hash ipv4 ipv4-dst-ip
ip load-share hash ipv4 ipv4-ip-proto
ip load-share hash ipv4 ipv4-l4-src-port
...
...
 class class-oob-ipv6-multicast priority 1005
  police cir 256000
 !
 class class-oob-ip-multicast priority 1000
  police cir 256000
 !
sonic(config-s)#
```

show session-config diff

This command displays the difference between the candidate-configuration and running-configuration.

Parent Commands (Modes)

```
configure session
```

Syntax

```
show session-config diff
```

Examples

Display the difference between candidate and running configurations

```
sonic(config-s)# show session-config diff
--- running-config
+++ candidate-config

ip access-list acl1
```

```
- seq 1 permit tcp any any
+ seq 5 permit udp host 12.11.13.12 any

+interface Vlan11
+ mtu 4563

-interface Vlan101
- mtu 3452

interface Ethernet0
- mtu 5776
+ mtu 9100
- ip address 101.3.4.1/24
+ ip address 3.4.2.3/24

sonic(config-s)#
```

show sflow

This command displays the global sFlow configuration.

Syntax

```
show sflow
```

Examples

Display global sFlow information

```
sonic# show sflow
-------------------------------------------------------
Global sFlow Information
-------------------------------------------------------
admin state:       up
polling-interval:  20
agent-id:          default
sampling-rate:     4000
sonic#
```

show sflow interface

This command displays the interface sFlow configuration.

Syntax

```
show sflow interface
```

Examples

Display interface sFlow information

```
sonic# show sflow interface
-------------------------------------------------------------
sFlow interface configurations
Interface            Admin State             Sampling Rate
Ethernet0            up                      4000
Ethernet1            up                      4000
Ethernet2            up                      4000
Ethernet3            up                      4000
Ethernet4            up                      4000
Ethernet5            up                      4000
Ethernet6            up                      4000
Ethernet7            up                      4000
Ethernet8            up                      4000
Ethernet9            up                      4000
Ethernet10           up                      4000
Ethernet11           up                      4000
Ethernet12           up                      4000
Ethernet13           up                      4000
Ethernet14           up                      4000
Ethernet15           up                      4000
Ethernet16           up                      4000
Ethernet17           up                      4000
Ethernet18           up                      4000
Ethernet19           up                      4000
Ethernet20           up                      4000
Ethernet21           up                      4000
--more--
Ethernet22           up                      4000
Ethernet23           up                      4000
Ethernet24           up                      4000
Ethernet25           up                      4000
Ethernet26           up                      4000
Ethernet27           up                      4000
Ethernet28           up                      4000
Ethernet29           up                      4000
sonic#
```

show snmp counters

This command displays the Simple Network Management Protocol (SNMP) counters statistics as per the RFC1213 MIB SNMP group.

Syntax

```
show snmp counters
```

Examples

Display SNMP counters

```
sonic# show snmp counters
37 SNMP packets input
0 Bad SNMP version errors
4 Unknown community name
0 Illegal operation for community name supplied
0 Encoding errors
24 Number of requested variables
0 Number of altered variables
0 Get-request PDUs
28 Get-next PDUs
0 Set-request PDUs
78 SNMP packets output
0 Too big errors (Maximum packet size 1500)
0 No such name errors
0 Bad values errors
0 General errors
24 Response PDUs
13 Trap PDUs
```

show snmp-server

This command displays the Simple Network Management Protocol (SNMP) server information, including the physical location of the switch, the organization responsible for the network, the SNMP engine identification, the trap status, and the agent addresses, if configured. SNMP engine identification is derived from the device MAC address on an initial boot.

Syntax

```
show snmp-server
```

Examples

Display SNMP server information

```
sonic# show snmp-server

Location   : Lab1, Rack-10
Contact    : Broadcom Support
EngineID   : 80000137035254 00f6817e
Traps      : enable

Agent Addresses:

               IP Address               UDP Port            Interface
------------------------------------ -------- --------------------------------
1.2.3.4                                 161
1.2.3.4                                 1024
1.2.3.5                                 1024     Ethernet10
```

show snmp-server community

This command displays the SNMP communities configured on the switch and the community group association, if configured. Communities are used by SNMPv2 protocol to access the switch.

Syntax

```
show snmp-server community
```

Examples

Display SNMP community information

```
sonic# show snmp-server community

         Community Name                     Group Name
------------------------------- --------------------------------
comm1                           group-lab
comm2                           None
```

show snmp-server group

This command displays the SNMP groups configured on the switch. The model and security information indicate the SNMP protocol and security level used to access the system via the group. View names indicate the view to which a group provides read, write, or trap access.

Syntax

```
show snmp-server group
```

Examples

Display SNMP server group information

```
sonic# show snmp-server group

   Group Name      Model: Security       Read View        Write View      Notify View
---------------- -------------------- ---------------- ---------------- ---------------
-
group-floor1     v2c: no-auth-no-priv ro_view          wr_view          None
group-floor2     v3 : auth-priv       r_view           None             None
group-lab        v2c: no-auth-no-priv None             None             None
```

show snmp-server host

This command displays the SNMP hosts to which the trap or inform messages are sent by the SNMP agent. The T-Out (timeout) column indicates the number of seconds before the traps/informs time out when sending to a host. The Retries column indicates the number of times the traps/informs are sent after timing out.

Syntax

```
show snmp-server host
```

Examples

Display SNMP server host information

```
sonic# show snmp-server host

             Target Address               Type    Community    Ver T-Out Retries
-------------------------------------- ------ -------------- --- ----- -------
1.2.3.4                                trap   comm1          v2c 15    3


             Target Address               Type    User Name        Security    T-Out
Retries
-------------------------------------- ------ -------------- --------------- ----- ---
----
1001::1                                inform user1          auth-priv       200   10
```

show snmp-server interface-traps

This command displays the list of interfaces on which SNMP traps are disabled.

Syntax

```
show snmp-server interface-traps
```

Examples

Display SNMP server interface-trap information

```
sonic# show snmp-server interface-traps

         Interface Name                        Status
------------------------------ --------------------------------
Ethernet0                      disable
Ethernet4                      disable
```

show snmp-server traps

This command displays the list of traps configured with the status set to enable or disable.

Syntax

```
show snmp-server traps
```

Examples

Display SNMP server trap information

```
sonic# show snmp-server traps

              Trap Type                          Status
   ------------------------------- ---------------------------------
   Authentication failure           disable
   BGP                              enable
   Link Down                        enable
   sonic#
```

show snmp-server user

This command displays the SNMPv3 users configured on the switch, including any authentication and/or encryption algorithms for the user. The group name indicates a group that defines the SNMPv3 access parameters.

Syntax

```
show snmp-server user
```

Examples

Display SNMPv3 server user information

```
sonic# show snmp-server user

           User Name                        Group Name            Auth  Privacy
------------------------------- ---------------------------------- ----- -------
user1                           group-lab                          md5   aes-128
user2                           group-floor2                       None  None
```

show snmp-server view

This command displays the SNMP views configured on the switch, including the Object Identifier (OID) tree that the view includes or excludes.

Syntax

```
show snmp-server view
```

Examples

Display SNMPv3 server view information

```
sonic# show snmp-server view

           View Name                         OID Tree                Type
------------------------------ ------------------------------- --------
view1                          1.2.3.4.5.6.7.8.9.1             included
view2                          1.2.3.4.5.6.7.8.9.5.1           excluded
```

show spanning-tree

This command displays spanning-tree information.

Syntax

```
show spanning-tree [ vlan-id { [ interface {{name}} ] } ]
```

Parameters

Name	Description	Type
name	Interface Type - Ranges	

Examples

Display spanning-tree

```
sonic(config)# do show spanning-tree
Spanning-tree Mode: PVST

VLAN 100 - STP instance 0
------------------------------------------------------------------------------------------
--------------------
STP Bridge Parameters:

Bridge            Bridge    Bridge    Bridge    Hold  LastTopology  Topology
Identifier        MaxAge    Hello     FwdDly    Time  Change        Change
hex               sec       sec       sec       sec   sec           cnt
80643c2c99a704a0  20        2         15        1     515           4

RootBridge        RootPath  DesignatedBridge  Root        Max  Hel  Fwd
Identifier        Cost      Identifier        Port        Age  lo   Dly
hex                         hex                           sec  sec  sec
00646cb9c51613ca  1600      10643c2c992d8235  PortChannel120   2    15

STP Port Parameters:
Port            Prio Path      Port Uplink BPDU   Guard State      Designated
Designated       Designated
Num             rity Cost      Fast Fast   Filter
Type             Cost       Root             bridge
PortChannel1    128  800       N    N      N      -        FORWARDING
800        00646cb9c51613ca 10643c2c992d8235
```

show spanning-tree bpdu-guard

This command displays spanning-tree BPDU guard information for the ports.

Syntax

```
show spanning-tree bpdu-guard
```

Examples

Display spanning-tree bpdu-guard

```
sonic#show spanning-tree bpdu-guard
PortNum         Shutdown    Port shut
                Configured  due to BPDU guard
Ethernet64       Y           N
PortChannel2     Y           N
```

show spanning-tree counters

This command displays information for spanning-tree counters.

Syntax

```
show spanning-tree counters [ vlan-id ]
```

Examples

Display spanning-tree counters

```
sonic(config)# do show spanning-tree counters

VLAN 100 - STP instance 0
------------------------------------------------------------------------
PortNum         BPDU Tx   BPDU Rx   TCN Tx    TCN Rx

------------------------------------------------------------------------
Ethernet0       0         0         0         0
Ethernet48      53        7         1         0
Ethernet62      0         0         0         0
Ethernet64      0         0         0         0
PortChannel1    0         76        1         0
PortChannel2    0         0         0         0
PortChannel3    0         0         0         0
```

show spanning-tree inconsistentports

This command displays information for spanning-tree root or loop-inconsistent ports.

Syntax

```
show spanning-tree inconsistentports [ vlan-id ]
```

Examples

Display spanning-tree inconsistentports

```
sonic# show spanning-tree inconsistentports
```

```
Root guard timeout: 30  secs
Loop guard default: Enabled

------------------------------------------------------------------------
PortNum          VLAN  Inconsistency State
------------------------------------------------------------------------
Ethernet48       100   Root Inconsistent (29 seconds left on timer)
Ethernet49       10    Loop Inconsistent
```

show spanning-tree mst

This command displays the MST operational status, including the current Root/Bridge Address and Port States.

Syntax

```
show spanning-tree mst [ {{inst-id}} [ detail ] ]
```

Parameters

Name	Description	Type
inst-id	0..4094	String

show spanning-tree mst configuration

This command displays the MST configuration and MST instance-to-VLAN mappings.

Syntax

```
show spanning-tree mst configuration
```

Examples

Display spanning-tree MST configuration

```
sonic-cli# show spanning-tree mst configuration
Name      [test]
Revision  10    Instances configured 4
```

```
Digest    0x43A9ECEFACA62624BF0D53DB74D07750
Instance  Vlans mapped
------------------------------------------------------------
0          1-9,11-19,21-4093
1          10
2          20
4094       4094
------------------------------------------------------------
```

show spanning-tree mst detail

This command displays the detailed MST configuration.

Syntax

```
show spanning-tree mst detail
```

show spanning-tree mst interface

This command displays interface-specific MST information.

Syntax

```
show spanning-tree mst interface {{name}} [ detail ]
```

Parameters

Name	Description	Type
name	Interface Type - Ranges	

show ssh-server vrf

This command displays the list of VRFs on which the SSH server is enabled.

Syntax

```
show ssh-server vrf { all | {{vrf-name}} }
```

Parameters

Name	Description	Type
vrf-name	WORD	String

Examples

Display VRFs where SSH is enabled

```
sonic# show ssh-server vrf all
            VRF Name                         Status
 ------------------------------ --------------------------------
            Vrf1                            enable
            Vrf34                           enable
            Vrf5                            enable

sonic# show ssh-server vrf Vrf5
            VRF Name                         Status
 ------------------------------ --------------------------------
            Vrf5                            enable
```

show ssh-server vrfs

This command displays SSH server status for all VRFs.

Syntax

```
show ssh-server vrfs
```

show storm-control

Use this command to display all BUM storm-control configurations.

Syntax

```
show storm-control
```

Examples

Display storm-control

```
sonic-cli# show storm-control
-----------------------------------------------------
Interface Name      Storm-type          Rate (kbps)
-----------------------------------------------------
Ethernet0           broadcast           10000
Ethernet0           unknown-unicast     20000
Ethernet0           unknown-multicast   30000
Ethernet4           unknown-unicast     20000
Ethernet4           unknown-multicast   30000
```

show storm-control interface

Use this command to display BUM storm-control configurations on the given interface.

Syntax

```
show storm-control interface {{Ethernet}}
```

Parameters

Name	Description	Type
Ethernet	EthernetNUM	

Examples

Display storm-control

```
sonic-cli# show storm-control interface Ethernet 4
-----------------------------------------------------
Interface Name      Storm-type          Rate (kbps)
-----------------------------------------------------
Ethernet4           unknown-unicast     20000
Ethernet4           unknown-multicast   30000
```

show subinterfaces status

This command displays the status of all subinterfaces in tabular format.

Syntax

```
show subinterfaces status
```

Examples

Display all subinterfaces information

```
sonic-cli# show subinterfaces status
-------------------------------------------------------------------------------------
--------
Sub port interface   Speed     MTU       Vlan      Admin     Type
-------------------------------------------------------------------------------------
--------
Ethernet0.10         25000     2000      100       up        dot1q-encapsulation
PortChannel100.100   0         9100      1350      up        dot1q-encapsulation
sonic-cli#
```

Features this CLI belongs to

- Subinterface

show switch-profiles

Use this command to list all supported factory default configuration profiles. It also displays the current active default configuration profile. The current active profile name is used to create a startup configuration file when the write erase command is used.

The following information about each default configuration profile is displayed:

- Name: The profile name used to refer to a default configuration profile.
- Description: A descriptive string.

Syntax

```
show switch-profiles
```

Examples

```
sonic# show switch-profiles
Factory Default: l3

Profile Name     Description
-------------------------------------------------------------
l2               Layer 2 Switch Configuration
l3               Layer 3 Router Configuration
```

show switch-resource drop-monitor

This command displays warm restart information.

Syntax

```
show switch-resource drop-monitor
```

show switch-resource ecmp-group

This command displays the switch-resource ECMP group information.

Syntax

```
show switch-resource ecmp-group
```

show switch-resource l2-nexthop-group

This command displays switch-resource L2 next-hop group information.

Syntax

```
show switch-resource l2-nexthop-group
```

show switch-resource route-scale

This command displays warm restart information.

Syntax

```
show switch-resource route-scale
```

show switch-resource vlan-stacking

This command displays switch-resource VLAN stacking information.

Syntax

```
show switch-resource vlan-stacking
```

show switching-mode

This command displays the switching-mode configuration.

Syntax

```
show switching-mode
```

show swsslog-configuration

This command displays the components registered in DB for log level severity.

Syntax

```
show swsslog-configuration
```

show system

This command displays system information.

Syntax

```
show system
```

show system config-update-time

This command displays the last configuration update time.

Syntax

```
show system config-update-time
```

show system cpu

This command displays system CPU information.

Syntax

```
show system cpu
```

show system memory

This command displays system memory information.

Syntax

```
show system memory
```

show system processes

This command displays system processes.

Syntax

```
show system processes
```

show system processes cpu

This command displays system processes, sorted by CPU usage.

Syntax

```
show system processes cpu
```

show system processes mem-usage

This command displays system processes, sorted by memory usage.

Syntax

```
show system processes mem-usage
```

show system processes mem-util

This command displays system processes, sorted by memory utilization.

Syntax

```
show system processes mem-util
```

show system processes pid

This command displays the system process information for a particular PID.

Syntax

```
show system processes pid {{pid-no}}
```

Parameters

Name	Description	Type
pid-no	Process ID	Integer

show system status

This command displays the system ready status.

Syntax

```
show system status
```

show system status brief

This command displays the system ready status in brief.

Syntax

```
show system status brief
```

show system status detail

This command displays the system ready status in detail.

Syntax

```
show system status detail
```

show system txrx-clock-freq-correction

This command displays the system Tx/Rx clock frequency configuration.

Syntax

```
show system txrx-clock-freq-correction
```

show system vlan

This command displays reserved VLAN information.

Syntax

```
show system vlan reserved
```

show tacacs-server

This command displays TACACS information.

Syntax

```
show tacacs-server
```

show tacacs-server global

This command displays the TACACS global configuration.

Syntax

```
show tacacs-server global
```

show tacacs-server host

This command displays the TACACS server configuration.

Syntax

```
show tacacs-server host [ {{address}} ]
```

Parameters

Name	Description	Type
address	WORD	String

show tam collectors

This command lists the details for all collectors or for a specific collector.

Syntax

```
show tam collectors [ {{name}} ]
```

Parameters

Name	Description	Type
name	WORD	String

Examples

Display TAM collectors

```
Name               IP Address       Port    Protocol
----------------   --------------   ------  --------
IFA_Col_i19        192.168.78.121   7071    UDP
MOD_Col_m16        192.168.78.123   7076    UDP

# show tam collectors IFA_Col_i19
Name          : IFA_Col_i19
IP Address    : 192.168.78.121
Port          : 7071
Protocol      : UDP
```

show tam drop-monitor

This command lists the switch-wide attributes that are in use.

Syntax

```
show tam drop-monitor
```

Examples

Display TAM drop-monitor

```
Status             : Active
Switch ID          : 2020
Aging Interval     : 20
```

show tam drop-monitor sessions

This command lists the details for all drop-monitor sessions or for a specific session. Note that only explicitly configured tuples in the associated flow-group are displayed.

Syntax

```
show tam drop-monitor sessions [ {{name}} ]
```

Parameters

Name	Description	Type
name	WORD	String

Examples

Display TAM drop-monitor sessions

```
Name           Flow Group          Collector          Sampler
-----------    ----------------    --------------     -------------
http_236       tcp_port_236        Col_i19            aggresive
http_239       tcp_port_239        Col_i19            aggresive
http_241       tcp_port_241        Col_i19            aggresive

sonic # show tam drop-monitor sessions http_236

Session             : http_236
Flow Group Name     : tcp_port_236
   Id               : 4025
   Priority         : 100
   SRC IP           : 13.92.96.32
   DST IP           : 7.72.235.82
   DST L4 Port      : 236
   Ingress Intf     : Ethernet20
Collector           : Col_i19
Sampler             : aggresive
Packet Count        : 7656
```

show tam features

This command lists the current status for all TAM features or for a specific feature.

Syntax

```
show tam features { [ ifa ] | [ drop-monitor ] | [ tail-stamping ] } ]
```

Examples

Display TAM features

```
Name         Status
-----------  ---------
ifa          Active
```

```
                    drop-monitor Active

                    sonic-cli# show tam features ifa

                    Name          : ifa
                    Status        : Active
```

show tam flowgroups

This command lists the details for all flow-groups or for a specific flow-group. Note that only explicitly configured tuples are displayed.

Syntax

```
                    show tam flowgroups [ {{name}} ]
```

Parameters

Name	Description	Type
name	WORD	String

Examples

Display TAM flow-groups

```
                  Flow Group Name    : udp_port_239
                     Id              : 4025
                     Priority        : 100
                     SRC IP          : 10.72.195.23
                     DST L4 Port     : 239
                     Ingress Intf    : Ethernet20
                  Packet Count       : 10584

                  Flow Group Name    : udp_port_241
                     Id              : 4022
                     Priority        : 99
                     SRC Port        : 1906
                     DST L4 Port     : 241
                  Packet Count       : 8654367

                  sonic # show tam flow-groups udp_port_239

                  Flow Group Name    : udp_port_239
                     Id              : 4025
                     Priority        : 100
                     SRC IP          : 10.72.195.23
```

```
   DST L4 Port     : 239
Packet Count       : 10584
```

show tam ifa

This command lists the switch-wide attributes that are in use.

Syntax

```
show tam ifa
```

Examples

Display TAM IFA

```
Status             : Active
Version            : 2.0
Switch ID          : 2020
Enterprise ID      : 2345
```

show tam ifa sessions

This command lists the details for all IFA sessions or for a specific session. Note that only explicitly configured tuples in the associated flow-group are displayed.

Syntax

```
show tam ifa sessions [ {{name}} ]
```

Parameters

Name	Description	Type
name	WORD	String

Examples

Display TAM IFA sessions

```
Name           Flow Group          Collector          Sampler           Node Type
-----------    ----------------    --------------     -------------     ----------
http_236       tcp_port_236        -                  aggresive         Ingress
http_239       tcp_port_239        -                  -                 Intermediate
http_241       tcp_port_241        IFA_Col_i19        -                 Egress

sonic # show tam ifa sessions http_236

Session             : http_236 (Ingress)
Flow Group Name     : tcp_port_236
   Id               : 4025
   Priority         : 100
   SRC IP           : 13.92.96.32
   DST IP           : 7.72.235.82
   DST L4 Port      : 236
   Ingress Intf     : Ethernet20
Collector           : None
Sampler             : aggresive
Packet Count        : 7656
```

show tam samplers

This command lists the details for all samplers or for a specific sampler.

Syntax

```
show tam samplers [ {{name}} ]
```

Parameters

Name	Description	Type
name	WORD	String

Examples

Display TAM samplers

```
Name         Sample Rate
-----------  -----------
sflow_low    1
```

```
aggresive    2000

# show tam samplers aggresive
Name          : aggresive
Sample Rate   : 2000
```

show tam switch

This command lists the configured TAM device information.

Syntax

```
show tam switch
```

Examples

Display TAM switch

```
TAM Device information
----------------------
Switch ID      : 23456
Enterprise ID  : 1234
```

show tam tail-stamping

This command lists the switch-wide attributes that are in use.

Syntax

```
show tam tail-stamping
```

Examples

Display TAM tail-stamping

```
Status            : Active
Switch ID         : 2020
```

show tam tail-stamping sessions

This command lists the details for all tail-stamping sessions or for a specific session. Note that only explicitly configured tuples in the associated flow-group are displayed.

Syntax

```
show tam tail-stamping sessions [ {{name}} ]
```

Parameters

Name	Description	Type
name	WORD	String

Examples

Display TAM tail-stamping sessions

```
Name           Flow Group
-----------    ----------------
http_236       tcp_port_236
http_239       tcp_port_239
http_241       tcp_port_241

sonic # show tam tail-stamping sessions http_236

Session            : http_236
Flow Group Name    : tcp_port_236
   Id              : 4025
   Priority        : 100
   SRC IP          : 13.92.96.32
   DST IP          : 7.72.235.82
   DST L4 Port     : 236
Packet Count       : 7656
```

show tech-support

This command displays technical support information.

Syntax

```
show tech-support { { [ since {{date}} ] } | [ status ] | [ cancel ] } ]
```

Parameters

Name	Description	Type
date	String	String

show tech-support terminal

This command displays commands output as text-to-terminal.

Syntax

```
show tech-support terminal
```

show techsupport-export

This command displays the technical support export configuration.

Syntax

```
show techsupport-export
```

show threshold breaches

This command displays information about threshold breach events recorded by the system.

Syntax

```
show threshold breaches
```

Examples

Display threshold breaches

```
------------------------------------------------------------------------------------------
--------------------------
Event-id    Buffer            Type        Port           Index     Breach Value
(%)       Time-stamp
------------------------------------------------------------------------------------------
--------------------------
2           priority-
group    shared      Ethernet0      7          77                    2020-04-14-11:35:20
3           queue             unicast     Ethernet0      5          45                    -
  2020-04-17-11:30:20
```

show threshold buffer-pool

This command displays the buffer-pool configuration.

Syntax

```
show threshold buffer-pool [ interface {{intf}} ]
```

Parameters

Name	Description	Type
intf	EthernetNUM	

show threshold device

This command displays the device-level threshold.

Syntax

```
show threshold device
```

Examples

Display the device-level threshold

```
sonic-cli# show threshold device
Threshold: 80
sonic-cli#
```

show threshold priority-group

This command displays the priority-group threshold configuration.

Syntax

```
show threshold priority-group { headroom | shared }
```

show threshold queue

This command displays the queue threshold configuration.

Syntax

```
show threshold queue { CPU | multicast | unicast }
```

show tpcm

This command displays TPC information.

Syntax

```
show tpcm name {{container_name}}
```

Parameters

Name	Description	Type
container_name	String	String

show tpcm list

This command displays the list of TPCs.

Syntax

```
show tpcm list [ vrf-name {{_vrf}} ]
```

Parameters

Name	Description	Type
_vrf	String	String

show udld global

This command (after you enable UDLD at the global level or modify global UDLD attributes) displays global UDLD information.

Syntax

```
show udld global
```

Examples

Display global UDLD details

```
sonic-cli(config)# udld enable
sonic-cli# show udld global

UDLD Global Information
  Admin State        : UDLD Enabled
  Mode               : Normal
  UDLD Message Time  : 1 seconds
```

```
                        UDLD Multiplier    : 3
```

show udld interface

This command (after you enable UDLD at the interface level) displays interface-level UDLD information and details on neighbors attached to this interface.

Syntax

```
                        show udld interface {{interface-name}}
```

Parameters

Name	Description	Type
interface-name	EthernetNUM	

Examples

Display interface-level UDLD information and this interface's neighbor details

```
sonic-cli(config)# udld enable
sonic-cli(config)# interface Ethernet 0
sonic-cli(conf-if-Ethernet0)# udld enable
sonic-cli# show udld interface Ethernet0

UDLD information for Ethernet0
  UDLD Admin State:                  Enabled
  Mode:                              Normal
  Status:                            Bidirectional
  Local device id:                   3c2c.992d.8201
  Local port id :                    Ethernet0
  Local device name:                 Sonic
  Message time:                      1
  Timeout interval:                  3
    Neighbor Entry 1
    ------------------------------------------------------------------------------
-----
    Neighbor device id:         3c2c.992d.8235
    Neighbor port id:           Ethernet0
    Neighbor device name:       Sonic
    Neighbor message time:      1
    Neighbor timeout interval:  3
```

show udld neighbors

This command (after you enable UDLD at the global and interface level) displays information on all UDLD neighbors.

Syntax

```
show udld neighbors
```

Examples

Display UDLD neighbor details

```
sonic-cli(config)# udld enable
sonic-cli(config)# interface Ethernet 0
sonic-cli(conf-if-Ethernet0)# udld enable
sonic-cli# show udld neighbors

Port           Device Name     Device ID         Port ID         Neighbor State
-------------------------------------------------------------------------------
Ethernet1      Sonic           3c2c.992d.8201    Ethernet0       Bidirectional
Ethernet3      Sonic           3c2c.992d.8201    Ethernet3       Bidirectional
```

show udld statistics

This command displays the UDLD statistics for all interfaces.

Syntax

```
show udld statistics
```

Examples

Display the UDLD statistics for all interfaces

```
sonic-cli# show udld statistics

UDLD Interface statistics for Ethernet0
Frames transmitted:         10
Frames received:            9
```

```
Frames with error:          0

UDLD Interface statistics for Ethernet1
Frames transmitted:         5
Frames received:            8
Frames with error:          0
```

show udld statistics interface

This command displays the UDLD statistics for a specific interface.

Syntax

```
show udld statistics interface {{interface-name}}
```

Parameters

Name	Description	Type
interface-name	EthernetNUM	

Examples

Display the UDLD statistics for a specific interface

```
sonic-cli# show udld statistics interface Ethernet0

UDLD Interface statistics for Ethernet0
Frames transmitted:         10
Frames received:            9
Frames with error:          0
```

show uptime

This command displays system uptime.

Syntax

```
show uptime
```

show usb

This command displays USB partitions which have been detected, successfully mounted, and are accessible to the user.

Syntax

```
show usb
```

Examples

Display USB mount information

```
sonic# show usb
Auto Detection: Enabled

Mount Dir    Device Name    File System
-----------  -------------  -------------
/media/usb0  /dev/sdb1      vfat
```

Features this CLI belongs to

- USB

show usb devices

This command displays the list of attached USB storage media that have been detected. The command also displays the manufacturer and model information of the detected USB device.

Syntax

```
show usb devices
```

Examples

Display USB device information

```
sonic# show usb devices
```

```
------------  --------------  ---------------
USB Device    Manufacturer    Model Name
------------  --------------  ---------------
/dev/sdb      Memorex         USB Flash Drive
```

Features this CLI belongs to

- USB

show usb partitions

This command lists the partitions which are part of the detected attached USB storage media. The command also displays the file system used to format the partition and (if the device is in a mounted state) the mount directory.

Syntax

```
show usb partitions
```

Examples

Display USB partition information

```
sonic# show usb partitions
------------  --------------  ---------------
Device Name    Mount Dir    File System
-------------  -----------  -------------
/dev/sdb1      /media/usb0  vfat
```

Features this CLI belongs to

- USB

show users

This command displays users who are currently logged into the switch.

Syntax

```
show users
```

show users all

This command displays all users and their roles.

Syntax

```
show users all
```

show users configured

This command displays local users and their configured roles.

Syntax

```
show users configured
```

show users sshKey

This command displays users' SSH keys.

Syntax

```
show users sshKey
```

show version

This command displays version information.

Syntax

```
show version
```

show vlan

This command displays the running system information.

Syntax

```
show { {{vlan-if-name}} | { Vlan [ count ] } }
```

Parameters

Name	Description	Type
vlan-if-name	VlanNUM	Integer

show vrrp

This command displays the IPv4 VRRP summary information of all instances on a system, or the detailed VRRP information of a particular instance.

Syntax

```
show vrrp [ interface { {{ifname}} { vrid {{id}} } } ]
```

Parameters

Name	Description	Type
ifname	Interface Type - Ranges	
id		Integer

Examples

Display IPv4 VRRP information

```
sonic-cli(config)# show vrrp
           or
sonic-cli(config)# show vrrp interface Ethernet4 vrid 1
```

Display IPv4 VRRP summary information

```
sonic# show vrrp
    Interface_Name  VRID   State        VIP            Cfg_Prio   Curr_Prio
    Ethernet4       1      Master       40.0.0.5       120        120
    Ethernet8       2      Backup       80.0.0.5       100        100
```

Display IPv4 VRRP detailed information

```
sonic# show vrrp interface Ethernet4 vrid 1
    Ethernet4, VRID 1
    Version is 2
    State is Master
    Virtual IP address:
        40.0.0.5
    Virtual MAC address is 0000.5e00.0101
    Track interface:
        None
    Configured Priority is 100, Current Priority is 100
    Advertisement interval is 1 sec
    Preemption is enabled
```

Features this CLI belongs to

- VRRP

show vrrp6

This command displays the IPv6 VRRP summary information of all instances on a system, or the detailed VRRP information of a particular instance.

Syntax

```
show vrrp6 [ interface { {{ifname}} { vrid {{id}} } } ]
```

Parameters

Name	Description	Type
ifname	Interface Type - Ranges	
id		Integer

Examples

Display IPv6 VRRP information

```
sonic-cli(config)# show vrrp6
                or
sonic-cli(config)# show vrrp6 interface Ethernet4 vrid 1
```

Display IPv6 VRRP summary information

```
sonic# show vrrp
    Interface_Name  VRID   State        VIP           Cfg_Prio   Curr_Prio
    Ethernet4       1      Master       40::5         120        120
    Ethernet8       2      Backup       80::5         100        100
```

Display IPv6 VRRP detailed information

```
sonic# show vrrp interface Ethernet4 vrid 1
    Ethernet4, VRID 1
    Version is 3
    State is Master
    Virtual IP address:
      40::5
    Virtual MAC address is 0000.5e00.0201
    Track interface:
      None
    Configured Priority is 100, Current Priority is 100
    Advertisement interval is 1 sec
    Preemption is enabled
```

Features this CLI belongs to

- VRRP

show vxlan counters

Use this command to display VXLAN tunnel counters per remote VTEP or all remotes in tabular format. The table columns are SIP, DIP, creation source, and operstatus.

Syntax

```
show vxlan counters [ {{remote_ip_addr}} ]
```

Parameters

Name	Description	Type
remote_ip_addr	A.B.C.D	String

Examples

Display VXLAN counters

```
sonic-cli# show vxlan counters

Polling Rate         : 8 seconds
-------------------------------------------------------------------------------------------
-------------------------------------------------------------------
Interface             RX_OK              RX_BPS             RX_PPS           RX_
ERR           TX_OK              TX_BPS             TX_PPS           TX_ERR
-------------------------------------------------------------------------------------------
-------------------------------------------------------------------
EVPN_
4.4.4.4          0                  0                  0                  N/A          -
    0                  0                  0                N/A
EVPN_
4.4.4.5          0                  0                  0                  N/A          -
    0                  0                  0                N/A
```

show vxlan interface

Use this command to display VXLAN global parameters.

Syntax

```
show vxlan interface
```

Examples

Display VXLAN interface

```
sonic# show vxlan interface

VTEP Name        :  vtep1
VTEP Source IP   :  1.1.1.1
QoS Mode         :  pipe (dscp:0)
Source Interface :  Loopback0
```

show vxlan remote mac

Use this command to display all the MACs learned from the specified remote IP or from all the remotes for all/specified VLANs. The table columns are VLAN, MAC, RemoteVTEP, VNI, and Type.

Syntax

```
show vxlan remote mac [ {{remote_ip_addr}} ]
```

Parameters

Name	Description	Type
remote_ip_addr	A.B.C.D or [1..4294967295] or PortChannelNUM	String

Examples

Display VXLAN remote MAC information

```
sonic# show vxlan remote mac
+---------+-------------------+-------------+-------+--------+
| VLAN    | MAC               | RemoteVTEP  |   VNI | Type   |
+=========+===================+=============+=======+========+
| Vlan101 | 00:00:00:00:00:01 | 4.4.4.4     |  1001 | static |
+---------+-------------------+-------------+-------+--------+
| Vlan101 | 00:00:00:00:00:02 | 3.3.3.3     |  1001 | static |
+---------+-------------------+-------------+-------+--------+
| Vlan101 | 00:00:00:00:00:03 | 4.4.4.4     |  1001 | static |
+---------+-------------------+-------------+-------+--------+
| Vlan101 | 00:00:00:00:00:04 | 4.4.4.4     |  1001 | static |
+---------+-------------------+-------------+-------+--------+
| Vlan101 | 00:00:00:00:00:05 | 4.4.4.4     |  1001 | static |
```

```
+---------+------------------+-------------+-------+--------+
| Vlan101 | 00:00:00:00:00:99 | 3.3.3.3      |  1001 | static |
+---------+------------------+-------------+-------+--------+
Total count : 6

sonic# show vxlan remote mac 3.3.3.3
+---------+------------------+-------------+-------+--------+
| VLAN    | MAC               | RemoteVTEP   |   VNI | Type   |
+=========+==================+=============+=======+========+
| Vlan101 | 00:00:00:00:00:02 | 3.3.3.3      |  1001 | static |
+---------+------------------+-------------+-------+--------+
| Vlan101 | 00:00:00:00:00:99 | 3.3.3.3      |  1001 | static |
+---------+------------------+-------------+-------+--------+
Total count : 2
```

show vxlan remote mac count

This command displays the number of remote MACs.

Syntax

```
show vxlan remote mac count [ {{remote_ip_addr}} ]
```

Parameters

Name	Description	Type
remote_ip_addr	A.B.C.D or [1..4294967295] or PortChannelNUM	String

show vxlan remote nexthop-group

This command displays all the discovered remote nexthop-groups.

Syntax

```
show vxlan remote nexthop-group
```

show vxlan remote vni

Use this command to display all VLANs learned from the specified remote IP or all the remotes. The columns are VLAN, RemoteVTEP, and VNI.

Syntax

```
show vxlan remote vni [ {{remote_ip_addr}} ]
```

Parameters

Name	Description	Type
remote_ip_addr	A.B.C.D	String

Examples

Display VXLAN remote VNI information

```
sonic# show vxlan remote vni

+---------+--------------+-------+
| VLAN    | RemoteVTEP   |   VNI |
+=========+==============+=======+
| Vlan101 | 3.3.3.3      |  1001 |
+---------+--------------+-------+
| Vlan101 | 4.4.4.4      |  1001 |
+---------+--------------+-------+
Total count : 2

sonic# show vxlan remote vni 3.3.3.3

+---------+--------------+-------+
| VLAN    | RemoteVTEP   |   VNI |
+=========+==============+=======+
| Vlan101 | 3.3.3.3      |  1001 |
+---------+--------------+-------+
Total count : 1
```

show vxlan remote vni count

This command displays the number of VLANs extended to remote VTEPs.

Syntax

```
show vxlan remote vni count [ {{remote_ip_addr}} ]
```

Parameters

Name	Description	Type
remote_ip_addr	A.B.C.D	String

show vxlan tunnel

Use this command to display all discovered tunnels. The columns are SIP, DIP, creation source, and operstatus.

Syntax

```
show vxlan tunnel
```

Examples

Display VXLAN tunnel

```
sonic# show vxlan tunnel

+---------+---------+-------------------+--------------+
| SIP     | DIP     | creation source   | operstatus   |
+=========+=========+===================+==============+
| 2.2.2.2 | 4.4.4.4 | EVPN              | oper_up      |
+---------+---------+-------------------+--------------+
| 2.2.2.2 | 3.3.3.3 | EVPN              | oper_up      |
+---------+---------+-------------------+--------------+
Total count : 2
```

show vxlan tunnel count

This command displays the number of remote VTEPs.

Syntax

```
show vxlan tunnel count
```

show vxlan vlanvnimap

Use this command to display all VLAN VNI mappings.

Syntax

```
show vxlan vlanvnimap
```

Examples

Display VXLAN vlanvnimap

```
sonic# show vxlan vlanvnimap

+---------+-------+
| VLAN    |   VNI |
+=========+=======+
| Vlan100 |   100 |
+---------+-------+
| Vlan101 |   101 |
+---------+-------+
Total count : 2
```

show vxlan vlanvnimap count

This command displays the number of VLAN VNI mappings.

Syntax

```
show vxlan vlanvnimap count
```

show vxlan vrfvnimap

This command displays all VRF VNI mappings.

Syntax

```
show vxlan vrfvnimap
```

Examples

Display VXLAN vrfvnimap

```
sonic# show vxlan vrfvnimap

+-------+-------+
| VRF   |   VNI |
+=======+=======+
| Vrf1  |   600 |
+-------+-------+
Total count : 1
```

show vxlan vrfvnimap count

This command displays the number of VRF VNI mappings.

Syntax

```
show vxlan vrfvnimap count
```

show warm-restart

This command displays warm restart information.

Syntax

```
show warm-restart
```

Examples

Display the warm restart state information

```
sonic# show warm-restart
-------------------------------------------------------
Module              Restore_count   Status
-------------------------------------------------------
aclsvcd             0
bgp                 0               disabled
dropmgrd            0
```

```
fdbsyncd            0               disabled
gearsyncd           0
ifamgrd             0
intfmgrd            0               disabled
iphelpermgr         0
l2mcmgrd            0
natsyncd            0
nbrmgrd             0
neighsyncd          0
orchagent           0               disabled
portmgrd            0
```

show warm-restart check

This command displays warm restart check information.

Syntax

```
show warm-restart check
```

show warm-restart config

This command displays warm restart config information.

Syntax

```
show warm-restart config
```

show warm-restart system

This command displays warm restart system state information.

Syntax

```
show warm-restart system
```

show watermark interval

This command displays the watermark snapshot interval configured on the system.

Syntax

```
show watermark interval
```

Examples

Display watermark interval

```
sonic-cli# show watermark interval
           Snapshot interval : 220 seconds
```

show watermark telemetry

This command displays the watermark telemetry interval configured on the system.

Syntax

```
show watermark telemetry interval
```

Examples

Display watermark telemetry interval

```
sonic-cli# show watermark telemetry interval
 interval : 220 seconds
```

show ztp-status

This command displays the ZTP operation status.

- The following are the possible current states or results of a ZTP session:
  - IN-PROGRESS: The ZTP session is currently in progress. The ZTP service is processing switch provisioning information.
  - SUCCESS: The ZTP service has successfully processed the switch provisioning information.
  - FAILED: The ZTP service has failed to process the switch provisioning information.
  - Not Started: The ZTP service has not started processing the discovered switch provisioning information.
- The following are the state and result of a configuration section:
  - IN-PROGRESS: The corresponding configuration section is currently being processed.
  - SUCCESS: The corresponding configuration section was processed successfully.
  - FAILED: The corresponding configuration section failed to execute successfully.
  - Not Started: The ZTP service has not started processing the corresponding configuration section.
  - DISABLED: The corresponding configuration section has been marked as disabled and will not be processed.

Syntax

```
show ztp-status
```

Examples

Display ZTP status information

```
sonic# show ztp-status
=======================================
ZTP
=======================================
ZTP Admin Mode      : True
ZTP Service         : Inactive
ZTP Status          : Not Started
```

Features this CLI belongs to

- ZTP

shutdown (BFD)

This command administratively shuts down the Bidirectional Forwarding Detection (BFD) peer.

Parent Commands (Modes)

```
peer {{peer_ipv4}}
peer {{peer_ipv6}}
peer [ interface ] {{interfacename}}
peer [ local-address ] {{local_ipv4}}
peer [ local-address ] {{local_ipv6}}
peer [ multihop ]
peer [ vrf ] {{vrfname}}

profile {{profilename}}
```

Syntax

```
shutdown
no shutdown
```

Examples

Shut down BFD peer 192.168.0.5

```
device()#configure terminal
device(config)#bfd
device(conf-bfd)# peer 192.168.0.5 interface Ethernet0
device(conf-bfd-peer)# shutdown
```

Shut down BFD profile "fast"

```
device()#configure terminal
device(config)#bfd
device(conf-bfd)# profile fast
device(conf-bfd-profile)# shutdown
```

shutdown (BGP)

This command administratively shuts down a BGP neighbor or a BGP peer-group. The CLI allows the user to specify a shutdown message that can be communicated to the neighbor or peer-group.

Parent Commands (Modes)

```
neighbor { {{ip}} | { interface { ethernet | portchannel | vlan } } }

peer-group {{template-str}}
```

Syntax

```
shutdown [ message {{MSG}} ]
no shutdown [ message {{MSG}} ]
```

Parameters

Name	Description	Type
MSG	String	String

Examples

Shut down neighbor 30.30.30.3

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 30.30.30.3
sonic(config-router-bgp-neighbor)# shutdown
```

Shut down peer-group PG_Ext

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# shutdown
```

shutdown

This command disables the interface, subinterface, or range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{lo-if-name}}

interface {{vlan-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{mgmt-if-name}}

interface range iface_range_num

interface range create vlan_range_num
interface range vlan_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}
```

Syntax

```
shutdown
no shutdown
```

Examples

Enable subinterface

```
sonic-cli# configure terminal
sonic-cli(config)# interface Ethernet 0.10
sonic-cli(conf-subif-Ethernet0.10)# no shutdown
sonic-cli(config)#
```

Disable subinterface

```
sonic-cli# configure terminal
sonic-cli(config)# interface Ethernet 0.10
sonic-cli(conf-subif-Ethernet0.10)# shutdown
sonic-cli(config)#
```

Features this CLI belongs to

- Subinterface

snmp trap

This command enables SNMP linkup/linkdown traps on a port. The default behavior is enable.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]
```

Syntax

```
snmp trap enable
no snmp trap enable
```

Examples

Configure SNMP trap on interface PortChannel 4

```
sonic# configure terminal
sonic(config)# interface PortChannel 4
sonic(config-if-po4)# snmp trap enable
```

snmp-server agentaddress

This command configures one or more SNMP agent addresses. Optionally, this command also sets the UDP port number on which the SNMP server listens for requests, and the Virtual Routing and Forwarding (VRF) interface used by the management station to access SNMP. The default UDP port is 161.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
snmp-server agentaddress {{host-addr}} { { [ port {{udp-port}} ] } { [ interface { mgmt
| {{vrf-name}} | Ethernet | Management | PortChannel | Vlan } ] } }
no snmp-server agentaddress {{host-addr}} { { [ port {{udp-port}} ] } { [ interface
{{ifname}} ] } }
```

Parameters

Name	Description	Type
host-addr	A.B.C.D or A:B:C:D:E:F:G:H	String
udp-port		Integer
vrf-name	VRF name (prefixed by Vrf, Max: 15 characters)	String

Examples

Add an SNMP agent address using the default UDP port number

```
sonic# configure terminal
sonic(config)# snmp-server agentaddress 1.2.3.4
```

Add an SNMP agent address specifying a non-default UDP port number

```
sonic# configure terminal
sonic(config)# snmp-server agentaddress 1.2.3.4 port 1024
```

Add an SNMP agent address specifying a non-default UDP port number and a VRF interface

```
sonic# configure terminal
sonic(config)# snmp-server agentaddress 1.2.3.5 port 1024 interface Vrf1
```

snmp-server community

This command configures one or more SNMP communities and optionally associates them with a group.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
snmp-server community {{community-name}} { [ group {{group-name}} ] }
no snmp-server community {{community-name}}
```

Parameters

Name	Description	Type
community-name	WORD	String
group-name	String (Max: 32 characters)	String

Examples

Add an SNMP community without specifying a group

```
sonic# configure terminal
sonic(config)# snmp-server community comm1
```

Add an SNMP community and associate it with a group

```
sonic# configure terminal
sonic(config)# snmp-server community comm1 group group-lab
```

snmp-server contact

This command configures SNMP server contact information about the organization responsible for the network.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
snmp-server contact {{contact-name}}
no snmp-server contact
```

Parameters

Name	Description	Type
contact-name	String	String

Examples

Configure SNMP contact

```
sonic# configure terminal
sonic(config)# snmp-server contact "Broadcom Support"
```

snmp-server enable

This command enables SNMP traps globally or individually on the switch. By default, the traps are disabled.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
snmp-server enable trap { [ auth-fail ] | [ link-down ] | [ link-up ] | [ config-change
] | [ ospf ] | [ bgp ] ] }
no snmp-server enable trap { [ auth-fail ] | [ link-down ] | [ link-up ] | [ config-
change ] | [ ospf ] | [ bgp ] ] }
```

Examples

Enable SNMP trap configuration

```
sonic# configure terminal
sonic(config)# snmp-server enable trap
sonic(config)# snmp-server enable trap bgp
sonic(config)# snmp-server enable trap link-down
```

snmp-server engine

This command configures the SNMP engine ID on the local device. It is a hexadecimal string used for localizing configuration. The default engine ID is derived from the device MAC address.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
snmp-server engine {{engineID}}
no snmp-server engine
```

Parameters

Name	Description	Type
engineID	Octet (hex) string, 5..32 octets, separated with ":"	String

Examples

Configure SNMP engine ID

```
sonic# configure terminal
sonic(config)# snmp-server engine 81:00:01:37:03:52:54:00:ab:cd
```

snmp-server group

This command configures one or more SNMPv2c and SNMPv3 access groups, and optionally sets the views which the group uses for GET/SET requests and to send traps. Authentication and privacy can be set for SNMPv3 groups only. Groups are used when configuring SNMP communities and users.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
snmp-server group {{group-name}} { { any | v2c | { v3 { noauth | auth | priv } } } { [
read {{read-view}} ] } { [ write {{write-view}} ] } { [ notify {{notify-view}} ] } }
no snmp-server group {{group-name}} { any | v2c | { v3 { noauth | auth | priv } } }
```

Parameters

Name	Description	Type
group-name	String (Max: 32 characters)	String
read-view	String (Max: 32 characters)	String
write-view	String (Max: 32 characters)	String

Name	Description	Type
notify-view	String (Max: 32 characters)	String

Examples

Add an SNMP group that can only access via SNMPv2c without associating it with a view

```
sonic# configure terminal
sonic(config)# snmp-server group group1 v2c
```

Add an SNMP group that can only access via SNMPv2c, associating it with a view for only sending out traps

```
sonic# configure terminal
sonic(config)# snmp-server group group1 v2c notify no_view
```

Add an SNMP group that can only access via SNMPv3, specifying the security level without associating it with a view

```
sonic# configure terminal
sonic(config)# snmp-server group group-floor2 v3 priv
```

Add an SNMP group that can only access via SNMPv3, associating it with the views for the GET/SET requests and sending out traps

```
sonic# configure terminal
sonic(config)# snmp-server group group-floor2 v3 priv read r_view write w_view notify
n_view
```

snmp-server host

This command configures one or more SNMP IPv4 or IPv6 hosts to which the trap or inform messages are sent by the SNMP agent. Optionally, set the timeout and number of retries for the inform messages sent to a host. Timeout indicates the number of seconds before the informs time out when sending to a host. Retries indicate the number of times the informs are sent after timing out.

The default UDP destination that port traps and inform messages are sent to is 162. This can be modified using the "port" parameter. The source interface and VRF can also be specified using the "source-interface" and "vrf" parameters, respectively. A valid VRF must be specified for the "vrf" parameter.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
snmp-server host {{host-addr}} { { community { {{community-name}} { { [ traps v2c ] } |
{ [ informs { [ timeout {{time-out}} ] } { [ retries {{retry}} ] } ] } ] } { [ source-
interface { Ethernet | Loopback | Management | PortChannel | Vlan | SubInterface } ] }
{ [ vrf { mgmt | {{vrf-name}} } ] } { [ port {{udpPort}} ] } } } | { user { {{user-
name}} { { [ traps { noauth | auth | priv } ] } | { [ informs { noauth | auth | priv }
{ [ timeout {{time-out}} ] } { [ retries {{retry}} ] } ] } ] } } { [ source-interface {
Ethernet | Loopback | Management | PortChannel | Vlan | SubInterface } ] } { [ vrf {
mgmt | {{vrf-name}} } ] } { [ port {{udpPort}} ] } } }
no snmp-server host {{host-addr}}
```

Parameters

Name	Description	Type
host-addr	A.B.C.D or A:B:C:D:E:F:G:H	String
community-name	WORD	String
time-out		Integer
retry		Integer
vrf-name	VRF name (prefixed by Vrf, Max: 15 characters)	String
udpPort		Integer
username	String (Max: 32 characters)	String

Examples

Add an SNMP IPv4 host community to receive SNMPv2c traps

```
sonic# configure terminal
sonic(config)# snmp-server host 1.2.3.4 community comm1 traps v2c
```

Add an SNMP IPv4 host user to receive SNMPv3 informs without authentication, specifying the timeout and number of retries

```
sonic# configure terminal
sonic(config)# snmp-server host 1.2.3.5 user user1 informs noauth timeout 200 retries
10
```

Add an SNMP IPv6 host community to receive SNMPv2c informs without authentication, specifying the timeout and number of retries

```
sonic# configure terminal
sonic(config)# snmp-server host 2001::1 community comm2 informs timeout 150 retries 5
```

Add an SNMP IPv6 host user to receive SNMPv3 traps with authentication and privacy

```
sonic# configure terminal
sonic(config)# snmp-server host 3001::1 user u1 traps priv
```

Add an SNMP IPv4 host community to receive SNMPv2c traps on UDP port 1492 sent from a VRF interface

```
sonic# configure terminal
sonic(config)# snmp-server host 2.3.4.5 community public traps v2c port 1492 vrf Vrf1
```

Add an SNMP IPv4 host with source interface and management VRF

```
sonic# configure terminal
sonic(config)# snmp-server host 2.3.4.5 community public traps v2c port 1492 vrf mgmt
source-interface Loopback1
```

snmp-server location

This command configures the SNMP server physical location information.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
snmp-server location {{location-name}}
no snmp-server location
```

Parameters

Name	Description	Type
location-name	String	String

Examples

```
sonic# configure terminal
sonic(config)# snmp-server location "Lab1, Rack-10"
```

snmp-server user

This command configures one or more SNMPv3 users, and optionally sets the authentication and group association. Authentication passwords can be encrypted. If password encryption is desired, it must be specified prior to setting the authentication type.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
snmp-server user {{username}} { { group {{group-name}} } { { [ encrypted { auth { { md5
{ auth-password { {{authpassword}} { [ priv { { des { priv-password {{privpassword}} }
} | { aes-128 { priv-password {{privpassword}} } } } ] } } } } | { sha { auth-password
{ {{authpassword}} { [ priv { { des { priv-password {{privpassword}} } } | { aes-128 {
priv-password {{privpassword}} } } } ] } } } } | { sha2-256 { auth-password { {{auth-
password}} { [ priv { { des { priv-password {{privpassword}} } } | { aes-128 { priv-
password {{privpassword}} } } } ] } } } } | { sha2-384 { auth-password { {{auth-
password}} { [ priv { { des { priv-password {{privpassword}} } } | { aes-128 { priv-
password {{privpassword}} } } } ] } } } } | { sha2-512 { auth-password { {{auth-
password}} { [ priv { { des { priv-password {{privpassword}} } } | { aes-128 { priv-
password {{privpassword}} } } } ] } } } } } ] } | { [ auth { noauth | { md5 { auth-
password { {{authpassword}} { [ priv { { des { priv-password {{privpassword}} } } | {
aes-128 { priv-password {{privpassword}} } } } ] } } } } | { sha { auth-password {
{{authpassword}} { [ priv { { des { priv-password {{privpassword}} } } | { aes-128 {
priv-password {{privpassword}} } } } ] } } } } | { sha2-256 { auth-password { {{auth-
password}} { [ priv { { des { priv-password {{privpassword}} } } | { aes-128 { priv-
password {{privpassword}} } } } ] } } } } | { sha2-384 { auth-password { {{auth-
password}} { [ priv { { des { priv-password {{privpassword}} } } | { aes-128 { priv-
password {{privpassword}} } } } ] } } } } | { sha2-512 { auth-password { {{auth-
password}} { [ priv { { des { priv-password {{privpassword}} } } | { aes-128 { priv-
password {{privpassword}} } } } ] } } } } } ] } ] } }
no snmp-server user {{username}}
```

Parameters

Name	Description	Type
username	String (Max: 32 characters)	String
group-name	String (Max: 32 characters)	String
authpassword	String	String
privpassword	String	String

Examples

Add an SNMPv3 user without authentication and group association

```
sonic# configure terminal
sonic(config)# snmp-server user user1
```

Add an SNMPv3 user without authentication, associating it with a group

```
sonic# configure terminal
sonic(config)# snmp-server user user1 group group-lab
```

Add an SNMPv3 user, specifying authentication and group association

```
sonic# configure terminal
sonic(config)# snmp-server user user1 group group-lab auth md5 auth-password pwd priv
aes-128 priv-password pwd
```

Add an SNMPv3 user, specifying encrypted authentication and group association

```
sonic# configure terminal
sonic(config)# snmp-server user user2 group group-floor2 encrypted auth sha auth-pass-
word abcdabcdabcdabcdabcdabcdabcdabcdabcdabcdabcdabcdabcdabcdabcdabcdabcdabcdabcdabcd
priv des priv-password abcdabcdabcdabcdabcdabcdabcdabcdabcdabcdabcdabcdabcdabcdabcd
```

snmp-server view

This command configures one or more SNMP views, and sets the Object Identifier (OID) tree to include or exclude from the view. Groups use SNMP views for GET/SET requests and to send traps.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
snmp-server view {{view-name}} { {{oid-tree}} { included | excluded } }
no snmp-server view {{view-name}} {{oid-tree}}
```

Parameters

Name	Description	Type
view-name	String (Max: 32 characters)	String
oid-tree	OID (Max: 255 characters)	String

Examples

Add an SNMP view that excludes the OID tree

```
sonic# configure terminal
sonic(config)# snmp-server view view2 1.2.3.4.5.6.7.8.9.2 excluded
```

soft-reconfiguration

This command enables soft-reconfiguration, storing routes received (RIB-In) from a BGP neighbor or neighbors in a peer-group. These stored routes could be used to refresh the Loc-RIB in the future as needed. If the inbound policy changes, these stored routes will be used to generate Loc-RIB after applying the modified inbound policy.

Parent Commands (Modes)

```
address-family ipv4 unicast

address-family ipv6 unicast

address-family l2vpn evpn
```

Syntax

```
soft-reconfiguration inbound
no soft-reconfiguration inbound
```

Examples

Enable soft reconfiguration for neighbor 20.20.20.2 (IPv4)

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 20.20.20.2
sonic(config-router-bgp-neighbor)# remote-as 300
sonic(config-router-bgp-neighbor)# address-family ipv4 unicast
sonic(config-router-bgp-neighbor-af)# soft-reconfiguration
```

Enable soft reconfiguration for neighbors in peer-group PG_Int (IPv4)

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Int
sonic(config-router-bgp-pg)# address-family ipv4 unicast
sonic(config-router-bgp-pg-af)# soft-reconfiguration
```

Enable soft reconfiguration for neighbor 20.20.20.2 (L2VPN)

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 20.20.20.2
sonic(config-router-bgp-neighbor)# remote-as 300
sonic(config-router-bgp-neighbor)# address-family l2vpn evpn
sonic(config-router-bgp-neighbor-af)# soft-reconfiguration
```

Enable soft reconfiguration for neighbors in a peer-group PG_Int (L2VPN)

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Int
sonic(config-router-bgp-pg)# address-family l2vpn evpn
sonic(config-router-bgp-pg-af)# soft-reconfiguration
```

solo

This command is used to set a neighbor as solo, indicating that routes advertised by the peer should not be reflected back to the peer. This command is only meaningful when there is a single peer defined in the peer-group.

Parent Commands (Modes)

```
neighbor { {{ip}} | { interface { ethernet | portchannel | vlan } } }

peer-group {{template-str}}
```

Syntax

```
solo
no solo
```

Examples

Configure BGP neighbor 30.30.30.3 as solo

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 30.30.30.3
sonic(config-router-bgp-neighbor)# solo
```

Configure BGP peer-group PG_Ext as solo

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# solo
```

source-address

This command configures the source IP address for an IP SLA ICMP or TCP instance.

Parent Commands (Modes)

```
icmp-echo {{addr}}

tcp-connect {{addr}} port {{portno}}
```

Syntax

```
source-address {{addr}}
no source-address
```

Parameters

Name	Description	Type
addr	String	String

Examples

Configure the source IP address for an IP SLA ICMP instance

```
sonic(config)# ip sla 10
sonic(conf-ipsla-10)# icmp-echo 30.30.1.2
sonic(conf-ipsla-10-icmp)# source-address 30.30.1.1
```

Configure the source IP address for an IP SLA TCP instance

```
sonic(config)# ip sla 10
sonic(conf-ipsla-10)# tcp-connect 40.40.1.2
sonic(conf-ipsla-10-tcp)# source-address 40.40.1.1
```

source-interface

This command configures the source interface for an IP SLA ICMP or TCP instance.

Parent Commands (Modes)

```
icmp-echo {{addr}}

tcp-connect {{addr}} port {{portno}}
```

Syntax

```
source-interface { Ethernet | Subif | PortChannel | Vlan }
no source-interface
```

Examples

Configure the source interface for an IP SLA ICMP instance

```
sonic(config)# ip sla 10
sonic(conf-ipsla-10)# icmp-echo 30.30.1.2
sonic(conf-ipsla-10-icmp)# source-interface Ethernet10
```

Configure the source interface for an IP SLA TCP instance

```
sonic(config)# ip sla 10
sonic(conf-ipsla-20)# tcp-connect 40.40.1.2
sonic(conf-ipsla-20-tcp)# source-interface Ethernet50
```

source-ip (MCLAG Protocol)

This command configures the MCLAG session's source IP address.

Parent Commands (Modes)

```
mclag domain {{mclag-domain-id}}
```

Syntax

```
source-ip {{SIP}}
no source-ip
```

Parameters

Name	Description	Type
SIP	A.B.C.D	String

Examples

Configure the MCLAG session source-ip address for MCLAG domain 100

```
sonic-cli(config-mclag-domain-100)#source-ip 10.1.1.1
```

source-ip (VXLAN Protocol)

This command sets the source IPv4 address or loopback interface.

Parent Commands (Modes)

```
interface vxlan {{vxlan-if-name}}
```

Syntax

```
source-ip {{SIP}}
no source-ip
```

Parameters

Name	Description	Type
SIP	A.B.C.D or loopback (0..16383)	String

Examples

Configure the source IPv4 address or loopback interface

```
sonic(config)# interface vxlan vtep1
sonic(conf-if-vxlan-vtep1)# source-ip 1.1.1.1
sonic(conf-if-vxlan-vtep1)# source-ip Loopback1
```

source-port

This command configures the source port for an IP SLA TCP instance.

Parent Commands (Modes)

```
tcp-connect {{addr}} port {{portno}}
```

Syntax

```
source-port {{port}}
no source-port
```

Parameters

Name	Description	Type
port		Integer

Examples

Configure the source port for an IP SLA TCP instance

```
sonic(config)# ip sla 10
sonic(conf-ipsla-20)# tcp-connect 40.40.1.2
sonic(conf-ipsla-20-tcp)# source-port 200
```

source-vrf

This command configures the ICMP or TCP source VRF.

Parent Commands (Modes)

```
icmp-echo {{addr}}

tcp-connect {{addr}} port {{portno}}
```

Syntax

```
source-vrf {{vrf-name}}
```

```
no source-vrf
```

Parameters

Name	Description	Type
vrf-name	String	String

Examples

Configure the source VRF for an IP SLA ICMP instance

```
sonic(config)# ip sla 10
sonic(conf-ipsla-10)# icmp-echo 30.30.1.2
sonic(conf-ipsla-10-icmp)# source-vrf VrfRed
```

Configure the source VRF for an IP SLA TCP instance

```
sonic(config)# ip sla 10
sonic(conf-ipsla-20)# tcp-connect 40.40.1.2
sonic(conf-ipsla-20-tcp)# source-vrf VrfBlue
```

spanning-tree

This command configures spanning-tree parameters on a per-VLAN basis.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
spanning-tree {{vlan-range}} { { [ forward-time {{seconds}} ] } | { [ hello-time
{{seconds}} ] } | { [ max-age {{seconds}} ] } | { [ priority {{value}} ] } } ]
no spanning-tree {{vlan-range}} { [ forward-time ] | [ hello-time ] | [ max-age ] | [
priority ] } ]
```

Parameters

Name	Description	Type
vlan-range	Interface VLAN range	
seconds		Integer
value		Integer

Examples

Configure spanning-tree parameters

```
sonic(config)#spanning-tree vlan 100
sonic(config)#spanning-tree vlan 100 forward-time 11
sonic(config)#spanning-tree vlan 100 hello-time 3
sonic(config)#spanning-tree vlan 100 max-age 22
sonic(config)#spanning-tree vlan 100 priority 4096
```

spanning-tree bpdufilter

This command configures BPDU filter parameters on an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num
```

Syntax

```
spanning-tree bpdufilter { enable | disable }
no spanning-tree bpdufilter
```

Examples

Enable a BPDU filter on an interface

```
sonic(config)# interface PortChannel 1
sonic(conf-if-po1)# spanning-tree bpdufilter enable
sonic(conf-if-po1)# spanning-tree bpdufilter disable
```

spanning-tree bpduguard

This command configures BPDU guard parameters on an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num
```

Syntax

```
spanning-tree bpduguard [ port-shutdown ]
no spanning-tree bpduguard
```

Examples

Enable BPDU guard on an interface

```
sonic(config)# interface PortChannel 1
sonic(conf-if-po1)# spanning-tree bpduguard port-shutdown
```

spanning-tree cost

This command configures spanning-tree cost on an interface or a range of interfaces. The valid range for cost value is 1 to 200000000.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num
```

Syntax

```
spanning-tree cost {{value}}
no spanning-tree cost
```

Parameters

Name	Description	Type
value		Integer

Examples

Configure STP cost on an interface

```
sonic(config)# interface PortChannel 1
sonic(conf-if-po1)# spanning-tree cost 1000
```

spanning-tree edge-port

This command configures a global spanning-tree BPDU filter.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
spanning-tree edge-port bpdufilter default
no spanning-tree edge-port bpdufilter default
```

Examples

Configure all edge ports with a BPDU filter by default

```
sonic(config)# spanning-tree edge-port bpdufilter default
```

spanning-tree enable

This command configures spanning-tree on an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num
```

Syntax

```
spanning-tree enable
no spanning-tree enable
```

Examples

Enable STP on an interface

```
sonic(config)# interface PortChannel 1
sonic(conf-if-po1)# spanning-tree enable
```

spanning-tree forward-time

This command configures the spanning-tree forward delay time in seconds. The default value is 15 and the valid range is 4 to 30.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
spanning-tree forward-time {{seconds}}
no spanning-tree forward-time
```

Parameters

Name	Description	Type
seconds		Integer

Examples

Configure the STP forwarding state delay

```
sonic(config)# spanning-tree forward-time 20
```

spanning-tree guard (Parameters)

This command configures guard parameters on an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num
```

Syntax

```
spanning-tree guard {{guard}}
no spanning-tree guard
```

Parameters

Name	Description	Type
guard	Guard type	Select [root loop none]

Examples

Enable STP root guard

```
sonic(config)# interface PortChannel 1
sonic(conf-if-po1)# spanning-tree guard root
sonic(conf-if-po1)# spanning-tree guard loop
```

spanning-tree guard (Timeout)

This command configures the spanning-tree root guard timeout value in seconds. The default value is 30 and the valid range is 5 to 600.

Once superior BPDUs stop coming on the port, the device will wait for a period specified by the root guard timeout before moving the port to the forwarding state.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
spanning-tree guard root { timeout {{value}} }
no spanning-tree guard root timeout
```

Parameters

Name	Description	Type
value		Integer

Examples

Enable the STP root guard timeout

```
sonic(config)# spanning-tree guard root timeout 10
```

spanning-tree hello-time

This command configures the spanning-tree hello interval time (in seconds) for transmission of BPDUs. The default value is 2 and the valid range is 1 to 10.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
spanning-tree hello-time {{seconds}}
```

```
no spanning-tree hello-time
```

Parameters

Name	Description	Type
seconds		Integer

Examples

Configure the STP hello interval

```
sonic(config)# spanning-tree hello-time 3
```

spanning-tree link-type

This command configures the spanning-tree link-type on an interface or a range of interfaces. The link-type can be set to either point-point or shared.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num
```

Syntax

```
spanning-tree link-type { point-to-point | shared }
no spanning-tree link-type
```

Examples

Configure the STP link type

```
sonic(config)# interface PortChannel 1
sonic(conf-if-po1)# spanning-tree link-type point-to-point
```

spanning-tree loopguard

This command configures the spanning-tree loop guard globally on all ports. When loop guard is enabled, and if BPDUs are not received on a non-designated port, that port is moved into the STP loop-inconsistent blocking state instead of the listening, learning, or forwarding state.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
spanning-tree loopguard default
no spanning-tree loopguard default
```

Examples

Configure STP loop guard

```
sonic(config)# spanning-tree loopguard default
```

spanning-tree max-age

This command configures the spanning-tree max-age time (in seconds) to listen for root bridge. The default value is 20 and the valid range is 6 to 40.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
spanning-tree max-age {{seconds}}
no spanning-tree max-age
```

Parameters

Name	Description	Type
seconds		Integer

Examples

Configure the STP maximum aging time

```
sonic(config)# spanning-tree max-age 22
```

spanning-tree mode

This command configures the global spanning-tree mode for the device. There are two modes supported: pvst and rapid-pvst.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
spanning-tree mode { [ pvst ] | [ rapid-pvst ] | [ mst ] }
```

```
no spanning-tree mode
```

Examples

Configure the STP mode

```
sonic(config)#spanning-tree mode pvst
```

spanning-tree mst (Global)

This command configures the bridge priority to MST in increments of 4096.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
spanning-tree mst {{inst-id}} priority {{value}}
no spanning-tree mst {{inst-id}} priority
```

Parameters

Name	Description	Type
inst-id	0..4094	String
value		Integer

Examples

Configure the MST bridge priority

```
sonic(config)#spanning-tree mst 1 priority 4096
```

spanning-tree mst (Interfaces)

This command configures the port-priority and path cost to MST.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num
```

Syntax

```
spanning-tree mst {{inst-id}} { { cost {{value}} } | { port-priority {{value}} } }
no spanning-tree mst {{inst-id}} { cost | port-priority }
```

Parameters

Name	Description	Type
inst-id	0..4094	String
value		Integer

Examples

Configure the MST port priority and cost

```
sonic(conf-if-Ethernet0)# spanning-tree mst 1 port-priority 4096
sonic(conf-if-Ethernet0)# spanning-tree mst 1 cost 100
```

spanning-tree mst configuration

This command enters MST configuration mode.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
spanning-tree mst configuration
no spanning-tree mst configuration
```

spanning-tree mst forward-time

This command configures the forward delay time (in seconds) for MSTP. The default value is 15 and the valid range is 4 to 30.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
spanning-tree mst forward-time {{seconds}}
no spanning-tree mst forward-time
```

Parameters

Name	Description	Type
seconds		Integer

Examples

Configure the MST forward delay time

```
sonic(config)# spanning-tree mst forward-time 20
```

spanning-tree mst hello-time

This command configures the hello interval (in seconds) for transmission of BPDUs. The default value is 2 and the valid range is 1 to 10.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
spanning-tree mst hello-time {{seconds}}
no spanning-tree mst hello-time
```

Parameters

Name	Description	Type
seconds		Integer

Examples

Configure MST forward hello timer

```
sonic(config)# spanning-tree mst hello-time 3
```

spanning-tree mst max-age

This command configures the spanning-tree max-age time (in seconds) to listen for root bridge. The default value is 20 and the valid range is 6 to 40.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
spanning-tree mst max-age {{seconds}}
no spanning-tree mst max-age
```

Parameters

Name	Description	Type
seconds		Integer

Examples

Configure the MST maximum aging timer

```
sonic(config)# spanning-tree mst max-age 22
```

spanning-tree mst max-hops

This command configures the max-hops value for MST.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
spanning-tree mst max-hops {{hop-count}}
no spanning-tree mst max-hops
```

Parameters

Name	Description	Type
hop-count	Max hops value	Integer

Examples

Configure the MST maximum hops

```
sonic(config)# spanning-tree mst max-hops 10
```

spanning-tree port

This command configures the spanning-tree port type on an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num
```

Syntax

```
spanning-tree port type edge
no spanning-tree port [ type ]
```

Examples

Configure the STP port type on the interface

```
sonic(config)# interface PortChannel 1
sonic(conf-if-po1)# spanning-tree port type edge
```

spanning-tree port-priority

This command configures the spanning-tree port priority on an interface or a range of interfaces. The default value is 128 and the valid range is 0 to 240.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num
```

Syntax

```
spanning-tree port-priority {{value}}
no spanning-tree port-priority
```

Parameters

Name	Description	Type
value		Integer

Examples

Configure the STP port priority on the interface

```
sonic(config)# interface PortChannel 1
```

```
sonic(conf-if-po1)# spanning-tree port-priority 16
```

spanning-tree portfast (Global)

This command configures the spanning-tree portfast globally on all access ports. When portfast is enabled, the port transitions from the blocking state to the forwarding state immediately, bypassing the usual 802.1D STP transition states.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
spanning-tree portfast default
no spanning-tree portfast default
```

Examples

Configure STP portfast globally

```
sonic(config)# spanning-tree portfast default
```

spanning-tree portfast (Interfaces)

This command configures spanning-tree portfast on an interface or a range of interfaces. Portfast allows edge ports to move to the forwarding state quickly when the connected device is not participating in spanning-tree.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

```
interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num
```

Syntax

```
spanning-tree portfast
no spanning-tree portfast
```

Examples

Configure STP portfast on an interface

```
sonic(config)# interface PortChannel 1
sonic(conf-if-po1)# spanning-tree portfast
```

spanning-tree priority

This command configures the global-level spanning-tree bridge priority value in increments of 4096. The valid range is 0 to 61440.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
spanning-tree priority {{value}}
no spanning-tree priority
```

Parameters

Name	Description	Type
value		Integer

Examples

Configure STP priority

```
sonic(config)# spanning-tree priority 4096
```

spanning-tree uplinkfast

This command configures spanning-tree uplinkfast on an interface or a range of interfaces. The Uplink Fast feature enhances STP performance for switches with redundant uplinks.

Using the default value for the standard STP forward delay, convergence following a transition from an active link to a redundant link can take 30 seconds (15 seconds for listening and an additional 15 seconds for learning). When uplinkfast is configured on the redundant uplinks, it reduces the convergence time to just one second by moving to the forwarding state (bypassing listening and learning modes) in just one second when the active link goes down.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num
```

Syntax

```
spanning-tree uplinkfast
no spanning-tree uplinkfast
```

Examples

Configure STP uplinkfast

```
sonic(config)# interface PortChannel 1
sonic(conf-if-po1)# spanning-tree uplinkfast
```

spanning-tree vlan

This command configures interface and VLAN-specific spanning-tree parameters.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num
```

Syntax

```
spanning-tree vlan {{vlan-range}} { { cost {{value}} } | { port-priority {{value}} } }
no spanning-tree vlan {{vlan-range}} { cost | port-priority }
```

Parameters

Name	Description	Type
vlan-range	{{1..4094}}	String
value		Integer

Examples

Configure STP cost and port priority

```
sonic(config)# interface PortChannel 1
sonic(conf-if-po1)# spanning-tree vlan 100 cost 1000
sonic(conf-if-po1)# spanning-tree vlan 100 port-priority 16
```

speed (Management Interface)

This command configures the speed of a port on a management interface.

Parent Commands (Modes)

```
interface {{mgmt-if-name}}
```

Syntax

```
speed {{speed}}
no speed
```

Parameters

Name	Description	Type
speed	Port speed	Select [10(10MBPS) 100(100MBPS) 1000(1GIGE) auto(1GIGE)]

Examples

Configure speed

```
sonic(conf-if-Ethernet0)# speed 10000
sonic(conf-if-Ethernet0)#
```

speed (Non-Management Interface)

This command configures speed on an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
speed {{speed}}
no speed
```

Parameters

Name	Description	Type
speed	Port speed	Select [10(10MBPS) 100(100MBPS) 1000(1GIGE) 2500(2.5GIGE) 5000(5GIGE) 10000(10GIGE) 20000(20GIGE) 25000(25GIGE) 40000(40GIGE) 50000(50GIGE) 100000(100GIGE) 200000 (200GIGE) 400000(400GIGE) 800000(800GIGE)]

speed auto

This command enables speed auto-negotiation.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
speed auto [ {{admin_advertise}} ]
no speed auto
```

Parameters

Name	Description	Type
admin_advertise	String	String

ssh-server vrf

This command enables ssh-server on the given VRF.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
ssh-server vrf {{vrf-name}}
no ssh-server vrf {{vrf-name}}
```

Parameters

Name	Description	Type
vrf-name	WORD	String

Examples

Enable SSH server functionality on VRF Vrf2

```
sonic(config)# ssh-server vrf Vrf2
sonic(config)#
```

standalone-link-training

This command enables standalone-link-training.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
standalone-link-training
no standalone-link-training
```

startup-delay

This command specifies the startup delay.

Parent Commands (Modes)

```
evpn esi-multihoming
```

Syntax

```
startup-delay {{_startup_delay}}
no startup-delay
```

Parameters

Name	Description	Type
_startup_delay		Integer

static

This command configures static NAT entry.

Parent Commands (Modes)

```
nat
```

Syntax

```
static { { basic {{global-ip}} {{local-ip}} [ {{natType}} ] { [ twice-nat-id {{twice-nat-id-value}} ] } } | { {{natPortType}} {{global-ip}} {{global-port}} {{local-ip}} {{local-port}} [ {{natType}} ] { [ twice-nat-id {{twice-nat-id-value}} ] } } }
no static { all | { basic {{global-ip}} } | { {{natPortType}} {{global-ip}} {{global-port}} } }
```

Parameters

Name	Description	Type
global-ip	A.B.C.D	String
local-ip	A.B.C.D	String
natType	NAT type	Select [snat dnat]
twice-nat-id-value		Integer
natPortType	NAT port type	Select [tcp udp]
global-port		Integer
local-port		Integer

storm-control broadcast

This command enables storm-control broadcast on an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
storm-control broadcast {{kbps}}
no storm-control broadcast
```

Parameters

Name	Description	Type
kbps	kbps	Integer

Examples

Enable storm-control broadcast on interface 10000

```
sonic-cli# configure terminal
sonic-cli(config)# interface Ethernet 0
sonic-cli(conf-if-Ethernet0)# storm-control broadcast 10000
```

storm-control unknown-multicast

This command enables unknown-multicast storm-control on an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
storm-control unknown-multicast {{kbps}}
no storm-control unknown-multicast
```

Parameters

Name	Description	Type
kbps	kbps	Integer

Examples

Enable storm-control unknown-multicast on interface 30000

```
sonic-cli# configure terminal
sonic-cli(config)# interface Ethernet 0
sonic-cli(conf-if-Ethernet0)# storm-control unknown-multicast 30000
```

storm-control unknown-unicast

This command enables unknown-unicast storm-control on an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
storm-control unknown-unicast {{kbps}}
no storm-control unknown-unicast
```

Parameters

Name	Description	Type
kbps	kbps	Integer

Examples

Enable storm-control unknown-unicast on interface 20000

```
sonic-cli# configure terminal
sonic-cli(config)# interface Ethernet 0
sonic-cli(conf-if-Ethernet0)# storm-control unknown-unicast 20000
```

strict-capability-match

This command instructs a BGP neighbor or peer-group to enforce the exact matching of sent and received capabilities. If the capabilities are different, an Unsupported Capability error is sent, and then the connection is reset.

Parent Commands (Modes)

```
neighbor { {{ip}} | { interface { ethernet | portchannel | vlan } } }

peer-group {{template-str}}
```

Syntax

```
strict-capability-match
no strict-capability-match
```

Examples

Enable strict capability match for BGP neighbor 30.30.30.3

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 30.30.30.3
sonic(config-router-bgp-neighbor)# strict-capability-match
```

Enable strict capability match for BGP peer-group PG_Ext

```
sonic# configure terminal
```

```
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# strict-capability-match
```

suppress-fib-pending

This command enables suppressing the advertisement of newly learned BGP routes until programmed in the hardware inside BGP docker.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
suppress-fib-pending
no suppress-fib-pending
```

Examples

Suppress the advertisement of newly learned BGP routes until programmed in the hardware

```
sonic-cli(config)# suppress-fib-pending
```

switch-id

This command configures a 32-bit identifier that uniquely identifies the switch and is used in telemetry reports. When not configured, the last 16 bits from the system MAC address are used.

Parent Commands (Modes)

```
tam
```

Syntax

```
switch-id {{id}}
no switch-id
```

Parameters

Name	Description	Type
id	1..4294967295	Integer

Examples

Configure switch-id {{number}}

```
sonic# configure terminal
sonic(config)# tam
sonic(config-tam)# switch-id 1234
sonic(config-tam)# exit
sonic(config)# exit
sonic# show tam switch
TAM Device information
----------------------
Switch ID      : 1234
Enterprise ID  : 4312
sonic#
```

switch-resource

This command configures the switch-resource.

Parent Commands (Modes)

```
configure terminal
```

Syntax

```
switch-resource
```

switching-mode

This command configures cut-through switching-mode.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
switching-mode cut-through
no switching-mode cut-through
```

Examples

Configure cut-through switching-mode in the hardware

```
sonic-cli(config)# switching-mode cut-through
```

switchport access

This command sets the access mode characteristics of the interface.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num
```

Syntax

```
switchport access {{vlan-val}}
no switchport access Vlan
```

Parameters

Name	Description	Type
vlan-val	VlanNUM	

switchport l2proto-tunnel

This command configures the L2 protocols to be tunneled.

Parent Commands (Modes)

```
interface {{phy-if-name}}
```

Syntax

```
switchport l2proto-tunnel { { lldp { vlan_id_list | { Vlan { { add {{vlan_id_list}} } |
{ remove {{vlan_id_list}} } } } } } | { stp { vlan_id_list | { Vlan { { add {{vlan_id_
list}} } | { remove {{vlan_id_list}} } } } } } | { cdp { vlan_id_list | { Vlan { { add
{{vlan_id_list}} } | { remove {{vlan_id_list}} } } } } } | { lacp { vlan_id_list | {
Vlan { { add {{vlan_id_list}} } | { remove {{vlan_id_list}} } } } } } }
no switchport l2proto-tunnel { { [ lldp [ {{vlan-name-list}} ] ] } | { [ stp [ {{vlan-
name-list}} ] ] } | { [ cdp [ {{vlan-name-list}} ] ] } | { [ lacp [ {{vlan-name-list}}
] ] } } ]
```

Parameters

Name	Description	Type
vlan_id_list	{{1..4094}}	String

switchport trunk

This command adds or removes trunking parameters on an interface.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface range iface_range_num

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num
```

Syntax

```
switchport trunk allowed { vlan_id_list | { Vlan { { add {{vlan_id_list}} } | { remove
{{vlan_id_list}} } | { except {{vlan_id_list}} } | all | none } } }
no switchport trunk allowed {{vlan-name-list}}
```

Parameters

Name	Description	Type
vlan_id_list	{{1..4094}}	String

Examples

Add trunking parameters on an interface

```
sonic(conf-if-Ethernet4)# switchport trunk allowed Vlan add 10
sonic(conf-if-Ethernet4)#
```

Remove trunking parameters on an interface

```
sonic(conf-if-Ethernet4)# switchport trunk allowed Vlan remove 10
sonic(conf-if-Ethernet4)#
```

switchport vlan-mapping

This command configures VLAN translation parameters on an interface.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]
```

Syntax

```
switchport vlan-mapping { { {{cvlan-svlan-id}} { { {{svlan-id}} { { [ priority { {{pri-
ority_bits}} [ multi-tag ] } ] } | [ multi-tag ] ] } } | { inner { {{inner-cvlan-id}} {
{{svlan-id}} { { [ priority { {{priority_bits}} [ multi-tag ] } ] } | [ multi-tag ] ] }
} } } | { dot1q-tunnel { {{svlan-id}} { [ priority {{priority_bits}} ] } } } } } | {
dot1q-tunnel { {{svlan-id}} { priority {{priority_bits}} } } } | { add { {{cvlan_id_
list}} { dot1q-tunnel { {{svlan-id}} { [ priority {{priority_bits}} ] } } } } } | {
remove { {{cvlan_id_list}} { dot1q-tunnel { {{svlan-id}} { [ priority {{priority_bits}}
] } } } } } | { {{cvlan_id_list}} { dot1q-tunnel { {{svlan-id}} { [ priority {{pri-
ority_bits}} ] } } } } }
no switchport vlan-mapping {{cvlan-svlan-id}} { { [ {{svlan-id}} [ priority ] ] } | { [
dot1q-tunnel priority ] } | { [ inner { {{inner-cvlan-id}} { {{svlan-id}} [ priority ]
} } ] } ] }
```

Parameters

Name	Description	Type
cvlan-svlan-id		Integer
svlan-id		Integer
priority_bits		Integer
inner-cvlan-id		Integer
cvlan_id_list	{{VLAN-LIST}}	String

swsslog

This command configures the SONiC logging severity level setting.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
swsslog loglevel { {{loglevel_value}} { component {{component_name}} { [ sai_component
{{is_sai}} ] } } }
```

Parameters

Name	Description	Type
loglevel_value	String	String
component_name	String	String
is_sai		Select [yes(yes) no(no)]

system adjust-txrx-clock-freq

This command adjusts the Transmit/Receiver clock frequency to a platform-specific predefined value.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
system adjust-txrx-clock-freq
no system adjust-txrx-clock-freq
```

Examples

Configure the Tx/Rx clock frequency

```
sonic(config)# system adjust-txrx-clock-freq
```

system resource-stats-polling-interval

This command sets the polling interval for retrieving system resource utilization metrics, such as CPU, Memory, etc.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
system resource-stats-polling-interval {{interval}}
no system resource-stats-polling-interval
```

Parameters

Name	Description	Type
interval		Integer

Examples

Configure the resource statistics polling interval

```
sonic(config)# system resource-stats-polling-interval 300
```

system vlan

This command reserves a contiguous 128 VLANs.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
system vlan {{vlan-id}} reserve
no system vlan {{vlan-id}} reserve
```

Parameters

Name	Description	Type
vlan-id		Integer

Examples

Configure the system VLAN reservation range

```
sonic(config)# system vlan 600 reserve
```

system-mac

This command configures the system MAC for one or more portchannels.

Parent Commands (Modes)

```
interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface range create po_range_num { [ mode {{pomode}} ] } { [ min-links {{min-links-
value}} ] } [ fallback ] [ fast_rate ]
interface range po_range_num
```

Syntax

```
system-mac {{sysmac}}
no system-mac
```

Parameters

Name	Description	Type
sysmac	nn:nn:nn:nn:nn:nn	String

table-map

This command enables applying a route-map on route updates from BGP to Zebra (RIB manager). All the applicable match operations are allowed, such as match on prefix, next-hop, communities, etc. Set operations for this attach-point are limited to metric and next-hop only. Any operation of this feature does not affect a BGP's internal RIB.

Parent Commands (Modes)

```
address-family ipv4 unicast

address-family ipv6 unicast
```

Syntax

```
table-map {{rtmap}}
no table-map [ {{rtmap}} ]
```

Parameters

Name	Description	Type
rtmap	WORD	String

Examples

Configure table-map rmap_block_private

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# address-family ipv4 unicast
sonic(config-router-bgp-af)# table-map rmap_block_private
```

tacacs-server auth-type

This command configures the global authentication type for TACACS.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
tacacs-server auth-type {{auth-type}}
no tacacs-server auth-type
```

Parameters

Name	Description	Type
auth-type		Select [pap(pap) chap(chap) mschap(mschap) login(login)]

tacacs-server host

This command configures a server for TACACS.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
tacacs-server host {{host}} [ port {{port-val}} ] [ timeout {{timeout-val}} ] [ key {
{{key-val}} [ encrypted ] } ] [ type {{type-val}} ] [ priority {{priority-val}} ] [ vrf
{ mgmt } ]
no tacacs-server host {{address}}
```

Parameters

Name	Description	Type
host	WORD	String
port-val	port	Integer
timeout-val	seconds	Integer
key-val	String	String
type-val		Select [pap(pap) chap(chap) mschap(mschap) login(login)]
priority-val	(1..64)	Integer

tacacs-server key

This command configures a global shared secret for TACACS.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
tacacs-server key {{secret-key}} [ encrypted ]
no tacacs-server key
```

Parameters

Name	Description	Type
secret-key	String	String

tacacs-server source-interface

This command configures the source interface to pick the source IP, used for TACACS+ packets.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
tacacs-server source-interface { Ethernet | Loopback | Management | PortChannel | Vlan
}
no tacacs-server source-interface
```

tacacs-server timeout

This command configures the global timeout for TACACS.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
tacacs-server timeout {{timeout}}
no tacacs-server timeout
```

Parameters

Name	Description	Type
timeout	Seconds	Integer

tail-stamping

This command configures the tail-stamping feature.

Parent Commands (Modes)

```
tam
```

Syntax

```
tail-stamping
```

tam

This command configures telemetry and monitoring.

Parent Commands (Modes)

```
configure terminal
```

Syntax

```
tam
```

tcam

This command configures TCAM key-profile parameters.

Parent Commands (Modes)

```
hardware
```

Syntax

```
tcam
```

tcp-connect

This command configures the operation type as TCP, destination IP, and destination port for an IP SLA instance.

Parent Commands (Modes)

```
ip sla {{sla-id}}
```

Syntax

```
tcp-connect {{addr}} port {{portno}}
no tcp-connect
```

Parameters

Name	Description	Type
addr	String	String
portno		Integer

Examples

Configure the operation type as TCP, destination IP, and destination port for an IP SLA instance

```
sonic(config)# ip sla 10
sonic(conf-ipsla-10)# tcp-connect 40.40.1.2 port 100
```

tcp-timeout

This command configures the TCP NAT entry aging timeout in seconds.

Parent Commands (Modes)

```
nat
```

Syntax

```
tcp-timeout {{tcp-timeout-value}}
no tcp-timeout
```

Parameters

Name	Description	Type
tcp-timeout-value		Integer

techsupport-export enable

This command enables/disables export.

Parent Commands (Modes)

```
configure terminal
```

Syntax

```
techsupport-export enable {{ts_mode}}
```

Parameters

Name	Description	Type
ts_mode	Either on or off	Select [on(true) off(false)]

techsupport-export interval

This command configures the periodic export interval in minutes.

Parent Commands (Modes)

```
configure session
```

```
configure terminal
```

Syntax

```
techsupport-export interval {{interval}}
```

Parameters

Name	Description	Type
interval	Minutes	Integer

techsupport-export remote-server

This command configures the export remote server.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
techsupport-export remote-server {{servername}} destdir { {{ts_destdir}} { username
{{ts_username}} } { password {{ts_password}} } { protocol {{ts_protocol}} } }
```

Parameters

Name	Description	Type
servername	A.B.C.D or A:B:C:D:E:F:G:H	String
ts_destdirv	String	String
ts_username	String	String
ts_password	String	String
ts_protocol	Either scp or sftp	Select [scp sftp]

terminal length

This command sets the terminal length.

Syntax

```
terminal length {{length}}
```

Parameters

Name	Description	Type
length		Integer

terminal timeout

This command sets the terminal timeout.

Syntax

```
terminal timeout {{timeout}}
```

Parameters

Name	Description	Type
timeout		Integer

test cable-diagnostics

This command runs a cable-diagnostics test.

Syntax

```
test cable-diagnostics [ {{port}} ]
```

Parameters

Name	Description	Type
port	Interface Ethernet range	

threshold (IP Link State Track)

This command configures the threshold parameters which can be used to start up or shut down downstream interfaces. The threshold up value must be higher than the threshold down value.

If threshold up is not configured, then it is assumed that all upstream interfaces must be online to start up downstream interfaces. If threshold down is not configured, then it is assumed that all upstream interfaces must be offline to shut down downstream interfaces.

Parent Commands (Modes)

```
link state track {{grp-name}}
```

Syntax

```
threshold { { type percentage { [ up {{threshold-up}} ] } { [ down {{threshold-down}} ]
} } | { up {{threshold-up}} { [ down {{threshold-down}} ] } } | { down {{threshold-
down}} } }
no threshold { [ up ] | [ down ] } ]
```

Parameters

Name	Description	Type
threshold-up		Integer
threshold-down		Integer

Examples

Configure threshold parameters

```
sonic(config-link-track)# threshold type percentage up 70 down 40
sonic(config-link-track)# threshold up 80
sonic(config-link-track)# threshold down 20
```

threshold (IP Next-Hop)

This command configures the threshold parameters which can be used to mark a next-hop group as forwardable. The threshold up value must be higher than the threshold down value.

If threshold up is not configured, then it is assumed to be the threshold down value +1. If threshold down is not configured, then it is assumed to be 0.

Parent Commands (Modes)

```
pbf next-hop-group {{fbs-nhgrp-name}} [ type { ip | ipv6 } ]

link state track {{grp-name}}
```

Syntax

```
threshold { { type { percentage | count } { [ up {{threshold-up}} ] } { [ down
{{threshold-down}} ] } } | { up {{threshold-up}} { [ down {{threshold-down}} ] } } | {
down {{threshold-down}} } }
no threshold { [ up ] | [ down ] } ]
```

Parameters

Name	Description	Type
threshold-up		Integer
threshold-down		Integer

Examples

Configure threshold parameters

```
sonic(config-pbf-ipv6-nh-group)# threshold type percentage up 70 down 40
sonic(config-pbf-ip-nh-group)# threshold type count up 4 down 2
sonic(config-pbf-ip-nh-group)# threshold down 1
```

threshold (IP SLA)

This command configures the threshold count for an IP SLA instance.

Parent Commands (Modes)

```
ip sla {{sla-id}}
```

Syntax

```
threshold {{threshold-value}}
no threshold
```

Parameters

Name	Description	Type
threshold-value		Integer

Examples

Configure the threshold count for an IP SLA instance

```
sonic(config)# ip sla 10
sonic(conf-ipsla-10)# threshold 5
```

threshold buffer-pool

This command configures the buffer pool threshold (as a percentage) on ingress/egress buffers pools-lossy/lossless, globally or for an interface. The valid range is 1 to 100.

Parent Commands (Modes)

```
configure session
configure terminal

interface {{phy-if-name}}
```

Syntax

```
threshold buffer-pool {{buffer_pool_name}} { shared | multicast } {{threshold_value}}
no threshold buffer-pool {{buffer_pool_name}} { shared | multicast }
```

Parameters

Name	Description	Type
buffer_pool_name	WORD	String
threshold_value		Integer

Examples

Configuration commands for buffer pool threshold

```
sonic(config)# threshold buffer-pool ingress_lossless_pool multicast 1
sonic(config)# threshold buffer-pool egress_lossy_pool shared 1
sonic(config)# threshold buffer-pool egress_lossless_pool shared 1
```

Configure the queue buffer threshold

```
sonic(conf-if-Ethernet0)# threshold ingress_port0_lossless_pool shared 47
```

threshold device

This command configures the device threshold buffer.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
threshold device {{threshold_value}}
```

```
no threshold device
```

Parameters

Name	Description	Type
threshold_value		Integer

Examples

Configure the device threshold buffer

```
sonic(config)# threshold device 77
```

threshold priority-group

This command configures a threshold (as a percentage) for a specific priority- group shared/headroom buffer of an interface. The valid range is 1 to 100.

Parent Commands (Modes)

```
interface {{phy-if-name}}
```

Syntax

```
threshold priority-group {{PG-Index}} { headroom | shared } {{threshold_value}}
no threshold priority-group {{PG-Index}} { headroom | shared }
```

Parameters

Name	Description	Type
PG-Index		Integer
threshold_value		Integer

Examples

Configure the priority-group buffer threshold

```
sonic(conf-if-Ethernet0)# threshold priority-group 5 headroom 57
sonic(conf-if-Ethernet0)# threshold priority-group 7 shared 78
```

threshold queue (Non-CPU Interface)

This command configures the queue threshold (as a percentage) for a specific unicast/multicast queue of an interface. The valid range is 1 to 100.

Parent Commands (Modes)

```
interface {{phy-if-name}}
```

Syntax

```
threshold queue {{queue_index}} { unicast | multicast } {{threshold_value}}
no threshold queue {{queue_index}} { unicast | multicast }
```

Parameters

Name	Description	Type
queue_index		Integer
threshold_value		Integer

Examples

Configure the queue buffer threshold

```
sonic(conf-if-Ethernet0)# threshold queue 4 unicast 47
sonic(conf-if-Ethernet0)# threshold queue 2 multicast 67
```

threshold queue (CPU Interface)

This command configures the multicast queue buffer threshold (as a percentage) of a CPU interface. The valid range is 1 to 100.

Parent Commands (Modes)

```
interface cpu
```

Syntax

```
threshold queue {{cpu_queue_index}} multicast {{threshold_value}}
no threshold queue {{cpu_queue_index}} multicast
```

Parameters

Name	Description	Type
cpu_queue_index		Integer
threshold_value		Integer

Examples

Configure the queue buffer threshold of a CPU interface

```
sonic(conf-if-CPU)# threshold queue 3 multicast 37
```

timeout (Backend)

This command sets the backend communication timeout in seconds. The default value is 5.

Parent Commands (Modes)

```
debug shell
```

Syntax

```
timeout
```

timeout (IP SLA or NAT)

This command configures the timeout interval for an IP SLA instance.

Parent Commands (Modes)

```
ip sla {{sla-id}}

nat
```

Syntax

```
timeout {{timeout-value}}
no timeout
```

Parameters

Name	Description	Type
timeout-value		Integer

Examples

Configure the timeout interval for an IP SLA instance

```
sonic(config)# ip sla 10
sonic(conf-ipsla-10)# timeout 30
```

timeout (Link State Track)

This command sets the timeout to bring up downstream interfaces when at least one upstream interface comes online.

Parent Commands (Modes)

```
link state track {{grp-name}}
```

Syntax

```
timeout {{grp-tmout}}
no timeout
```

Parameters

Name	Description	Type
grp-tmout		Integer

Examples

Set the timeout configuration

```
sonic(config-link-track)# timeout 120
```

timers (Global)

This command configures the keepalive and hold timer intervals (in seconds) at the global level. Note that the keepalive timer interval must be smaller than the hold timer interval.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }
```

Syntax

```
timers {{keepalive-intvl}} {{hold-time}}
no timers {{keepalive-intvl}} {{hold-time}}
```

Parameters

Name	Description	Type
keepalive-intvl		Integer
hold-time		Integer

Examples

Configure the keepalive interval to 10 seconds and hold timer interval to 30 seconds

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# timers 10 30
```

timers (Neighbor or Peer-Group)

This command enables the user to configure the keepalive, hold, and connect timer intervals (in seconds) for a BGP neighbor or peer-group.

Parent Commands (Modes)

```
neighbor { {{ip}} | { interface { ethernet | portchannel | vlan } } }

peer-group {{template-str}}
```

Syntax

```
timers { { {{keepalive-intvl}} {{hold-time}} } | { connect {{connect-time}} } }
no timers { { {{keepalive-intvl}} {{hold-time}} } | { connect {{connect-time}} } }
```

Parameters

Name	Description	Type
keepalive-intvl		Integer
hold-time		Integer
connect-time		Integer

Examples

Configure the keepalive and hold timer intervals for neighbor 30.30.30.3 to 3 and 9 seconds respectively

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 30.30.30.3
sonic(config-router-bgp-neighbor)# timers 3 9
```

Configure the keepalive and hold timer intervals for peer-group PG_Ext to 3 and 9 seconds respectively

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# timers 3 9
```

timers (OSPFv2)

This command configures the OSPFv2 LSA and SPF intervals in seconds.

Parent Commands (Modes)

```
router ospf [ vrf {{vrf-name}} ]
```

Syntax

```
timers { { lsa { min-arrival {{minarrivaltimer}} } } | { throttle { { lsa { all
{{lsadelaytimer}} } } | { spf {{spfdelaytime}} {{spfinitialholdtime}} {{spfmax-
holdtime}} } } } }
no timers { { lsa min-arrival } | { throttle { { lsa all } | spf } } }
```

Parameters

Name	Description	Type
minarrivaltimer		Integer

Name	Description	Type
lsadelaytimer		Integer
spfdelaytime		Integer
spfinitialholdtime		Integer
spfmaxholdtime		Integer

Examples

Configure the OSPFv2 LSA and SPF intervals

```
sonic-cli(config-router-ospf)# timers lsa min-arrival
sonic-cli(config-router-ospf)# timers throttle lsa all
sonic-cli(config-router-ospf)# timers throttle spf 10 20 30
```

Features this CLI belongs to

- OSPFv2

timers (OSPFv3)

This command configures the OSPFv3 LSA and SPF intervals in seconds.

Parent Commands (Modes)

```
router ospfv3 [ vrf {{vrf-name}} ]
```

Syntax

```
timers { { lsa { min-arrival {{minarrivaltimer}} } } | { throttle { { spf {{spf-
delaytime}} {{spfinitialholdtime}} {{spfmaxholdtime}} } } } }
no timers { { lsa min-arrival } | { throttle { spf } } }
```

Parameters

Name	Description	Type
minarrivaltimer		Integer

Name	Description	Type
spfdelaytime		Integer
spfinitialholdtime		Integer
spfmaxholdtime		Integer

Examples

Configure the OSPFv3 LSA and SPF intervals

```
sonic-cli(config-router-ospfv3)# timers lsa min-arrival
sonic-cli(config-router-ospfv3)# timers throttle spf 10 20 30
```

Features this CLI belongs to

- OSPFv3

tos

This command configures the ICMP or TCP Type-Of-Service (TOS).

Parent Commands (Modes)

```
icmp-echo {{addr}}

tcp-connect {{addr}} port {{portno}}
```

Syntax

```
tos {{size}}
no tos
```

Parameters

Name	Description	Type
size		Integer

Examples

Configure the TOS for an IP SLA ICMP instance

```
sonic(config)# ip sla 10
sonic(conf-ipsla-10)# icmp-echo 30.30.1.2
sonic(conf-ipsla-10-icmp)# tos 4
```

Configure the TOS for an IP SLA TCP instance

```
sonic(config)# ip sla 10
sonic(conf-ipsla-20)# tcp-connect 40.40.1.2
sonic(conf-ipsla-20-tcp)# tos 4
```

tpcm install

Install the docker image from a local file, docker, or another remote depository.

Syntax

```
tpcm install name {{container_name}} { { [ url {{url_path}} ] } | { [ image {{image_
path}} ] } | { [ pull {{pull_path}} ] } | { [ file {{file_path}} ] } | { [ scp {{scp_
host}} { username {{scp_username}} } { password {{scp_password}} } { filename {{scp_
filename}} } ] } | { [ sftp {{sftp_host}} { username {{sftp_username}} } { password
{{sftp_password}} } { filename {{sftp_filename}} } ] } } [ args {{_args}} ] [ cargs {{_
cargs}} ] [ vrf-name {{_vrf}} ] [ start-after-system-ready {{_dependency}} ]
```

Parameters

Name	Description	Type
container_name	String	String
url_path	String	String
image_path	String	String
pull_path	String	String
file_path	String	String
scp_host	String	String
scp_username	String	String
scp_password	String	String

Name	Description	Type
scp_filename	String	String
sftp_host	String	String
sftp_username	String	String
sftp_password	String	String
sftp_filename	String	String
_args	String	String
_cargs	String	String
_vrf	String	String
_dependency		Select [True(True) False(False)]

tpcm uninstall

This command uninstalls the third-party container docker image.

Syntax

```
tpcm uninstall name {{container_name}} [ clean_data {{skip}} ]
```

Parameters

Name	Description	Type
container_name	String	String
skip		Select [yes(yes) no(no)]

tpcm update

This command updates the overall disk limit, per-tpcm memory limit, VRF, and other parameters.

Syntax

```
tpcm update { { disk-limit {{disk_limit}} } | { name {{container_name}} { [ vrf-name
{{_vrf}} ] } { [ memory {{_mem_limit}} ] } { [ start-after-system-ready {{_dependency}}
] } } }
```

Parameters

Name	Description	Type
disk_limit	String	String
container_name	String	String
_vrf	String	String
_mem_limit	String	String
_dependency		Select [True(True) False(False)]

tpcm upgrade

This command upgrades the docker image from a local file, docker, or another remote repository.

Syntax

```
tpcm upgrade name {{container_name}} { { [ url {{url_path}} ] } | { [ image {{image_
path}} ] } | { [ pull {{pull_path}} ] } | { [ file {{file_path}} ] } | { [ scp {{scp_
host}} { username {{scp_username}} } { password {{scp_password}} } { filename {{scp_
filename}} } ] } | { [ sftp {{sftp_host}} { username {{sftp_username}} } { password
{{sftp_password}} } { filename {{sftp_filename}} } ] } } [ skip-data-migration {{skip}}
] [ args {{_args}} ] [ cargs {{_cargs}} ]
```

Parameters

Name	Description	Type
container_name	String	String
url_path	String	String
image_path	String	String
pull_path	String	String
file_path	String	String
scp_host	String	String
scp_username	String	String
scp_password	String	String
scp_filename	String	String
sftp_host	String	String
sftp_username	String	String

Name	Description	Type
sftp_password	String	String
sftp_filename	String	String
skip		Select [yes(yes) no(no)]
_args	String	String
_cargs	String	String

traceroute

This command prints the route that packets take to the host.

Syntax

```
traceroute
```

traceroute vrf

This command selects the VRF instance.

Syntax

```
traceroute vrf {{vrf-name}}
```

Parameters

Name	Description	Type
vrf-name	VRF name (prefixed by Vrf, Max: 15 characters)	String

traceroute vrf mgmt

This command sets a traceroute using the management VRF.

Syntax

```
traceroute vrf mgmt
```

traceroute6

This command prints the route that packets take to the IPv6 host.

Syntax

```
traceroute6
```

traceroute6 vrf

This command selects the VRF instance.

Syntax

```
traceroute6 vrf {{vrf-name}}
```

Parameters

Name	Description	Type
vrf-name	VRF name (prefixed by Vrf, Max: 15 characters)	String

traceroute6 vrf mgmt

This command sets a traceroute6 using the management VRF.

Syntax

```
traceroute6 vrf mgmt
```

track-interface

This command configures the track-interface for changing the priority of the IPv4 VRRP instance. This command increases the effective priority by weight value if track-interface is up.

Parent Commands (Modes)

```
vrrp ipv4

vrrp ipv6
```

Syntax

```
track-interface { Ethernet | PortChannel | Vlan | Loopback } weight {{wt_value}}
no track-interface { Ethernet | PortChannel | Vlan | Loopback }
```

Parameters

Name	Description	Type
wt_value		Integer

Examples

Configure the track-interface for an IPv4 VRRP instance

```
sonic(config)# interface Ethernet4
sonic(conf-if-Ethernet4)#
sonic(conf-if-Ethernet4)# vrrp 1 address-family ipv4
sonic(conf-if-Ethernet4-vrrp-ipv4-1)#track-interface Ethernet12 weight 10
sonic(conf-if-Ethernet4-vrrp-ipv4-1)#track-interface Ethernet13 weight 10
```

Configure the track-interface for an IPv6 VRRP instance

```
sonic(config)# interface Ethernet4
sonic(conf-if-Ethernet4)#
sonic(conf-if-Ethernet4)# vrrp 1 address-family ipv6
sonic(conf-if-Ethernet4-vrrp-ipv6-1)#track-interface Ethernet24 weight 10
sonic(conf-if-Ethernet4-vrrp-ipv6-1)#track-interface Ethernet25 weight 20
```

traffic-class (DOT1P)

This command adds the Traffic class to a DOT1P entry in a map.

Parent Commands (Modes)

```
qos map tc-dot1p {{name}}
```

Syntax

```
traffic-class {{tc_list}} { dot1p {{dot1p-val}} }
no traffic-class {{tc_list}}
```

Parameters

Name	Description	Type
tc_list		String
dot1p-val		Integer

Examples

Add the Traffic class to a DOT1P entry

```
sonic# configure terminal
sonic(config)# qos map tc-dot1p tc_dot1p
sonic(conf-tc-dot1p-map-tc_dot1p)# traffic-class 0 dot1p 0
sonic(conf-tc-dot1p-map-tc_dot1p)# traffic-class 1 dot1p 1
sonic(conf-tc-dot1p-map-tc_dot1p)# traffic-class 3 dot1p 2
```

traffic-class (DSCP)

This command adds the Traffic class to a DSCP entry in a map.

Parent Commands (Modes)

```
qos map tc-dscp {{name}}
```

Syntax

```
traffic-class {{tc_list}} { dscp {{dscp-val}} }
no traffic-class {{tc_list}}
```

Parameters

Name	Description	Type
tc_list		String
dscp-val		Integer

Examples

Add the Traffic class to a DSCP entry

```
sonic# configure terminal
sonic(config)# qos map tc-dscp tc_dscp
sonic(conf-tc-dscp-map-tc_dscp)# traffic-class 0 dscp 0
sonic(conf-tc-dscp-map-tc_dscp)# traffic-class 1 dscp 10
sonic(conf-tc-dscp-map-tc_dscp)# traffic-class 3 dscp 29
```

traffic-class (Priority-Group)

This command adds the Traffic class to a Priority-Group entry in a map.

Parent Commands (Modes)

```
qos map tc-pg {{name}}
```

Syntax

```
traffic-class {{tc_list}} { priority-group {{pg}} }
no traffic-class {{tc_list}}
```

Parameters

Name	Description	Type
tc_list		String
pg		Integer

Examples

Add the Traffic class to a Priority-Group entry

```
sonic# configure terminal
sonic(config)# traffic-class 0 priority-group 0
sonic(config)# traffic-class 2 priority-group 0
sonic(config)# traffic-class 1 priority-group 2
```

traffic-class (Queue)

This command adds the Traffic class to a Queue entry in a map.

Parent Commands (Modes)

```
qos map tc-queue {{name}}
```

Syntax

```
traffic-class {{tc_list}} { queue {{qid}} }
no traffic-class {{tc_list}}
```

Parameters

Name	Description	Type
tc_list		String
qid		Integer

Examples

Add the Traffic class to a Queue entry

```
sonic# configure terminal
sonic(config)# traffic-class 0 queue 0
sonic(config)# traffic-class 2 queue 0
sonic(config)# traffic-class 1 queue 2
```

transceiver

This command configures the transceiver parameters on an interface or a range of interfaces.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
transceiver { { laser-frequency { { grid {{if-xcvr-laser-grid}} { [ channel {{if-xcvr-laser-chan}} ] } { [ lane {{if-xcvr-laser-lane}} ] } } | { fine-tuning {{if-xcvr-laser-tune}} { [ lane {{if-xcvr-laser-lane}} ] } } } } | { laser-power { output-power {{if-xcvr-laser-txpower}} } { [ lane {{if-xcvr-laser-lane}} ] } } }
no transceiver [ lane {{if-xcvr-laser-lane}} ]
```

Parameters

Name	Description	Type
if-xcvr-laser-grid	Laser grid type	Select [75G 33G 100G 50G 25G 12.5G 6.25G 3.125G]
if-xcvr-laser-chan	Range of int16	Integer
if-xcvr-laser-lane		Integer
if-xcvr-laser-tune	Range of int16	Integer
if-xcvr-laser-txpower	Range of int16	Integer

Examples

Configure the transceiver laser to channel 3 of 50G grid spacing

```
sonic(config-if-Ethernet192)# transceiver laser-frequency grid 50G channel 3
```

Configure the transceiver laser grid-less frequency offset to 100 MHz

```
sonic(config-if-Ethernet192)# transceiver laser-frequency fine-tuning 100
```

Configure the transceiver laser target output power to -11.9 dBm

```
sonic(config-if-Ethernet192)# transceiver laser-power output-power -1190
```

transmit-interval

This command configures the desired packet transmit interval (in milliseconds) for the Bidirectional Forwarding detection (BFD) peer. The default value is 300.

Parent Commands (Modes)

```
peer {{peer_ipv4}}
peer {{peer_ipv6}}
peer [ interface ] {{interfacename}}
peer [ local-address ] {{local_ipv4}}
peer [ local-address ] {{local_ipv6}}
peer [ multihop ]
peer [ vrf ] {{vrfname}}

profile {{profilename}}
```

Syntax

```
transmit-interval {{transmit_interval}}
```

Parameters

Name	Description	Type
transmit_interval		Integer

Examples

Configure the packet transmit interval for peer 192.168.0.5

```
device()#configure terminal
device(config)#bfd
device(conf-bfd)# peer 192.168.0.5 interface Ethernet0
device(conf-bfd-peer)# transmit-interval 200
```

Configure the packet transmit interval for profile "fast"

```
device()#configure terminal
device(config)#bfd
device(conf-bfd)# profile fast
device(conf-bfd-profile)# transmit-interval 200
```

ttl

This command configures the ICMP or TCP Time-To-Live (TTL).

Parent Commands (Modes)

```
icmp-echo {{addr}}

tcp-connect {{addr}} port {{portno}}
```

Syntax

```
ttl {{size}}
no ttl
```

Parameters

Name	Description	Type
size		Integer

Examples

Configure the TTL for an IP SLA ICMP instance

```
sonic(config)# ip sla 10
sonic(conf-ipsla-10)# icmp-echo 30.30.1.2
sonic(conf-ipsla-10-icmp)# ttl 16
```

Configure the TTL for an IP SLA TCP instance

```
sonic(config)# ip sla 10
sonic(conf-ipsla-20)# tcp-connect 40.40.1.2
sonic(conf-ipsla-20-tcp)# ttl 16
```

ttl-security hops

This command enforces the Generalized TTL Security Mechanism (GTSM), as specified in RFC 5082, for a BGP neighbor or peer-group. This is for security purposes. With this command, only neighbors that are the specified number of hops away will be allowed to become neighbors. This command is mutually exclusive with ebgp-multihop.

Parent Commands (Modes)

```
neighbor { {{ip}} | { interface { ethernet | portchannel | vlan } } }

peer-group {{template-str}}
```

Syntax

```
ttl-security hops {{nhops}}
no ttl-security hops
```

Parameters

Name	Description	Type
nhops		Integer

Examples

Enable the GTSM for BGP neighbor 30.30.30.3

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 30.30.30.3
sonic(config-router-bgp-neighbor)# ttl-security hops 6
```

Enable the GTSM for BGP peer-group PG_Ext

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# ttl-security hops 8
```

type (Dropcounter)

This command adds the dropcounter type.

Parent Commands (Modes)

```
dropcounters {{counter-name}}
```

Syntax

```
type {{type-str}}
no type
```

Parameters

Name	Description	Type
type-str	Debug counter type PORT_INGRESS_DROPS	Select [PORT_INGRESS_DROPS]

type (Scheduler)

This command adds the scheduler type (strict/dwrr/wrr).

Parent Commands (Modes)

```
queue {{sequence}}
```

Syntax

```
type {{type}}
no type
```

Parameters

Name	Description	Type
type	Scheduler type options	Select [dwrr(DWRR) wrr(WRR) strict(STRICT)]

Chapter 11:

Commands U to V

After login, type sonic-cli to be able to use the commands in this guide.

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udld enable **1267**
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udld multiplier **1269**
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udld aggressive

This command changes the UDLD mode to aggressive. The default UDLD mode is normal.

Parent Commands (Modes)

```
configure session
configure terminal

interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
udld aggressive
no udld aggressive
```

Examples

Enable UDLD aggressive mode globally

```
sonic-cli(config)# udld aggressive
```

Enable UDLD aggressive mode for an interface

```
sonic-cli(config)# interface Ethernet 0
sonic-cli(conf-if-Ethernet0)# udld aggressive
```

udld enable

This command enables UDLD at the global or interface level.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
udld enable
no udld enable

interface {{phy-if-name}}

interface range iface_range_num
```

Examples

Enable UDLD at the global level

```
sonic-cli(config)# udld enable
```

Enable UDLD for an interface

```
sonic-cli(config)# interface Ethernet 0
sonic-cli(conf-if-Ethernet0)# udld enable
```

udld message-time

This command configures the UDLD message time in seconds. This is the time interval at which periodic hellos are exchanged. The default value is 1.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
udld message-time {{msg-time}}
no udld message-time
```

Parameters

Name	Description	Type
msg-time		Integer

Examples

Configure the UDLD message time

```
sonic-cli(config)# udld message-time 3
```

udld multiplier

This command configures the UDLD multiplier value. This multiplier value is used to determine the timeout interval (message-time x multiplier value) after which UDLD declares the link as unidirectional. The default value is 3.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
udld multiplier {{multiplier}}
no udld multiplier
```

Parameters

Name	Description	Type
multiplier		Integer

Examples

Configure the UDLD multiplier value

```
sonic-cli(config)# udld multiplier 8
```

udp-timeout

This command configures the UDP NAT entry aging timeout in seconds.

Parent Commands (Modes)

```
nat
```

Syntax

```
udp-timeout {{udp-timeout-value}}
no udp-timeout
```

Parameters

Name	Description	Type
udp-timeout-value		Integer

unreliable-los

This command configures Unreliable-LOS mode.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface range iface_range_num
```

Syntax

```
unreliable-los {{unlos}}
no unreliable-los
```

Parameters

Name	Description	Type
unlos	Unreliable-LOS mode	Select [auto on off]

unsuppress-map

This command configures a route-map to selectively unsuppress suppressed routes.

Parent Commands (Modes)

```
address-family ipv4 unicast

address-family ipv6 unicast
```

Syntax

```
unsuppress-map {{map}}
no unsuppress-map {{map}}
```

Parameters

Name	Description	Type
map	WORD	String

Examples

Configure an unsuppress map for neighbor 20.20.20.2

```
sonic# configure terminal
sonic(config)# router bgp 100
```

```
sonic(config-router-bgp)# neighbor 20.20.20.2
sonic(config-router-bgp-neighbor)# remote-as 300
sonic(config-router-bgp-neighbor)# address-family ipv4 unicast
sonic(config-router-bgp-neighbor-af)# unsuppress-map rm_unsup_ext_rt
```

Configure an unsuppress map for peer-group PG_Int

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Int
sonic(config-router-bgp-pg)# address-family ipv4 unicast
sonic(config-router-bgp-pg-af)# unsuppress-map rm_unsup_ext_rt
```

update-delay

This command allows the user to set the update delay in seconds. This parameter controls how long to wait before running best-path selection after Graceful Restart. The default delay value is 0, meaning that the feature is off by default.

Use this setting to enable read-only mode on BGP process restart or when BGP process is cleared using clear ip bgp *. When applicable, read-only mode would begin as soon as the first peer reaches the Established status and a timer for max-delay is started.

While in this mode, BGP doesn't run any best-path or generate any updates to its peers. This mode continues until:

- All the configured peers, except the shutdown peers, have sent an explicit EOR (End-Of-RIB) or an implicit-EOR.
- The first keep-alive after BGP has reached Established is considered an implicit-EOR. If the establish-wait optional value is given, then BGP will wait for peers to reach the Established status from the beginning of the update-delay until the establish-wait period is over. This refers to the minimum set of established peers for which EOR is expected would be peers established during the establish-wait window, but not necessarily all the configured neighbors. Once either the establish-wait period expires or the minimum set of established peers expected is met, the max-delay period is over.

On hitting either of the above two conditions, BGP resumes the decision process and generates updates to its peers.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }
```

Syntax

```
update-delay {{time}} [ {{maxmedval}} ]
no update-delay
```

Parameters

Name	Description	Type
time		Integer
maxmedval		Integer

Examples

Configure the update-delay to 120 seconds

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# update-delay 120
```

update-source

This command specifies the IPv4 or IPv6 source address to use for the BGP session to this neighbor (or to neighbors in a peer-group). The source address can be specified either as a direct IPv4/IPv6 address or as an interface name. The interface name could be the router port, portchannel, VLAN interface, or routed VLAN sub-interface with IPv4/IPv6 address configured on it.

Parent Commands (Modes)

```
neighbor { {{ip}} | { interface { ethernet | portchannel | vlan } } }

peer-group {{template-str}}
```

Syntax

```
update-source { {{ip}} | { interface { Ethernet | PortChannel | Vlan | Loopback } } }
no update-source { [ {{ip}} ] | { interface { Ethernet | PortChannel | Vlan | Loopback
} } }
```

Parameters

Name	Description	Type
ip	A.B.C.D/A::B	String

Examples

Configure the source interface for neighbor 30.30.30.3 to 12.56.36.74

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 30.30.30.3
sonic(config-router-bgp-neighbor)# update-source 12.56.36.74
```

Configure the source interface for peer-group PG_Ext

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# peer-group PG_Ext
sonic(config-router-bgp-pg)# update-source Ethernet16
```

usb enable

This command enables the USB storage device auto-detection capability.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
usb enable
```

Examples

Enable USB detection

```
sonic# configure terminal
sonic(config)# usb enable
```

Features this CLI belongs to

- USB

usb mount

This command mounts all available USB partitions.

Syntax

```
usb mount
```

Examples

Mount USB

```
sonic-cli# usb mount
```

usb un-mount

This command safely un-mounts all mounted USB partitions.

Syntax

```
usb un-mount
```

Examples

Un-mount USB

```
sonic-cli# usb un-mount
```

use-v2-checksum

This command configures checksum compatibility for the VRRP instance.

Parent Commands (Modes)

```
vrrp ipv4
```

Syntax

```
use-v2-checksum
no use-v2-checksum
```

Examples

Configure checksum compatibility for an IPv4 VRRP instance

```
sonic(config)# interface Ethernet4
sonic(conf-if-Ethernet4)#
sonic(conf-if-Ethernet4)# vrrp 1 address-family ipv4
sonic(conf-if-Ethernet4-vrrp-ipv4-1)#use-v2-checksum
```

username

This command adds a new user.

Parent Commands (Modes)

```
configure terminal
```

Syntax

```
username {{user-name}} { { [ password {{passwd}} { [ role {{rl}} ] } ] } | { [ role
{{rl}} { [ password {{passwd}} ] } ] } | { [ sshkey {{key}} ] } }
no username {{user-name}} [ sshkey ]
```

Parameters

Name	Description	Type
user-name	String	String
passwd	WORD	String
rl	String	String
key	String	String

v6only

This command enables a BGP session with only IPv6 link-local on an interface neighbor.

Parent Commands (Modes)

```
neighbor { {{ip}} | { interface { ethernet | portchannel | vlan } } }
```

Syntax

```
v6only
no v6only
```

Examples

Enable a BGP session with only IPv6 link-local

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor interface Ethernet 0
sonic(config-router-bgp-neighbor)# v6only
```

version

This command configures the version of the IPv4 VRRP instance. The default value is 2.

Parent Commands (Modes)

```
vrrp ipv4
```

Syntax

```
version {{ver}}
no version
```

Parameters

Name	Description	Type
ver		Integer

Examples

Configure the version of the IPv4 VRRP instance

```
sonic(config)# interface Ethernet4
sonic(conf-if-Ethernet4)#
sonic(conf-if-Ethernet4)# vrrp 1 address-family ipv4
sonic(conf-if-Ethernet4-vrrp-ipv4-1)#version 3
```

vip (IPv4)

This command configures the virtual IP address of the IPv4 VRRP instance.

Parent Commands (Modes)

```
vrrp ipv4

vrrp ipv6
```

Syntax

```
vip {{vip_addr}}
no vip {{vip_addr}}
```

Parameters

Name	Description	Type
vip_addr	A.B.C.D	String

Examples

Configure the virtual IP address of the IPv4 VRRP instance

```
sonic(config)# interface Ethernet4
sonic(conf-if-Ethernet4)#
sonic(conf-if-Ethernet4)# vrrp 1 address-family ipv4
sonic(conf-if-Ethernet4-vrrp-ipv4-1)#vip 40.0.0.5
```

vip (IPv6)

This command configures the virtual IP address of the IPv6 VRRP instance.

Parent Commands (Modes)

```
vrrp ipv6
```

Syntax

```
vip {{vip_addr}}
no vip {{vip_addr}}
```

Parameters

Name	Description	Type
vip_addr	A::B	String

Examples

Configure the virtual IP address of the IPv6 VRRP instance

```
sonic(config)# interface Ethernet4
sonic(conf-if-Ethernet4)#
sonic(conf-if-Ethernet4)# vrrp 1 address-family ipv6
sonic(conf-if-Ethernet4-vrrp-ipv6-1)#vip 40::5
```

vlan-stacking

This command enables VLAN stacking configuration.

Parent Commands (Modes)

```
switch-resource
```

Syntax

```
vlan-stacking
no vlan-stacking
```

Examples

Enable VLAN stacking configuration

```
sonic(config)# vlan-stacking enable
```

vni

This command enables configuring per-VNI EVPN parameters.

Parent Commands (Modes)

```
address-family l2vpn evpn
```

Syntax

```
vni {{vninum}}
no vni {{vninum}}
```

Parameters

Name	Description	Type
vninum	VNI	Integer

Examples

Enter into config mode for VNI 100

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# address-family l2vpn evpn
sonic(config-router-bgp-af)# vni 100
sonic(config-router-bgp-af-vni)#
```

vni-downstream

This command sets the downstream VNI configuration.

Parent Commands (Modes)

```
interface vxlan {{vxlan-if-name}}
```

Syntax

```
vni-downstream {{remoteip}}
no vni-downstream {{remoteip}}
```

Parameters

Name	Description	Type
remoteip	A.B.C.D or external	String

Examples

Configure the downstream VNI address

```
sonic(config)# interface vxlan vtep1
sonic(conf-if-vxlan-vtep1)# vni-downstream 1.1.1.2
sonic(conf-if-vxlan-vtep1)# vni-downstream external
```

voice

This command configures the voice application type and its attributes.

Parent Commands (Modes)

```
network-policy profile {{np_num}}
```

Syntax

```
voice { { Vlan [ untagged ] { [ cos {{cos-val}} ] } { [ dscp {{dscp-val}} ] } } | {
Vlan { dot1p { [ cos {{cos-val}} ] } { [ dscp {{dscp-val}} ] } } } }
no voice vlan
```

Parameters

Name	Description	Type
cos-val		Integer
dscp-val		Integer

Examples

Configure voice VLAN QoS values

```
sonic-cli(config)# voice vlan 100 cos 4 dscp 20
```

Features this CLI belongs to

- LLDP-MED

voice-signaling

This command configures the voice-signaling application type and its attributes.

Parent Commands (Modes)

```
network-policy profile {{np_num}}
```

Syntax

```
voice-signaling { { Vlan [ untagged ] { [ cos {{cos-val}} ] } { [ dscp {{dscp-val}} ] }
} | { Vlan { dot1p { [ cos {{cos-val}} ] } { [ dscp {{dscp-val}} ] } } } }
no voice-signaling vlan
```

Parameters

Name	Description	Type
cos-val		Integer
dscp-val		Integer

Examples

Configure voice signaling VLAN QoS values

```
sonic-cli(config)# voice-signaling vlan dot1p cos 3 dscp 10
```

Features this CLI belongs to

- LLDP-MED

vrf

This command specifies the VRF on which to send the response to the authorized dynamic RADIUS clients. The management VRF must be already created.

Parent Commands (Modes)

```
aaa server radius dynamic-author
```

Syntax

```
vrf { mgmt | {{vrf-name}} }
no vrf
```

Parameters

Name	Description	Type
vrf-name	VRF name (prefixed by Vrf, Max: 15 characters)	String

Examples

Configure RADIUS DAS VRF

```
sonic-cli(config)# aaa server radius dynamic-author
sonic-cli(config-radius-da)# vrf mgmt
```

vrrp

This command configures Virtual Router Redundancy Protocol (VRRP) on the Ethernet interface or sub-interface, portchannel interface, or VLAN interface.

Parent Commands (Modes)

```
interface {{phy-if-name}}

interface {{phy-sub-if-name}}
interface {{po-sub-if-name}}

interface {{po-if-name}} { [ mode {{pomode}} ] } { [ min-links {{min-links-value}} ] }
[ fallback ] [ fast_rate ]

interface {{vlan-if-name}}
```

Syntax

```
vrrp {{vrrp-id}} address-family { ipv4 | ipv6 }
no vrrp {{vrrp-id}} address-family { ipv4 | ipv6 }
```

Parameters

Name	Description	Type
vrrp-id		Integer

Examples

Configure VRRP for IPv4 on Ethernet interface

```
sonic(config)# interface Ethernet4
sonic(conf-if-Ethernet4)#
sonic(conf-if-Ethernet4)# vrrp 1 address-family ipv4
sonic(conf-if-Ethernet4-vrrp-ipv4-1)#
```

Configure VRRP for IPv4 on Ethernet sub-interface

```
sonic(config)# interface Eth4.1
sonic(conf-if-Eth4.1)#
sonic(conf-if-Eth4.1)# vrrp 1 address-family ipv4
```

```
sonic(conf-if-Eth4.1-vrrp-ipv4-1)#
```

Configure VRRP for IPv4 on portchannel interface

```
sonic(config)# interface PortChannel 10
sonic(conf-if-po10)#
sonic(conf-if-po10)# vrrp 1 address-family ipv4
sonic(conf-if-po10-vrrp-ipv4-1)#
```

Configure VRRP for IPv4 on VLAN interface

```
sonic(config)# interface Vlan 10
sonic(conf-if-Vlan10)#
sonic(conf-if-Vlan10)# vrrp 1 address-family ipv4
sonic(conf-if-Vlan10-vrrp-ipv4-1)#
```

Configure VRRP for IPv6 on Ethernet interface

```
sonic(config)# interface Ethernet4
sonic(conf-if-Ethernet4)#
sonic(conf-if-Ethernet4)# vrrp 1 address-family ipv6
```

Configure VRRP for IPv6 on Ethernet interface

```
sonic(config)# interface Eth4.1
sonic(conf-if-Eth4.1)#
sonic(conf-if-Eth4.1)# vrrp 1 address-family ipv6
```

Configure VRRP for IPv6 on portchannel interface

```
sonic(config)# interface PortChannel 10
sonic(conf-if-po10)#
sonic(conf-if-po10)# vrrp 1 address-family ipv6
```

Configure VRRP for IPv6 on VLAN interface

```
sonic(config)# interface Vlan 10
sonic(conf-if-Vlan10)#
```

```
sonic(conf-if-Vlan10)# vrrp 1 address-family ipv6
```

Chapter 12:

Commands W to Z

After login, type sonic-cli to be able to use the commands in this guide.

warm-reboot 1288
warm-restart bgp 1289
warm-restart bgp enable 1290
warm-restart bgp eoiu 1290
warm-restart swss 1290
warm-restart swss enable 1291
warm-restart system 1291
warm-restart teamd 1292
warm-restart teamd enable 1293
watermark interval 1293
watermark telemetry 1294
weight (BGP Neighbor or Peer-Group) 1295
weight (Scheduler) 1296
write erase 1296
write erase boot 1297
write erase install 1298
write memory 1298
write-multiplier 1298
write-quanta 1299
ztp 1300

warm-reboot

This command configures warm-reboot.

Syntax

```
warm-reboot [ force {{_force}} ] [ verbose {{_verbose}} ] [ ignore {{_ignore}} ] [
sbin-reboot {{_sbin_reboot}} ]
```

Parameters

Name	Description	Type
_force	[yes/no]	Select [yes no]
_verbose	[yes/no]	Select [yes no]
_ignore	[yes/no]	Select [yes no]
_sbin_reboot	[yes/no]	Select [yes no]

warm-restart bgp

This command configures the timer value (in seconds) for warm restart of the BGP service. The valid range is 1 to 3599.

Syntax

```
warm-restart bgp timer {{value}}
no warm-restart bgp timer
```

Parameters

Name	Description	Type
value	Seconds	Integer

Examples

Set the warm restart timer for BGP service to 60 seconds

```
sonic(config)# warm-restart bgp timer 60
sonic(config)#
```

warm-restart bgp enable

This command enables the warm restart feature.

Syntax

```
warm-restart bgp enable
no warm-restart bgp enable
```

Examples

Enable warm restart for BGP service

```
sonic(config)# warm-restart bgp enable
sonic(config)#
```

warm-restart bgp eoiu

This command enables the BGP EOIU flag.

Syntax

```
warm-restart bgp eoiu
no warm-restart bgp eoiu
```

Examples

Enable BGP EOIU flag status

```
sonic(config)# warm-restart bgp eoiu
sonic(config)#
```

warm-restart swss

This command sets the timer value (in seconds) for warm restart of the SWSS service. The valid range is 1 to 9998.

Syntax

```
warm-restart swss timer {{value}}
no warm-restart swss timer
```

Parameters

Name	Description	Type
value	Seconds	Integer

Examples

Set the warm restart timer for the SWSS service to 3600 seconds

```
sonic(config)# warm-restart swss timer 3600
sonic(config)#
```

warm-restart swss enable

This command enables the warm-restart feature for the SWSS service.

Syntax

```
warm-restart swss enable
no warm-restart swss enable
```

Examples

Enable warm restart for the SWSS service

```
sonic(config)# warm-restart swss enable
sonic(config)#
```

warm-restart system

This command enables the warm-restart feature for the system service.

Syntax

```
warm-restart system [ enable ]
no warm-restart system [ enable ]
```

Examples

Enable warm restart for the system service

```
sonic(config)# warm-restart system
sonic(config)#
```

warm-restart teamd

This command sets the timer value (in seconds) for warm restart of the teamd service. The valid range is 1 to 3599.

Syntax

```
warm-restart teamd timer {{value}}
no warm-restart teamd timer
```

Parameters

Name	Description	Type
value	Seconds	Integer

Examples

Warm restart timer for the teamd service to 600 seconds

```
sonic(config)# warm-restart teamd timer 600
sonic(config)#
```

warm-restart teamd enable

This command enables the warm restart feature for the teamd service.

Syntax

```
warm-restart teamd enable
no warm-restart teamd enable
```

Examples

Enable warm restart for the teamd service

```
sonic(config)# warm-restart teamd enable
sonic(config)#
```

watermark interval

This command configures the snapshot watermark interval.

Parent Commands (Modes)

```
configure terminal
```

Syntax

```
watermark interval {{interval_value}}
no watermark interval
```

Parameters

Name	Description	Type
interval_value		Integer

Examples

Configure the snapshot watermark interval

```
sonic(config)# watermark interval 77
```

watermark telemetry

This command configures the watermark telemetry interval.

Parent Commands (Modes)

```
configure session
configure terminal
```

Syntax

```
watermark telemetry interval {{interval_value}}
no watermark telemetry interval
```

Parameters

Name	Description	Type
interval_value		Integer

Examples

Configure the watermark telemetry interval

```
sonic(config)# watermark telemetry interval 88
```

weight (BGP Neighbor or Peer-Group)

This command configures the default weight for all routes received from this BGP neighbor or peer-group. The weight parameter is used in the BGP route selection process, so configuring the weight might influence the outcome of the route selection process.

Parent Commands (Modes)

```
address-family ipv4 unicast

address-family ipv6 unicast
```

Syntax

```
weight {{val}}
no weight [ {{val}} ]
```

Parameters

Name	Description	Type
val		Integer

Examples

Configure a default weight of 45 for routes received from neighbor 20.20.20.2

```
sonic# configure terminal
sonic(config)# router bgp 100
sonic(config-router-bgp)# neighbor 20.20.20.2
sonic(config-router-bgp-neighbor)# remote-as 300
sonic(config-router-bgp-neighbor)# address-family ipv4 unicast
sonic(config-router-bgp-neighbor-af)# weight 45
```

Configure a default weight of 25 for routes received from neighbors in peer-group PG_Ext

```
sonic# configure terminal
sonic(config)# router bgp 100
```

```
sonic(config-router-bgp)# peer-group PG_Int
sonic(config-router-bgp-pg)# address-family ipv4 unicast
sonic(config-router-bgp-pg-af)# weight 25
```

weight (Scheduler)

This command configures the scheduler weight.

Parent Commands (Modes)

```
queue {{sequence}}
```

Syntax

```
weight {{weight}}
no weight
```

Parameters

Name	Description	Type
weight		Integer

write erase

This command erases all existing switch configuration files except the management interface configuration, or cancels the configuration erase operation.

- The "write erase" command deletes the startup configuration JSON file and all application configuration files in the /etc/sonic directory. However, the management interface configuration in the startup configuration file is retained; this way, the user can access the switch using the same management address after the switch reboots.
- The "no write erase" command cancels the configuration erase operation.
- For the "write erase" command operation to take effect, the user must reboot the switch after issuing the "write erase" command. If the user wishes not to proceed with the

configuration removal operation, the "no write erase cancel" command can be used to undo the previously issued "write erase" command.

Syntax

```
write erase
no write erase
```

Examples

Erase all configuration files except for the management interface configuration

```
sonic# configure terminal
sonic(config)# write erase
Existing switch configuration files except management interface configuration will be
removed, continue? [y/N]:
sonic(config)# no write erase
Switch configuration erase operation will be cancelled, continue? [y/N]:
```

write erase boot

This command erases all configuration files, including the management interface configuration.

The "write erase boot" command deletes the startup configuration JSON file and all application configuration files in the /etc/sonic directory. The management interface configuration in the startup configuration JSON file is also removed.

Following this command, the SONiC switch boots with a factory-default configuration file.

Syntax

```
write erase boot
```

Examples

Erase all configuration files

```
sonic# configure terminal
sonic(config)# write erase boot
```

```
Existing switch configuration files will be removed, continue? [y/N]:
```

write erase install

This command restores the SONiC switch content to default values.

The "write erase install" command removes all changes made by the user. All user-installed packages and file changes are removed. This also deletes the startup configuration JSON file and the files in the "/etc/sonic" directory. The SONiC switch is reverted to the same state as a newly installed image.

After the SONiC switch is rebooted, if the Zero Touch Provisioning (ZTP) feature is enabled, the SONIC switch will start performing ZTP to discover and download the switch configuration.

Syntax

```
write erase install
```

Examples

Erase all switch changes made by the user

```
sonic# configure terminal
sonic(config)# write erase install
All SONiC switch content will be restored to default values, continue? [y/N]:
```

write memory

This command saves the configuration.

Syntax

```
write memory
```

write-multiplier

This command configures the OSPFv2 or OSPFv3 write multiplier.

Parent Commands (Modes)

```
router ospf [ vrf {{vrf-name}} ]

router ospfv3 [ vrf {{vrf-name}} ]
```

Syntax

```
write-multiplier {{maxinterfacewrite}}
no write-multiplier
```

Parameters

Name	Description	Type
maxinterfacewrite		Integer

Examples

Configure the OSPFv2 write multiplier

```
sonic-cli(config-router-ospf)# write-multiplier 20
```

Configure the OSPFv3 write multiplier

```
sonic-cli(config-router-ospfv3)# write-multiplier 20
```

Features this CLI belongs to

- OSPFv2
- OSPFv3

write-quanta

This command configures the maximum number of BGP packets to write to the peer socket in one I/O cycle.

The BGP message Tx I/O is vectored. This means that multiple packets are written to the peer socket at the same time during each I/O cycle, in order to minimize the system call overhead. This value controls how many are written at a time. Under certain load conditions, reducing this value could make peer traffic less bursty. In practice, leave this setting on the default value of 64.

Parent Commands (Modes)

```
router bgp {{as-num-dot}} { [ vrf {{vrf-name}} ] }
```

Syntax

```
write-quanta {{wrval}}
no write-quanta
```

Parameters

Name	Description	Type
wrval		Integer

Examples

Configure the write-quanta to 50 packets

```
sonic# configure terminal
sonic(config)# router bgp 65300
sonic(config-router-bgp)# write-quanta 50
```

ztp

This command administratively enables or disables ZTP.

Parent Commands (Modes)

```
configure terminal
```

Syntax

```
ztp enable
no ztp enable
```

Examples

```
sonic# configure terminal
sonic(config)# ztp enable
sonic(config)# no ztp enable
```

Features this CLI belongs to

- ZTP

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