

NAME

ip-nexthop – nexthop object management

SYNOPSIS

ip [*ip-OPTIONS*] **nexthop** { *COMMAND* | **help** }

ip nexthop { **show** | **flush** } *SELECTOR*

ip nexthop { **add** | **replace** } id *ID* *NH*

ip nexthop { **get** | **del** } id *ID*

ip nexthop bucket list *BUCKET_SELECTOR*

ip nexthop bucket get id *ID* index *INDEX*

SELECTOR := [**id** *ID*] [**dev** *DEV*] [**vrf** *NAME*] [**master** *DEV*] [**groups**] [**fdb**]

BUCKET_SELECTOR := *SELECTOR* | [**nhid** *ID*]

NH := { **blackhole** | [**via** *ADDRESS*] [**dev** *DEV*] [**onlink**] [**encap** *ENCAP*] [**fdb**] | **group** *GROUP* [**fdb**] [**type** *TYPE* [*TYPE_ARGS*]] }

ENCAP := [*ENCAP_MPLS*]

ENCAP_MPLS := **mpls** [*LABEL*] [**ttl** *TTL*]

GROUP := **id**[**,weight**[/...]]

TYPE := { **mpath** | **resilient** }

TYPE_ARGS := [*RESILIENT_ARGS*]

RESILIENT_ARGS := [**buckets** *BUCKETS*] [**idle_timer** *IDLE*] [**unbalanced_timer** *UNBALANCED*]

DESCRIPTION

ip nexthop is used to manipulate entries in the kernel's nexthop tables.

ip nexthop add id *ID*
add new nexthop entry

ip nexthop replace id *ID*
change the configuration of a nexthop or add new one

via [*FAMILY*] *ADDRESS*

the address of the nexthop router, in the address family *FAMILY*. Address family must match address family of nexthop instance.

dev *NAME*

is the output device.

onlink pretend that the nexthop is directly attached to this link, even if it does not match any interface prefix.

encap *ENCAPTYPE* *ENCAPHDR*

attach tunnel encapsulation attributes to this route.

ENCAPTYPE is a string specifying the supported encapsulation type. Namely:

mpls - encapsulation type MPLS

ENCAPHDR is a set of encapsulation attributes specific to the *ENCAPTYPE*.

mpls

MPLSLABEL - mpls label stack with labels separated by /

ttl *TTL* - TTL to use for MPLS header or 0 to inherit from IP header

group *GROUP* [**type** *TYPE* [*TYPE_ARGS*]]

create a nexthop group. Group specification is id with an optional weight (id,weight) and a '/' as a separator between entries.

TYPE is a string specifying the nexthop group type. Namely:

mpath - Multipath nexthop group backed by the hash-threshold algorithm. The default when the type is unspecified.

resilient - Resilient nexthop group. Group is resilient to addition and deletion of nexthops.

TYPE_ARGS is a set of attributes specific to the *TYPE*.

resilient

buckets *BUCKETS* - Number of nexthop buckets. Cannot be changed for an existing group

idle_timer *IDLE* - Time in seconds in which a nexthop bucket does not see traffic and is therefore considered idle. Default is 120 seconds

unbalanced_timer *UNBALANCED* - Time in seconds in which a nexthop group is unbalanced and is therefore considered unbalanced. The kernel will try to rebalance unbalanced groups, which might result in some flows being reset. A value of 0 means that no rebalancing will take place. Default is 0 seconds

blackhole

create a blackhole nexthop

fdb

nexthop and nexthop groups for use with layer-2 fdb entries. A fdb nexthop group can only have fdb nexthops. Example: Used to represent a vxlan remote vtep ip. layer-2 vxlan fdb entry pointing to an ecmp nexthop group containing multiple remote vtep ips.

ip nexthop delete id ID

delete nexthop with given id.

ip nexthop show
 show the contents of the nexthop table or the nexthops selected by some criteria.

dev DEV
 show the nexthops using the given device.

vrf NAME
 show the nexthops using devices associated with the vrf name

master DEV
 show the nexthops using devices enslaved to given master device

groups show only nexthop groups

fdb show only fdb nexthops and nexthop groups

ip nexthop flush
 flushes nexthops selected by some criteria. Criteria options are the same as show.

ip nexthop get id ID
 get a single nexthop by id

ip nexthop bucket show
 show the contents of the nexthop bucket table or the nexthop buckets selected by some criteria.

id ID
 show the nexthop buckets that belong to a nexthop group with a given id

nhid ID
 show the nexthop buckets that hold a nexthop with a given id

dev DEV
 show the nexthop buckets using the given device

vrf NAME
 show the nexthop buckets using devices associated with the vrf name

master DEV
 show the nexthop buckets using devices enslaved to given master device

ip nexthop bucket get id ID index INDEX
 get a single nexthop bucket by nexthop group id and bucket index

EXAMPLES

ip nexthop ls
 Show all nexthop entries in the kernel.

ip nexthop add id 1 via 192.168.1.1 dev eth0
 Adds an IPv4 nexthop with id 1 using the gateway 192.168.1.1 out device eth0.

ip nexthop add id 2 encap mpls 200/300 via 10.1.1.1 dev eth0
 Adds an IPv4 nexthop with mpls encapsulation attributes attached to it.

ip nexthop add id 3 group 1/2
 Adds a nexthop with id 3. The nexthop is a group using nexthops with ids 1 and 2 at equal weight.

ip nexthop add id 4 group 1,5/2,11
 Adds a nexthop with id 4. The nexthop is a group using nexthops with ids 1 and 2 with nexthop 1 at weight 5 and nexthop 2 at weight 11.

ip nexthop add id 5 via 192.168.1.2 fdb
 Adds a fdb nexthop with id 5.

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ip nexthop add id 7 group 5/6 fdb
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Adds a fdb nexthop group with id 7. A fdb nexthop group can only have fdb nexthops.

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ip nexthop add id 10 group 1/2 type resilient buckets 32
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Add a resilient nexthop group with id 10 and 32 nexthop buckets.

SEE ALSO

ip(8)

AUTHOR

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