

NAME

ip - show / manipulate routing, devices, policy routing and tunnels

SYNOPSIS

ip [*OPTIONS*] *OBJECT* { *COMMAND* | **help** }

ip [**-force**] **-batch** *filename*

OBJECT := { **link** | **addr** | **addrlabel** | **route** | **rule** | **neigh** | **ntable** | **tunnel** | **tuntap** | **maddr** | **mrout** | **mrule** | **monitor** | **xfrm** | **netns** | **l2tp** | **tcp_metrics** }

OPTIONS := { **-V**[*ersion*] | **-s**[*tatistics*] | **-r**[*esolve*] | **-f**[*amily*] { **inet** | **inet6** | **ipx** | **dnet** | **link** } | **-o**[*neline*] }

OPTIONS**-V, -Version**

Print the version of the **ip** utility and exit.

-b, -batch <FILENAME>

Read commands from provided file or standard input and invoke them. First failure will cause termination of ip.

-force Don't terminate ip on errors in batch mode. If there were any errors during execution of the commands, the application return code will be non zero.

-s, -stats, -statistics

Output more information. If the option appears twice or more, the amount of information increases. As a rule, the information is statistics or some time values.

-l, -loops <COUNT>

Specify maximum number of loops the 'ip addr flush' logic will attempt before giving up. The default is 10. Zero (0) means loop until all addresses are removed.

-f, -family <FAMILY>

Specifies the protocol family to use. The protocol family identifier can be one of **inet**, **inet6**, **bridge**, **ipx**, **dnet** or **link**. If this option is not present, the protocol family is guessed from other arguments. If the rest of the command line does not give enough information to guess the family, **ip** falls back to the default one, usually **inet** or **any**. **link** is a special family identifier meaning that no networking protocol is involved.

-4 shortcut for **-family inet**.

-6 shortcut for **-family inet6**.

-B shortcut for **-family bridge**.

-D shortcut for **-family dnet**.

-I shortcut for **-family ipx**.

-0 shortcut for **-family link**.

-o, -oneline

output each record on a single line, replacing line feeds with the " character. This is convenient when you want to count records with [wc\(1\)](#) or to [grep\(1\)](#) the output.

-r, -resolve

use the system's name resolver to print DNS names instead of host addresses.

IP - COMMAND SYNTAX*OBJECT***address**

- protocol (IP or IPv6) address on a device.

addrlabel

- label configuration for protocol address selection.

l2tp - tunnel ethernet over IP (L2TPv3).

link - network device.

maddress

- multicast address.

monitor

- watch for netlink messages.

mroute

- multicast routing cache entry.

mrule - rule in multicast routing policy database.

neighbour

- manage ARP or NDISC cache entries.

netns - manage network namespaces.

ntable - manage the neighbor cache's operation.

route - routing table entry.

rule - rule in routing policy database.

tcp_metrics/tcpmetrics

- manage TCP Metrics

tunnel

- tunnel over IP.

tuntap

- manage TUN/TAP devices.

xfrm - manage IPsec policies.

The names of all objects may be written in full or abbreviated form, for example **address** can be abbreviated as **addr** or just **a**.

COMMAND

Specifies the action to perform on the object. The set of possible actions depends on the object type. As a rule, it is possible to **add**, **delete** and **show** (or **list**) objects, but some objects do not allow all of these operations or have some additional commands. The **help** command is available for all objects. It prints out a list of available commands and argument syntax conventions.

If no command is given, some default command is assumed. Usually it is **list** or, if the objects of this class cannot be listed, **help**.

HISTORY

ip was written by Alexey N. Kuznetsov and added in Linux 2.2.

SEE ALSO

[ip-address\(8\)](#), [ip-addrlabel\(8\)](#), [ip-l2tp\(8\)](#), [ip-link\(8\)](#), [ip-maddress\(8\)](#), [ip-monitor\(8\)](#), [ip-mroute\(8\)](#), [ip-neighbour\(8\)](#), [ip-netns\(8\)](#), [ip-ntable\(8\)](#), [ip-route\(8\)](#), [ip-rule\(8\)](#), [ip-tcp_metrics\(8\)](#), [ip-tunnel\(8\)](#), [ip-xfrm\(8\)](#)

IP Command reference **ip-cref.ps**

REPORTING BUGS

Report any bugs to the Network Developers mailing list <netdev@vger.kernel.org> where the development and maintenance is primarily done. You do not have to be subscribed to the list to send a message there.

AUTHOR

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