

ip

网络配置工具

补充说明

ip命令 用来显示或操纵Linux主机的路由、网络设备、策略路由和隧道，是Linux下较新的功能强大的网络配置工具。

语法

ip(选项)(参数)

```
Usage: ip [ OPTIONS ] OBJECT { COMMAND | help }
       ip [ -force ] -batch filename
```

选项

```
OBJECT := { link | address | addrlabel | route | rule | neigh | ntable |
            tunnel | tuntap | maddress | mroute | mrule | monitor | xfrm |
            netns | l2tp | macsec | tcp_metrics | token }
```

- V 显示指令版本信息；
- s 输出更详细的信息；
- f 强制使用指定的协议族；
- 4：指定使用的网络层协议是IPv4协议；
- 6：指定使用的网络层协议是IPv6协议；
- 0：输出信息每条记录输出一行，即使内容较多也不换行显示；
- r 显示主机时，不使用IP地址，而使用主机的域名。

参数

```
OPTIONS := { -V[ersion] | -s[tatistics] | -d[etails] | -r[esolve] |
             -h[uman-readable] | -i[ec] |
             -f[amily] { inet | inet6 | ipx | dnet | bridge | link } |
             -4 | -6 | -I | -D | -B | -0 |
             -l[oops] { maximum-addr-flush-attempts } |
             -o[neline] | -t[imestamp] | -ts[hort] | -b[atch] [filename] |
             -rc[vbuf] [size] | -n[etns] name | -a[ll] }
```

网络对象：指定要管理的网络对象；
具体操作：对指定的网络对象完成具体操作；
help 显示网络对象支持的操作命令的帮助信息。

实例

```
ip link show                # 显示网络接口信息
ip link set eth0 up         # 开启网卡
ip link set eth0 down       # 关闭网卡
ip link set eth0 promisc on  # 开启网卡的混合模式
ip link set eth0 promisc off # 关闭网卡的混个模式
ip link set eth0 txqueuelen 1200 # 设置网卡队列长度
```

```
ip link set eth0 mtu 1400          # 设置网卡最大传输单元
ip addr show                       # 显示网卡IP信息
ip addr add 192.168.0.1/24 dev eth0 # 设置eth0网卡IP地址192.168.0.1
ip addr del 192.168.0.1/24 dev eth0 # 删除eth0网卡IP地址

ip route show # 显示系统路由
ip route add default via 192.168.1.254 # 设置系统默认路由
ip route list                                # 查看路由信息
ip route add 192.168.4.0/24 via 192.168.0.254 dev eth0 # 设置192.168.4.0网段的
网关为192.168.0.254,数据走eth0接口
ip route add default via 192.168.0.254 dev eth0          # 设置默认网关
为192.168.0.254
ip route del 192.168.4.0/24 # 删除192.168.4.0网段的网关
ip route del default        # 删除默认路由
ip route delete 192.168.1.0/24 dev eth0 # 删除路由
```

用ip命令显示网络设备的运行状态

```
[root@localhost ~]# ip link list
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 16436 qdisc noqueue
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast qlen
1000
    link/ether 00:16:3e:00:1e:51 brd ff:ff:ff:ff:ff:ff
3: eth1: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast qlen
1000
    link/ether 00:16:3e:00:1e:52 brd ff:ff:ff:ff:ff:ff
```

显示更加详细的设备信息

```
[root@localhost ~]# ip -s link list
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 16436 qdisc noqueue
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    RX: bytes  packets  errors  dropped  overrun mcast
    5082831    56145    0       0        0        0
    TX: bytes  packets  errors  dropped  carrier collsns
    5082831    56145    0       0        0        0
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast qlen
1000
    link/ether 00:16:3e:00:1e:51 brd ff:ff:ff:ff:ff:ff
    RX: bytes  packets  errors  dropped  overrun mcast
    3641655380 62027099 0       0        0        0
    TX: bytes  packets  errors  dropped  carrier collsns
    6155236    89160    0       0        0        0
3: eth1: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast qlen
1000
    link/ether 00:16:3e:00:1e:52 brd ff:ff:ff:ff:ff:ff
    RX: bytes  packets  errors  dropped  overrun mcast
    2562136822 488237847 0       0        0        0
    TX: bytes  packets  errors  dropped  carrier collsns
    3486617396 9691081  0       0        0        0
```

显示核心路由表

```
[root@localhost ~]# ip route list
112.124.12.0/22 dev eth1 proto kernel scope link src 112.124.15.130
10.160.0.0/20 dev eth0 proto kernel scope link src 10.160.7.81
192.168.0.0/16 via 10.160.15.247 dev eth0
172.16.0.0/12 via 10.160.15.247 dev eth0
10.0.0.0/8 via 10.160.15.247 dev eth0
default via 112.124.15.247 dev eth1
```

显示邻居表

```
[root@localhost ~]# ip neigh list
112.124.15.247 dev eth1 lladdr 00:00:0c:9f:f3:88 REACHABLE
10.160.15.247 dev eth0 lladdr 00:00:0c:9f:f2:c0 STALE
```

获取主机所有网络接口

```
ip link | grep -E '^[0-9]' | awk -F: '{print $2}'
```

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