‘ip’ Command cheat sheet (Command Line Reference)

By admin

ip command provided by the iproute package is used to adjust addresses, link state, routing tables, neighbour objects, and manage a system’s network components. The ip command is a powerful tool designed to replace many of the old net-tools commands still in use like ifconfig. Below is a command line reference/cheat sheet of the ‘ip’ command.

IP QUERIES

addr: Display IP Addresses and property information (abbreviation of address)

SUBCOMMAND	DESCRIPTIONS AND TASKS
ip addr	Show information for all addresses

ip addr show dev em1	Display information only for device em1

link: Manage and display the state of all network interfaces

SUBCOMMAND	DESCRIPTIONS AND TASKS
ip link	Show information for all interfaces
ip link show dev em1	Display information only for device em1
ip -s link	Display interface statistics

route: Display and alter the routing table.

SUBCOMMAND	DESCRIPTIONS AND TASKS
ip route	List all of the route entries in the kernel

maddr: Manage and display multicast IP addresses.

SUBCOMMAND	DESCRIPTIONS AND TASKS
ip maddr	Display multicast information for all devices
ip maddr show dev em1	Display multicast information for device em1

neigh: Show neighbour objects; also known as the ARP table for IPv4

SUBCOMMAND	DESCRIPTIONS AND TASKS
ip neigh	Display neighbour objects
ip neigh show dev em1	Show the ARP cache for device em1

MODIFYING ADDRESS AND LINK PROPERTIES

addr add: Add an address.

SUBCOMMAND	DESCRIPTIONS AND TASKS

ip addr add 192.168.1.1/24 dev em1	Add address 192.168.1.1 with netmask 24 to device em1

addr del: Delete an address.

SUBCOMMAND	DESCRIPTIONS AND TASKS
ip addr del 192.168.1.1/24 dev em1	Remove address 192.168.1.1/24 from device em1

link set: Alter the status of the interface.

SUBCOMMAND	DESCRIPTIONS AND TASKS
ip link set em1 up	Bring em1 online
ip link set em1 down	Bring em1 offline
ip link set em1 mtu 9000	Set the MTU on em1 to 9000
ip link set em1 promisc on	Enable promiscuous mode for em1

ADJUSTING AND VIEWING ROUTES

route add: Add an entry to the routing table.

SUBCOMMAND	DESCRIPTIONS AND TASKS

ip route add default via 192.168.1.1 dev em1	Add a default route (for all addresses) via the local gateway 192.168.1.1 that can be reached on device em1
ip route add 192.168.1.0/24 via 192.168.1.1	Add a route to 192.168.1.0/24 via the gateway at 192.168.1.1
ip route add 192.168.1.0/24 dev em1	Add a route to 192.168.1.0/24 that can be reached on device em1

route delete: Delete a routing table entry.

SUBCOMMAND	DESCRIPTIONS AND TASKS
ip route delete 192.168.1.0/24 via 192.168.1.1	Delete the route for 192.168.1.0/24 via the gateway at 192.168.1.1

route replace: Replace, or add if not defined, a route.

SUBCOMMAND	DESCRIPTIONS AND TASKS
ip route replace 192.168.1.0/24 dev em1	Replace the defined route for 192.168.1.0/24 to use device em1

route get: Display the route an address will take.

SUBCOMMAND	DESCRIPTIONS AND TASKS

ip route get 192.168.1.5	Display the route taken for IP 192.168.1.5

MANAGING THE ARP TABLE

neigh add: Add an entry to the ARP Table.

SUBCOMMAND	DESCRIPTIONS AND TASKS
ip neigh add 192.168.1.1 lladdr 1:2:3:4:5:6 dev em1	Add address 192.168.1.1 with MAC 1:2:3:4:5:6 to em1

neigh del: Invalidate an entry.

SUBCOMMAND	DESCRIPTIONS AND TASKS
ip neigh del 192.168.1.1 dev em1	Invalidate the entry for 192.168.1.1 on em1

neigh replace: Replace, or adds if not defined, an entry to the ARP table.

SUBCOMMAND	DESCRIPTIONS AND TASKS
ip neigh replace 192.168.1.1 lladdr 1:2:3:4:5:6 dev em1	Replace the entry for address 192.168.1.1 to use MAC 1:2:3:4:5:6 on em1

MULTICAST ADDRESSING

maddr add: Add a static link-layer multicast address.

SUBCOMMAND	DESCRIPTIONS AND TASKS
ip maddr add 33:33:00:00:00:01 dev em1	Add mutlicast address 33:33:00:00:00:01 to em1

maddr del: Delete a multicast address.

SUBCOMMAND	DESCRIPTIONS AND TASKS
ip maddr del 33:33:00:00:00:01 dev em1	Delete address 33:33:00:00:00:01 from em1

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