



Linux Ubuntu 26.04 Manual Pages on command 'networkctl.1'

\$ man networkctl.1

NETWORKCTL(1) networkctl NETWORKCTL(1)

NAME

networkctl - Query or modify the status of network links

SYNOPSIS

networkctl [OPTIONS...] COMMAND [LINK...]

DESCRIPTION

networkctl may be used to query or modify the state of the network links as seen by systemd-networkd. Please refer to systemd-networkd.service(8) for an introduction to the basic concepts, functionality, and configuration syntax.

COMMANDS

The following commands are understood:

list [PATTERN...]

Show a list of existing links and their status. If one or more PATTERNS are specified, only links matching one of them are shown. If no further arguments are specified shows all links, otherwise just the specified links. Produces output similar to:

IDX	LINK	TYPE	OPERATIONAL	SETUP
1	lo	loopback carrier	unmanaged	
2	eth0	ether	routable	configured
3	virbr0	ether	no-carrier	unmanaged
4	virbr0-nic	ether	off	unmanaged

4 links listed.

The operational status is one of the following:

missing

The device is missing.

Added in version 245.

off

The device is powered down.

Added in version 240.

no-carrier

The device is powered up, but does not yet have a carrier.

Added in version 240.

dormant

The device has a carrier, but is not yet ready for normal traffic.

Added in version 240.

degraded-carrier

One of the bonding or bridge slave network interfaces is in off, no-carrier, or dormant state, and the master interface has no address.

Added in version 242.

carrier

The link has carrier, or for bond or bridge master, all bonding or bridge slave network interfaces are enslaved to the master.

Added in version 240.

degraded

The link has carrier and addresses valid on the local link configured. For bond or bridge master this means that not all slave network interfaces have carrier but at least one does.

Added in version 240.

enslaved

The link has carrier and is enslaved to bond or bridge master network interface.

Added in version 242.

routable

The link has carrier and routable address configured. For bond or bridge master it is not necessary for all slave network interfaces to have carrier, but at least one must.

Added in version 240.

The setup status is one of the following:

pending

systemd-udev(8) is still processing the link, we do not yet know if we will manage it.

Added in version 240.

initialized

systemd-udev(8) has processed the link, but we do not yet know if we will manage it.

Added in version 251.

configuring

Configuration for the link is being retrieved or the link is being configured.

Added in version 240.

configured

Link has been configured successfully.

Added in version 240.

unmanaged

systemd-networkd is not handling the link.

Added in version 240.

failed

systemd-networkd failed to configure the link.

Added in version 240.

linger

The link is gone, but has not yet been dropped by systemd-networkd.

Added in version 240.

Added in version 219.

status [PATTERN...]

Show information about the specified links: type, state, kernel module driver, hardware and IP address, configured DNS servers, etc. If one or more PATTERNS are specified, only links matching one of them are shown.

When no links are specified, an overall network status is shown. Also see the option --all.

Produces output similar to:

? State: routable

Online state: online

Address: 10.193.76.5 on eth0

192.168.122.1 on virbr0

169.254.190.105 on eth0

fe80::5054:aa:bbbb:cccc on eth0

Gateway: 10.193.11.1 (CISCO SYSTEMS, INC.) on eth0

DNS: 8.8.8.8

8.8.4.4

In the overall network status, the online state depends on the individual online state of all required links. Managed links are required for online by default. In this case, the online state is one of the following:

unknown

All links have unknown online status (i.e. there are no required links).

Added in version 249.

offline

All required links are offline.

Added in version 249.

partial

Some, but not all, required links are online.

Added in version 249.

online

All required links are online.

Added in version 249.

Added in version 219.

lldp [PATTERN...]

Show discovered LLDP (Link Layer Discovery Protocol) neighbors. If one or more PATTERNS are specified only neighbors on those interfaces are shown. Otherwise, shows discovered neighbors on all interfaces. Note that for this feature to work, LLDP= must be turned on for the specific interface, see systemd.network(5) for details.

Produces output similar to:

LINK	SYSTEM-NAME	SYSTEM-DESCRIPTION	CHASSIS-ID	PORT-ID	PORT-DESCRIPTION	CAPS
enp0s25	GS1900	-	00:e0:4c:00:00:00	2	Port #2	..b.....

Capability Flags:

o - Other; p - Repeater; b - Bridge; w - WLAN Access Point; r - Router;

t - Telephone; d - DOCSIS cable device; a - Station; c - Customer VLAN;

s - Service VLAN, m - Two-port MAC Relay (TPMR)

1 neighbor(s) listed.

Added in version 219.

label

Show numerical address labels that can be used for address selection. This is the same information that ip-addrlabel(8) shows. See RFC 3484[1] for a discussion of address labels.

Produces output similar to:

Prefix/Prefixlen	Label
::/0	1
fc00::/7	5
fec0::/10	11
2002::/16	2
3ffe::/16	12
2001:10::/28	7
2001::/32	6
::ffff:0.0.0.0/96	4
::/96	3
::1/128	0

Added in version 234.

delete DEVICE...

Deletes virtual netdevs. Takes interface name or index number.

Added in version 243.

up DEVICE...

Bring devices up. Takes interface name or index number.

Added in version 246.

down DEVICE...

Bring devices down. Takes interface name or index number.

Added in version 246.

renew DEVICE...

Renew dynamic configurations e.g. addresses received from DHCP server. Takes interface name or index number.

Added in version 244.

forcerenew DEVICE...

Send a FORCERENEW message to all connected clients, triggering DHCP reconfiguration.

Takes interface name or index number.

Added in version 246.

reconfigure DEVICE...

Reconfigure network interfaces. Takes interface name or index number. Note that this does not reload .netdev or .network corresponding to the specified interface. So, if you edit config files, it is necessary to call networkctl reload first to apply new settings.

Added in version 244.

reload

Reload .netdev and .network files.

If a new or modified .netdev file is found, then the corresponding netdev is created or updated, respectively. Note, if the corresponding interface already exists, then some of new settings may not be applied. E.g., VLAN ID cannot be changed after the interface was created, so changing [VLAN] Id= will not take effect if the matching VLAN interface already exists. To apply such settings, the interfaces need to be removed manually before reload. Also note that even if a .netdev file is removed, systemd-networkd(8) does not remove the existing netdev corresponding to the file.

If a new, modified, or removed .network file is found, then all interfaces that matched the file are reconfigured.

Added in version 244.

edit FILE[@DEVICE]...

Edit network configuration files, which include .network, .netdev, and .link files. If no network config file matching the given name is found, a new one will be created under /etc/ or /run/, depending on whether --runtime is specified. Specially, if the name is prefixed by "@", it will be treated as a network interface, and editing will be performed on the network config files associated with it. Additionally, the interface name can be suffixed with ":network" (default), ":link", or ":netdev", in order to choose the type of network config to operate on.

If --drop-in= is specified, edit the drop-in file instead of the main configuration file. Unless --no-reload is specified, systemd-networkd(8) will be reloaded after the

edit of the .network or .netdev files finishes. The same applies for .link files and systemd-udev(8). Note that the changed link settings are not automatically applied after reloading. To achieve that, trigger uevents for the corresponding interface. Refer to systemd.link(5) for more information.

If --stdin is specified, the new content will be read from standard input. In this mode, the old content of the file is discarded.

Added in version 254.

cat [FILE]@DEVICE...

Show network configuration files. This command honors the "@" prefix in a similar way as edit, with support for an additional suffix ":all" for showing all types of configuration files associated with the interface at once. When no argument is specified, networkd.conf(5) and its drop-in files will be shown.

Added in version 254.

mask FILE...

Mask network configuration files, which include .network, .netdev, and .link files. A symlink of the given name will be created under /etc/ or /run/, depending on whether --runtime is specified, that points to /dev/null. If a non-empty config file with the specified name exists under the target directory or a directory with higher priority (e.g. --runtime is used while an existing config resides in /etc/), the operation is aborted.

This command honors --no-reload in the same way as edit.

Added in version 256.

unmask FILE...

Unmask network configuration files, i.e. reverting the effect of mask. Note that this command operates regardless of the scope of the directory, i.e. --runtime is of no effect.

This command honors --no-reload in the same way as edit and mask.

Added in version 256.

persistent-storage BOOL

Notify systemd-networkd.service(8) that the persistent storage for the service is ready. This is called by systemd-networkd-persistent-storage.service. Usually, this command should not be called manually by users or administrators.

Added in version 256.

OPTIONS

The following options are understood:

`-a --all`

Show all links with status.

Added in version 219.

`-s --stats`

Show link statistics with status.

Added in version 243.

`-l, --full`

Do not ellipsize the output.

Added in version 245.

`-n, --lines=`

When used with status, controls the number of journal lines to show, counting from the most recent ones. Takes a positive integer argument. Defaults to 10.

Added in version 245.

`--drop-in=NAME`

When used with edit, edit the drop-in file NAME instead of the main configuration file.

Added in version 254.

`--no-reload`

When used with edit, mask, or unmask, `systemd-networkd.service(8)` or `systemd-udevd.service(8)` will not be reloaded after the operation finishes.

Added in version 254.

`--runtime`

When used with edit or mask, operate on the file under `/run/` instead of `/etc/`.

Added in version 256.

`--stdin`

When used with edit, the contents of the file will be read from standard input and the editor will not be launched. In this mode, the old contents of the file are automatically replaced. This is useful to "edit" configuration from scripts, especially so that drop-in directories are created and populated in one go.

Multiple drop-ins may be "edited" in this mode with `--drop-in=`, and the same contents will be written to all of them. Otherwise, exactly one main configuration file is expected.

Added in version 257.

`--no-ask-password`

Do not query the user for authentication for privileged operations.

`--json=MODE`

Shows output formatted as JSON. Expects one of "short" (for the shortest possible output without any redundant whitespace or line breaks), "pretty" (for a pretty version of the same, with indentation and line breaks) or "off" (to turn off JSON output, the default).

`-h, --help`

Print a short help text and exit.

`--version`

Print a short version string and exit.

`--no-legend`

Do not print the legend, i.e. column headers and the footer with hints.

`--no-pager`

Do not pipe output into a pager.

EXIT STATUS

On success, 0 is returned, a non-zero failure code otherwise.

SEE ALSO

`systemd-networkd.service(8)`, `systemd.network(5)`, `systemd.netdev(5)`, `ip(8)`

NOTES

1. RFC 3484

<https://tools.ietf.org/html/rfc3484>

`systemd 259.5`

`NETWORKCTL(1)`