

NAME

ip-netns - process network namespace management

SYNOPSIS

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

ip netns{ *list* }

ip netns{ *add* | *delete* } *NETNSNAME*

ip netns identify *PID*

ip netns pids *NETNSNAME*

ip netns exec *NETNSNAME* *command* ...

ip netns monitor

DESCRIPTION

A network namespace is logically another copy of the network stack, with its own routes, firewall rules, and network devices.

By convention a named network namespace is an object at `/var/run/netns/NAME` that can be opened. The file descriptor resulting from opening `/var/run/netns/NAME` refers to the specified network namespace. Holding that file descriptor open keeps the network namespace alive. The file descriptor can be used with the `setns(2)` system call to change the network namespace associated with a task.

For applications that are aware of network namespaces, the convention is to look for global network configuration files first in `/etc/netns/NAME/` then in `/etc/`. For example, if you want a different version of `/etc/resolv.conf` for a network namespace used to isolate your vpn you would name it `/etc/netns/myvpn/resolv.conf`.

ip netns exec automates handling of this configuration, file convention for network namespace unaware applications, by creating a mount namespace and bind mounting all of the per network namespace configure files into their traditional location in `/etc`.

ip netns list - show all of the named network namespaces

This command displays all of the network namespaces in `/var/run/netns`

ip netns add NAME - create a new named network namespace

If `NAME` is available in `/var/run/netns/` this command creates a new network namespace and assigns `NAME`.

ip netns delete NAME - delete the name of a network namespace

If `NAME` is present in `/var/run/netns` it is unmounted and the mount point is removed. If this is the last user of the network namespace the network namespace will be freed, otherwise the network namespace persists until it has no more users. `ip netns delete` may fail if the mount point is in use in another mount namespace.

ip netns identify PID - Report network namespaces names for process

This command walks through `/var/run/netns` and finds all the network namespace names for network namespace of the specified process.

ip netns pids NAME - Report processes in the named network namespace

This command walks through `proc` and finds all of the process who have the named network namespace as their primary network namespace.

ip netns exec NAME cmd ... - Run cmd in the named network namespace

This command allows applications that are network namespace unaware to be run in something other than the default network namespace with all of the configuration for the specified network namespace appearing in the customary global locations. A network namespace and bind mounts are used to move files from their network namespace specific location to their default locations without affecting other processes.

ip netns monitor - Report as network namespace names are added and deleted

This command watches network namespace name addition and deletion events and prints a line for each event it sees.

EXAMPLES

```
ip netns list
```

Shows the list of current named network namespaces

```
ip netns add vpn
```

Creates a network namespace and names it vpn

```
ip netns exec vpn ip link set lo up
```

Bring up the loopback interface in the vpn network namespace.

SEE ALSO

[ip\(8\)](#)

AUTHOR

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