

How to remove all network namespaces at once on Linux

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Question: I have created a number of network namespaces, and now I want to remove them all. Is there a way to delete all existing network namespaces at once from the command line on Linux?

In Linux, the concept of "namespaces" was introduced as a way to isolate system resources among different groups of processes. As one of six different types of Linux namespaces, **network namespaces** logically isolate system resources associated with networking (e.g., network devices, IP addresses, routing table) among different process groups, thereby giving each process group a different view of the host network stack. This feature is popularly used for operating system-level virtualization.

Linux network namespaces can be created and removed by the `ip` command as follows.

```
$ sudo ip netns add  
$ sudo ip netns del
```

Suppose you want to clean up all existing namespaces on your Linux system. Of course you can delete each namespace one by one with the above `ip` command, but this may be cumbersome. Here is **how to remove all network namespaces from the command line**.

Method One

The `ip` command comes from the `iproute2` package. The latest `iproute2` package allows the `ip` command to execute a specified action for all objects (e.g., for all existing namespaces). For this, it offers "-all" option.

For example, on Ubuntu 15.10 or Fedora 23, the `ip` command can remove all namespaces in one shot with "-all" option.

```
$ sudo ip -all netns delete
```

However, if your Linux system does not have the compatible `iproute2` package installed, you will encounter the following error.

```
Option "-all" is unknown, try "ip -help".
```

Method Two

For those of you who do not have the latest `iproute2` package installed, you can delete all network namespaces using a combination of `xargs` and `ip` as follows.

```
$ ip netns | xargs -l {} sudo ip netns delete {}
```

Basically you pipe the multi-line namespace list to `xargs`, which will then run the `ip` command for each namespace.