

The Unix and GNU / Linux command line

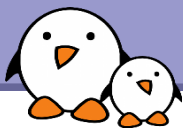
Basic Networking Administration



Network setup (1)

- ▶ `ifconfig -a`
Prints details about all the network interfaces available on your system.
- ▶ `ifconfig eth0`
Lists details about the `eth0` interface
- ▶ `ifconfig eth0 192.168.0.100`
Assigns the `192.168.0.100` IP address to `eth0` (1 IP address per interface).
- ▶ `ifconfig eth0 down`
Shuts down the `eth0` interface (frees its IP address).





Network setup (2)

- ▶ `route add default gw 192.168.0.1`

Sets the default route for packets outside the local network. The gateway (here `192.168.0.1`) is responsible for sending them to the next gateway, etc., until the final destination.

- ▶ `route -n`

Lists the existing routes

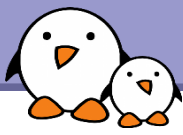
`-n` option: immediately displays ip addresses instead of trying to find their domain names

- ▶ `route del default`

or `route del <IP>`

Deletes the given route

Useful to redefine a new route.



Network setup (3)

- ▶ Your programs need to know what IP address corresponds to a given host name (such as kernel.org)
- ▶ Domain Name Servers (DNS) take care of this.
- ▶ You just have to specify the IP address of 1 or more DNS servers in your `/etc/resolv.conf` file:
`nameserver 217.19.192.132`
`nameserver 212.27.32.177`
- ▶ The changes take effect immediately!



Network testing

- ▶ First, try to ping the IP address of your gateway.
This will confirm that your network adapter works fine.
- ▶ Then, make sure you can ping the name server IP address, which will confirm that your gateway is configured properly.
- ▶ Finally, make sure you can ping any host using its name, which will confirm that the nameserver configuration is correct.