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.