ft_ping

Summary: *This project is about recoding the ping command.*

Version: 3

Contents

Chapter I

Introduction

Ping is the name of a command that allows to test the accessibility of another machine through the IP network. The command measures also the time taken to receive a response, called round-trip time.

Chapter II

General Instructions

- This project will be corrected by humans only. You're allowed to organise and name your files as you see fit, but you must follow the following rules

- You must use C and submit a Makefile

- Your Makefile must compile the project and must contain the usual rules. It must recompile and re-link the program only if necessary.

- You have to handle errors carefully. In no way can your program quit in an unexpected manner (Segmentation fault, bus error, double free, etc).

- Within the mandatory part, you are allowed to use the following functions:

    ○ gettimeofday.

    ○ exit.

    ○ inet_ntop. / inet_pton.

    ○ signal / alarm.

    ○ socket / setsockopt.

    ○ sendto / recvmsg.

    ○ getpid / getuid.

    ○ getaddrinfo / freeaddrinfo.

    ○ strerror / gai_strerror.

    ○ printf and its family.

    ○ Your libft functions.

    ○ You are allowed to use other functions to complete the bonus part as long as their use is justified during your defense. Be smart.

ATTENTION: Usage of `fcntl`, `poll` et `ppoll` is strictly forbidden.

Chapter III

Mandatory Part

- The executable must be named ft_ping.
- You have to manage the -v -h options.

> ⚠ The -v option here will also allow us to see the results in case of a problem or an error linked to the packets, which logically shouldn't force the program to stop (the modification of the TTL value can help to force an error).

- You will have to manage a simple IPv4 (address/hostname) as parameters.
- You will have to manage FQDN without doing the DNS resolution in the packet return

> 💡 You are allowed to use all the functions of the printf family as well as one global variable.

> ⚠ For the smarty pants (or not)... Obviously you are NOT allowed to call a real ping.

Chapter IV

Bonus Part

Find below a few ideas of interesting bonuses:

- IPv6 management
- Additional -f -m -l -I -m -M -n -w -W -p -Q -S -t -T flags...

```
-V is not a bonus
```

```
The bonus part will only be assessed if the mandatory part is
PERFECT. Perfect means the mandatory part has been integrally done
and works without malfunctioning.  If you have not passed ALL the
mandatory requirements, your bonus part will not be evaluated at all.
```

Chapter V

Submission and peer-evaluation

Turn in your assignment in your `Git` repository as usual. Only the work inside your repository will be evaluated during the defense. Don't hesitate to double check the names of your folders and files to ensure they are correct.

- You have to be in a VM with a Linux kernel > 3.14. Note that grading was designed on a Debian 7.0 stable.