

README

introduction

This is a command-line tool that will make an HTTP request to the URL and print the response directly to the console. It also provides functionality for users to measure the execution of the program.

It is implemented using socket to send HTTP GET request packet directly to the server without taking advantage of any external library for handling the HTTP request.

how to run the program

To run the program, you need to compile it first. To compile the code:

- go into this folder in terminal
- type in "gcc socket.c -o socket" command in the terminal

Then you are ready to run the program and explore the functionality:

- type in "./socket -h" to see the document about how to use it
- type in "./socket -u <url>" to send HTTP GET request to the URL. For example, to test my website, enter the command: "./socket -u https://my-worker.xyang42.workers.dev" and "./socket -u https://my-worker.xyang42.workers.dev/links"
- type in "./socket -u <url> -p <positive_number>" to make the program requesting the URL a number of times and print out the measurement data. An example would be: "
"./socket -u https://my-worker.xyang42.workers.dev -p 10"

working example for the code

Below are screenshots of my tool running against my site and another site:
my website (<https://my-worker.xyang42.workers.dev>)

```
xuyang@Xus-MacBook-Pro CloudFlare_System_Assignment % ./socket -u https://my-worker.xyang42.workers.dev -p 10
10 time(s) of HTTP GET request is made to https://my-worker.xyang42.workers.dev. Below are some data about this execution
Number of requests made: 10
The fastest time: 0.000392 s
The slowest time: 0.001007 s
The mean time: 0.000484 s
The size in bytes of the smallest response: 4614 bytes
The size in bytes of the largest response: 4727 bytes
xuyang@Xus-MacBook-Pro CloudFlare_System_Assignment %
```

Google (<https://www.google.com/>)

```
xuyang@Xus-MacBook-Pro CloudFlare_System_Assignment % ./socket -u https://www.google.com/ -p 10
10 time(s) of HTTP GET request is made to https://www.google.com/. Below are some data about this execution
Number of requests made: 10
The fastest time: 0.000993 s
The slowest time: 0.001707 s
The mean time: 0.001191 s
The size in bytes of the smallest response: 49349 bytes
The size in bytes of the largest response: 49399 bytes
xuyang@Xus-MacBook-Pro CloudFlare_System_Assignment %
```

I noticed the responding time is quite similar. That probably indicates Cloudflare makes it fast and easy for users to deploy their services on the internet.