

# Systems Software Engineering Assignment

Company: Cloudflare

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- Compile command:

g++ Systems.cpp

- Help

Command:

./a.out -h

```
(base) Pranshu-MacBook-Pro:cpp pranshushrivastava$ ./a.out -h
help:                ./a.out -h
profile:              ./a.out -p <complete url> <number of requests>
GET Request:          ./a.out -u <complete url>
Example GET Request:  ./a.out -u https://my-worker.pranshu.workers.dev/links

(base) Pranshu-MacBook-Pro:cpp pranshushrivastava$ █
```

- Profile

Commands:

./a.out -p www.google.com 5

./a.out -p <https://my-worker.pranshu.workers.dev/links> 5

And,

./a.out -p www.google.com 5

./a.out -p <https://my-worker.pranshu.workers.dev> 5

Comparison made between google.com and cloudflare workers CDN. The mean and median response time obtained for 5 requests is less for cloudflare. Although, when fetching JSON from /links API, cloudflare got a little slow comparatively.

When tested against other webpages, cloudflare workers were faster than most, one other example is facebook.

```
(base) Pranshus-MacBook-Pro:cpp pranshushrivastava$ g++ Systems.cpp
(base) Pranshus-MacBook-Pro:cpp pranshushrivastava$ ./a.out -p https://my-worker.pranshu.workers.dev/links 5

Number of requests = 5
Succeeded = 5
Failed = 0
Slowest Time = 0.001194 seconds
Fastest Time = 0.000449 seconds
Mean Time = 0.000677 seconds and Median Time = 0.000592 seconds
Max Bytes received = 0 bytes
Min Bytes received = 0 bytes

(base) Pranshus-MacBook-Pro:cpp pranshushrivastava$ ./a.out -p https://my-worker.pranshu.workers.dev 5

Number of requests = 5
Succeeded = 5
Failed = 0
Slowest Time = 0.000764 seconds
Fastest Time = 0.000233 seconds
Mean Time = 0.000375 seconds and Median Time = 0.000293 seconds
Max Bytes received = 5286 bytes
Min Bytes received = 1023 bytes

(base) Pranshus-MacBook-Pro:cpp pranshushrivastava$ ./a.out -p https://www.google.com 5

Number of requests = 5
Succeeded = 5
Failed = 0
Slowest Time = 0.000647 seconds
Fastest Time = 0.000172 seconds
Mean Time = 0.000421 seconds and Median Time = 0.000410 seconds
Max Bytes received = 3630 bytes
Min Bytes received = 726 bytes

(base) Pranshus-MacBook-Pro:cpp pranshushrivastava$ █
```

- HTTP GET Request

Command: `./a.out -u https://my-worker.pranshu.workers.dev/links`

```
(base) Pranshus-MacBook-Pro:cpp pranshushrivastava$ ./a.out -u https://my-worker.pranshu.workers.dev/links

HTTP/1.1 200 OK
Date: Wed, 21 Oct 2020 06:24:39 GMT
Content-Type: json
Content-Length: 191
Connection: close
Set-Cookie: __cfduid=dd623d08e0111371ab23b3415697b70811603261479; expires=Fri, 20-Nov-20 06:24:39 GMT; path=/; domain=.pranshu.workers.dev; HttpOnly; SameSite=Lax
cf-request-id: 05eb6dd05000003630ec2bf000000001
Report-To: {"endpoints":[{"url":"https://a.nel.cloudflare.com/report?lkg-colo=12&lkg-time=1603261479"}],"group":"cf-nel","max_age":604800}
NEL: {"report_to":"cf-nel","max_age":604800}
Server: cloudflare
CF-RAY: 5e58e593bc2c3630-LAX

[{"name":"linkedin","url":"https://www.linkedin.com/in/pranshushrivastava/ "},{ "name":"github","url":"https://github.com/psr007ps"}, {"name":"leetcode","url":"https://leetcode.com/lestat25/"}]

(base) Pranshus-MacBook-Pro:cpp pranshushrivastava$ █
```

Command: `./a.out -u https://my-worker.pranshu.workers.dev`

```
(base) Pranshus-MacBook-Pro:cpp pranshushrivastava$ ./a.out -u https://my-worker.pranshu.workers.dev
```

```
HTTP/1.1 200 OK
Date: Wed, 21 Oct 2020 06:26:05 GMT
Content-Type: text/html; charset=UTF-8
Transfer-Encoding: chunked
Connection: close
Set-Cookie: __cfduid=d8addf3864ddf50f4dde0d51920b994091603261565; expires=Fri, 20-Nov-20 06:26:05 GMT; path=/; domain=.pranshu.workers.dev; HttpOnly; SameSite=Lax
cf-request-id: 05eb6f21030000e7e91c983000000001
Report-To: {"endpoints": [{"url": "https://a.nel.cloudflare.com/report?lkg-colo=12&lkg-time=1603261565"}], "group": "cf-nel", "max_age": 604800}
NEL: {"report_to": "cf-nel", "max_age": 604800}
Server: cloudflare
CF-RAY: 5e58e7ae68aae7e9-LAX
```

```
b3
```

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>Pranshu Shrivastava
```

```
8
```

```
</title>
```

```
h0F00
```

```
2
```

```
/>
```

```
  <h1 class="text-md text-white mt-2 font-semibold" id="name">psfri002@ucr.edu</h1>
</div>
```

```
  <div
    class="flex flex-col space-between w-full px-8 text-center my-8"
    id="links"
```

```
  ><a href="https://www.linkedin.com/in/pranshushrivastava/">linkedin</a><a href="https://github.com/psr007ps">github</a><a href="https://leetcode.com/lestat25/">leetcode</a></div>
```

```
  <div id="social" class="flex w-1/2 justify-evenly"><a href="https://www.google.com/"><svg>  </svg></a><a href="https://www.cloudflare.com/"><svg>  </svg></a><a href="https://www.linkedin.com/in/pranshushrivastava/"><svg>  </svg></a><a href="https://github.com/psr007ps"><svg> <img height="32" width="32" src="https://
```