Computer Networks Lab 8
TCP Client to Download File

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1) The client accepts the url of the file, it can be HTTP or HTTPS

HTTP

```
samaritan@pop-os:~/Desktop/3-2/cn/labs/lab8$ ./client http://p.ip.fi/2WQo
* Host Name = p.ip.fi
* Path = 2WQo
* File Name = 2WQo
* HTTPS ? = 0
* Connected to 91.198.120.42:80
```

HTTPS

```
samaritan@pop-os:~/Desktop/3-2/cn/labs/lab8$ ./client https://p.ip.fi/2WQo
* Host Name = p.ip.fi
* Path = 2WQo
* File Name = 2WQo
* HTTPS ? = 1
* Connected to 91.198.120.42:443
* SSL connection using ECDHE-RSA-AES256-GCM-SHA384
```

2) If URL does not exist or unreachable, the client prints an error and exits.

```
samaritan@pop-os:~/Desktop/3-2/cn/labs/lab8$ ./client https://randomurl123.com
* Host Name = randomurl123.com
* Path = bin/bash
* File Name = randomurl123.com
* HTTPS ? = 1
gethostbyname: Unknown host
samaritan@pop-os:~/Desktop/3-2/cn/labs/lab8$
```

3) After connecting to the server, the client sends a GET request

```
samaritan@pop-os:~/Desktop/3-2/cn/labs/lab8$ ./client http://p.ip.fi/2WQo
* Host Name = p.ip.fi
* Path = 2WQo
* File Name = 2WQo
* HTTPS ? = 0
* Connected to 91.198.120.42:80
* Sending request...
> GET /2WQo HTTP/1.1
> Host: p.ip.fi
> user-agent: curl/7.68.0
> accept: */*
>
>
```

4) The client downloads the whole file and saves it with the name mentioned in the url

```
samaritan@pop-os:~/Desktop/3-2/cn/labs/lab8$ ./client http://p.ip.fi/2WQo
* Host Name = p.ip.fi
* Path = 2WQo
* File Name = 2WQo
* HTTPS ? = 0
* Connected to 91.198.120.42:80
* Sending request...
> GET /2WQo HTTP/1.1
> Host: p.ip.fi
> user-agent: curl/7.68.0
> accept: */*
>
>
* Receiving response...
* Bytes read = 344
< HTTP/1.1 200 OK
< Server: nginx/1.16.1
< Date: Sun, 27 Mar 2022 22:30:54 GMT
< Content-Type: text/plain;charset=utf-8
< Content-Length: 48
< X-Content-Type-Options: nosniff
< Strict-Transport-Security: max-age=3600
< Accept-Ranges: none
< Via: HTTP/1.1 forward.http.proxy:3128
< Connection: keep-alive
<
< What does a liar do when he dies?
< He lies still.
* Closing client...
```
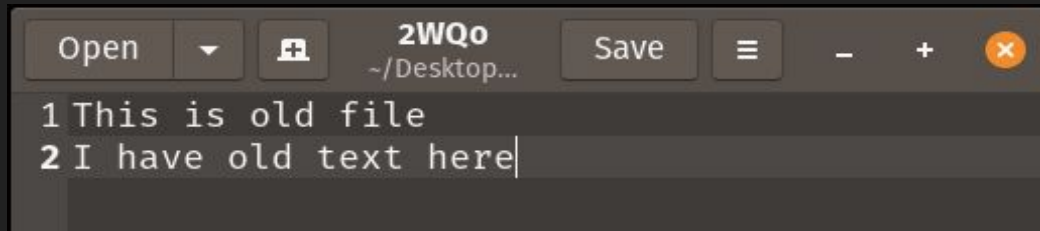
Open ▾ | 🗗 | **2WQo** ~/Des... | Save | ≡ | – | + | ✖

1 What does a liar do when he dies?
2 He lies still.
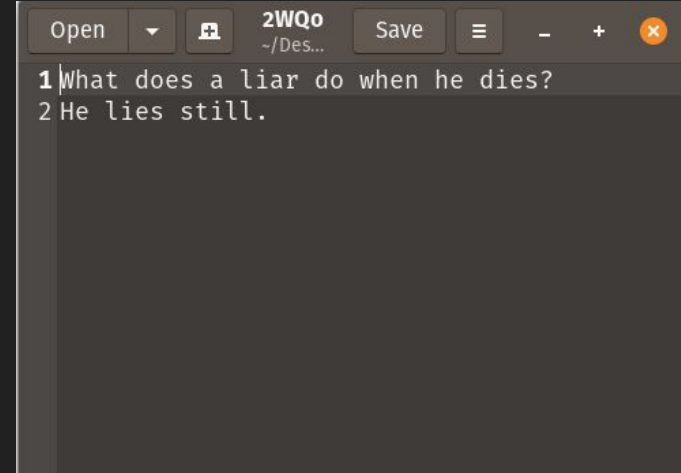
NOTE: File name according to url is 2WQo. Therefore, file name saved is also 2WQo.
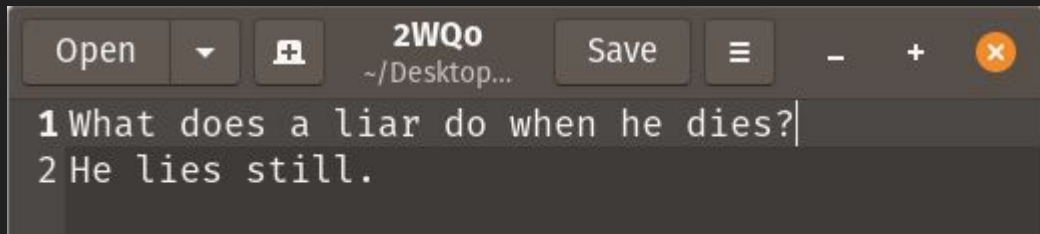
5) Old file is overwritten

Before


```
samaritan@pop-os:~/Desktop/3-2/cn/labs/lab8$ ./client http://p.ip.fi/2WQo
* Host Name = p.ip.fi
* Path = 2WQo
* File Name = 2WQo
* HTTPS ? = 0
* Connected to 91.198.120.42:80
* Sending request...
> GET /2WQo HTTP/1.1
> Host: p.ip.fi
> user-agent: curl/7.68.0
> accept: */*
>
>
* Receiving response...
* Bytes read = 344
< HTTP/1.1 200 OK
< Server: nginx/1.16.1
< Date: Sun, 27 Mar 2022 22:35:23 GMT
< Content-Type: text/plain;charset=utf-8
< Content-Length: 48
< X-Content-Type-Options: nosniff
< Strict-Transport-Security: max-age=3600
< Accept-Ranges: none
< Via: HTTP/1.1 forward.http.proxy:3128
< Connection: keep-alive
<
< What does a liar do when he dies?
< He lies still.
* Closing client...
```

After

6) The client exits after downloading the file

```
samaritan@pop-os:~/Desktop/3-2/cn/labs/lab8$ ./client http://p.ip.fi/2WQo
* Host Name = p.ip.fi
* Path = 2WQo
* File Name = 2WQo
* HTTPS ? = 0
* Connected to 91.198.120.42:80
* Sending request...
> GET /2WQo HTTP/1.1
> Host: p.ip.fi
> user-agent: curl/7.68.0
> accept: */*
>
>
* Receiving response...
* Bytes read = 344
< HTTP/1.1 200 OK
< Server: nginx/1.16.1
< Date: Sun, 27 Mar 2022 22:35:23 GMT
< Content-Type: text/plain;charset=utf-8
< Content-Length: 48
< X-Content-Type-Options: nosniff
< Strict-Transport-Security: max-age=3600
< Accept-Ranges: none
< Via: HTTP/1.1 forward.http.proxy:3128
< Connection: keep-alive
<
< What does a liar do when he dies?
< He lies still.
* Closing client...
samaritan@pop-os:~/Desktop/3-2/cn/labs/lab8$ 
```