

Web Assignment 1

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Task 1 – HTTP Requests

1.1) HTTP request messages: GET/HEAD

- `openssl s_client -connect reddit.com:443`
GET /r/TUDEft HTTP/1.1
Host: reddit.com

```
GET /r/TUDEft HTTP/1.1
Host:reddit.com

HTTP/1.1 301 Moved Permanently
Connection: close
Content-Length: 0
Retry-After: 0
Location: https://www.reddit.com/r/TUDEft
Accept-Ranges: bytes
Date: Sat, 18 Dec 2021 16:44:48 GMT
Via: 1.1 varnish
Cache-Control: private, max-age=3600
Strict-Transport-Security: max-age=31536000; includeSubdomains
X-Content-Type-Options: nosniff
X-Frame-Options: SAMEORIGIN
X-XSS-Protection: 1; mode=block
Server: snooserv
X-Clacks-Overhead: GNU Terry Pratchett
```

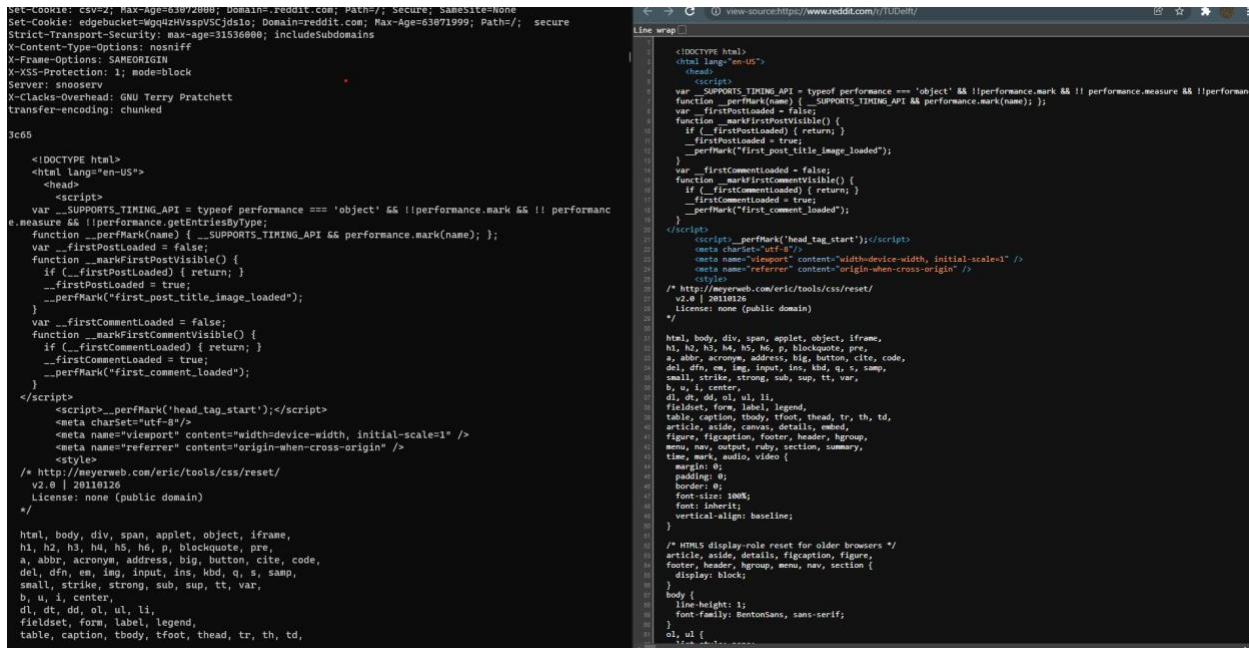
- `openssl s_client -connect www.reddit.com:443`
GET /r/TUDEft HTTP/1.1
Host: www.reddit.com

```
GET /r/TUDEft HTTP/1.1
host:www.reddit.com

HTTP/1.1 200 OK
Connection: keep-alive
Cache-control: private, s-maxage=0, max-age=0, must-revalidate, no-store
Content-Type: text/html; charset=utf-8
Accept-Ranges: bytes
Date: Sat, 18 Dec 2021 16:47:40 GMT
Via: 1.1 varnish
Vary: Accept-Encoding
Set-Cookie: loid=0000000000hp1251e1.2.1639846060030.Z0FBQUFBQmh2aENzWDBk
```

1.2) Does the content you received correspond to what you see when accessing the resource with your browser?

Yes, it corresponds.



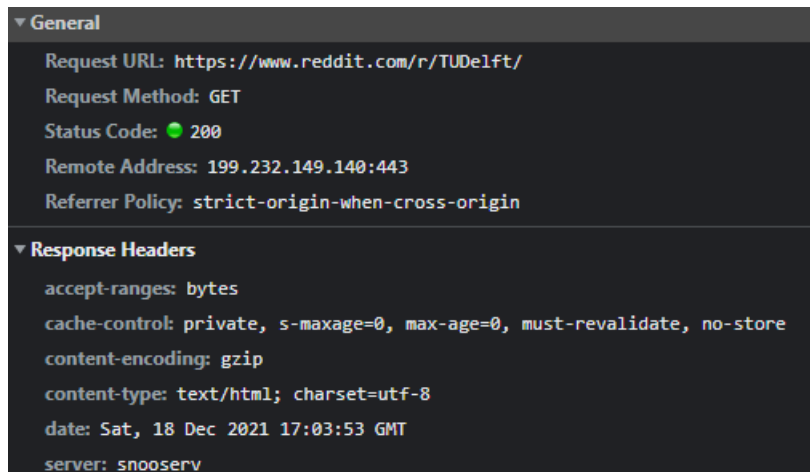
```
Set-Cookie: csv=2; Max-Age=6307000; Domain=.reddit.com; Path=/; secure; SameSite=None
Set-Cookie: edgebucket=WgqzHVssPVCjsd1o; Domain=reddit.com; Max-Age=63071999; Path=/; secure
Strict-Transport-Security: max-age=31536000; includeSubdomains
X-Content-Type-Options: nosniff
X-Frame-Options: SAMEORIGIN
X-XSS-Protection: 1; mode=block
Server: snooperv
X-Clacks-Overhead: GNU Terry Pratchett
Transfer-Encoding: chunked

3c05

<!DOCTYPE html>
<html lang="en-US">
<head>
<script>
var __SUPPORTS_TIMING_API = typeof performance === 'object' && !performance.mark && !performance.measure && !performance.getEntriesByType;
function __perfMark(name) { __SUPPORTS_TIMING_API && performance.mark(name); }
var __firstPostLoaded = false;
function __markFirstPostVisible() {
if (!__firstPostLoaded) { return; }
__firstPostLoaded = true;
__perfMark("first_post_title_image_loaded");
}
var __firstCommentLoaded = false;
function __markFirstCommentVisible() {
if (!__firstCommentLoaded) { return; }
__firstCommentLoaded = true;
__perfMark("first_comment_loaded");
}
</script>
<script>__perfMark('head_tag_start');
```

1.3) What does its Cache-Control header field mean?

Whenever a client asks for the resource, it must go to the server directly because the web caches cannot hold the resource as it expires immediately (this we can see from max-age=0).



```
General
Request URL: https://www.reddit.com/r/TUDe1ft/
Request Method: GET
Status Code: 200
Remote Address: 199.232.149.140:443
Referrer Policy: strict-origin-when-cross-origin

Response Headers
accept-ranges: bytes
cache-control: private, s-maxage=0, max-age=0, must-revalidate, no-store
content-encoding: gzip
content-type: text/html; charset=utf-8
date: Sat, 18 Dec 2021 17:03:53 GMT
server: snooperv
```

1.4) If we stick to the resource considered in 1.3), what do we learn about the type of encodings your browser supports?

We receive the content-encoding field header which contains gzip meaning gzip is the best encoding that both the browser and the server support.

```
dsav@Danaes-MBP ~ % telnet www.httpbin.org 80
Trying 3.216.167.140...
Connected to www.httpbin.org.
Escape character is '^]'.
PUT /myfile HTTP/1.1
host:httpbin.org
Content-type:text/plain
Content-length:12

HTTP/1.1 404 NOT FOUND
Date: Sat, 18 Dec 2021 17:26:06 GMT
Content-Type: text/html
Content-Length: 233
Connection: keep-alive
Server: gunicorn/19.9.0
Access-Control-Allow-Origin: *
Access-Control-Allow-Credentials: true

<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 3.2 Final//EN">
<title>404 Not Found</title>
<h1>Not Found</h1>
<p>The requested URL was not found on the server. If you entered the URL manually please check your spelling and try again.</p>
Connection closed by foreign host.
```

[illegible]

```

Escape character is '^]'.
PUT /put HTTP/1.1
host:httpbin.org
Content-type:text/plain
Content-length:10

Hello World!
HTTP/1.1 200 OK
Date: Sat, 18 Dec 2021 17:32:57 GMT
Content-Type: application/json
Content-Length: 336
Connection: keep-alive
Server: gunicorn/19.9.0
Access-Control-Allow-Origin: *
Access-Control-Allow-Credentials: true

{
  "args": {},
  "data": "Hello Worl",
  "files": {},
  "form": {},
  "headers": {
    "Content-Length": "10",
    "Content-Type": "text/plain",
    "Host": "httpbin.org",
    "X-Amzn-Trace-Id": "Root=1-61be1b43-32e3dc08510402bf261542b1"
  },
  "json": null,

```

Task 3 – Basic Authentication

3.1) (...). Reload the web page-do you have to fill in the login details again? Why or why not?

Even though HTTP is stateless, meaning it doesn't save any information passed on by past HTTP requests, we do not need to fill in the login details again. This is because after the first time of filling out the username and password the browser saves the information we entered and automatically uses that information in future HTTP requests with the same server.

3.2) What status do you receive now?

We receive UNAUTHORIZED.

```

dsav@Danaes-MBP ~ % telnet www.httpbin.org 80
Trying 3.216.167.140...
Connected to www.httpbin.org.
Escape character is '^]'.
HEAD /basic-auth/user/passwd HTTP/1.1
host:httpbin.org

Connection closed by foreign host.
dsav@Danaes-MBP ~ % telnet www.httpbin.org 80
Trying 54.156.165.4...
Connected to www.httpbin.org.
Escape character is '^]'.
HEAD /basic-auth/user/passwd HTTP/1.1
host:httpbin.org

HTTP/1.1 401 UNAUTHORIZED
Date: Sat, 18 Dec 2021 18:05:49 GMT
Content-Length: 0
Connection: keep-alive
Server: gunicorn/19.9.0
WWW-Authenticate: Basic realm="Fake Realm"
Access-Control-Allow-Origin: *
Access-Control-Allow-Credentials: true

```

Request the same page without the Authorization header field—what happens? Is the behavior the same as reloading the page in the browser?

When inserting the encoded password and username we do get access (200 OK). But the behavior is not the same as reloading the page in the browser, since in the browser the authentication remains, whereas in this case when doing another request we will still need to provide the encoded username and password to gain access.

```
HEAD /basic-auth/user/passwd HTTP/1.1
host:httpbin.org
Authorization: Basic dXNlcjpwYXNzd2Q=

HTTP/1.1 200 OK
Date: Sat, 18 Dec 2021 18:10:46 GMT
Content-Type: application/json
Content-Length: 47
Connection: keep-alive
Server: gunicorn/19.9.0
Access-Control-Allow-Origin: *
Access-Control-Allow-Credentials: true
```

Task 4 – Web programming project: board game app

4.1) Memory game

4.2) Find three examples:

<https://mark-rolich.github.io/MemoryGame.js/>

<https://webgamesonline.com/memory/>

<https://www.improvememory.org/wp-content/games/magic-cards/index.html>

Design principles:

The websites satisfy the rule of “Don’t make me think”, since how they work is pretty self-evident. Buttons and how the site is organized is very clear and all parts are divided well. However, there is too much clutter in a small area of the page, so the rule of “Minimize noise & clutter” is not followed. All the websites are self-evident as well as self-explanatory since the game is very simple, so the rule of “If you cannot make it self-evident make it self-explanatory” is followed. Aesthetics are acceptable, but outdated as of 2022.

4.3)

Positive:

1. Well designed and functional.
2. Easy to use.
3. Animations make the game more interactive.

Negative

1. Sounds are very distracting

2. Design is outdated
3. Lack of information.

Task 5 – Design your own board game app

5.1,2,3)

Name: Memory Game

Description: Small application with two routes that allows two online players to race against each other. The game also records the top three time scores in a leaderboard. The game includes photos from Delft and TU Delft as well as TU Delft's flame.

