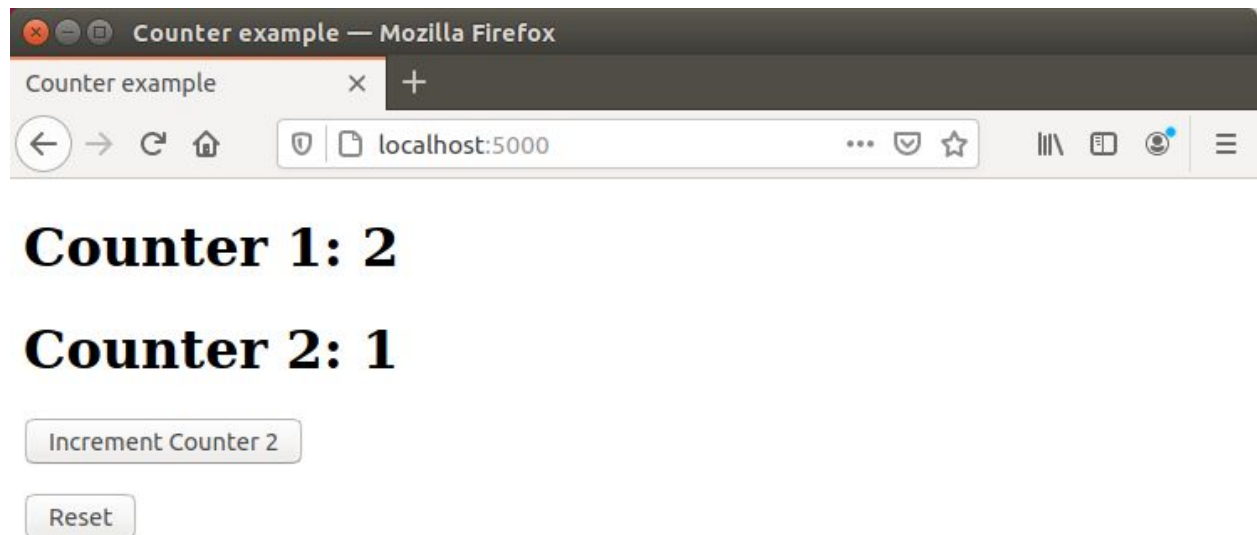


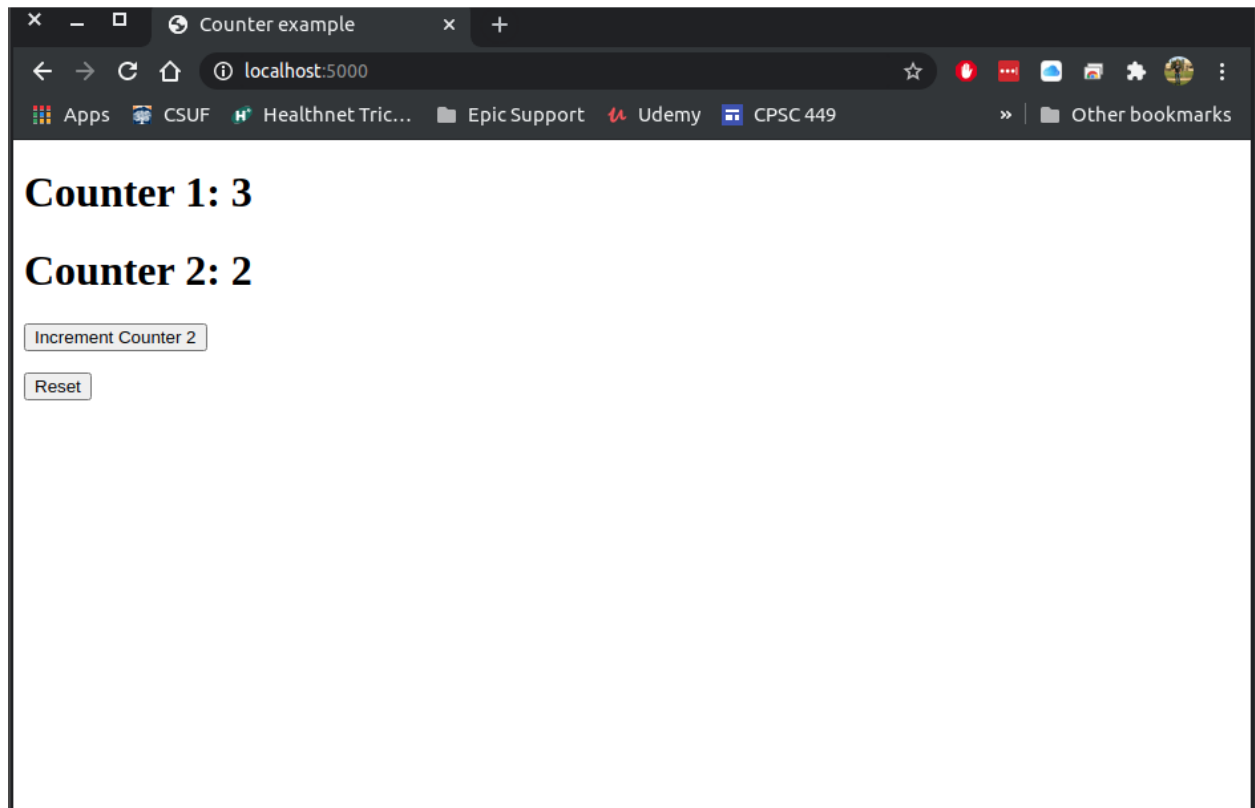
Alfonso Figueroa
Ryan Luong
CPSC 449
Professor Avery

Server-Side Sessions

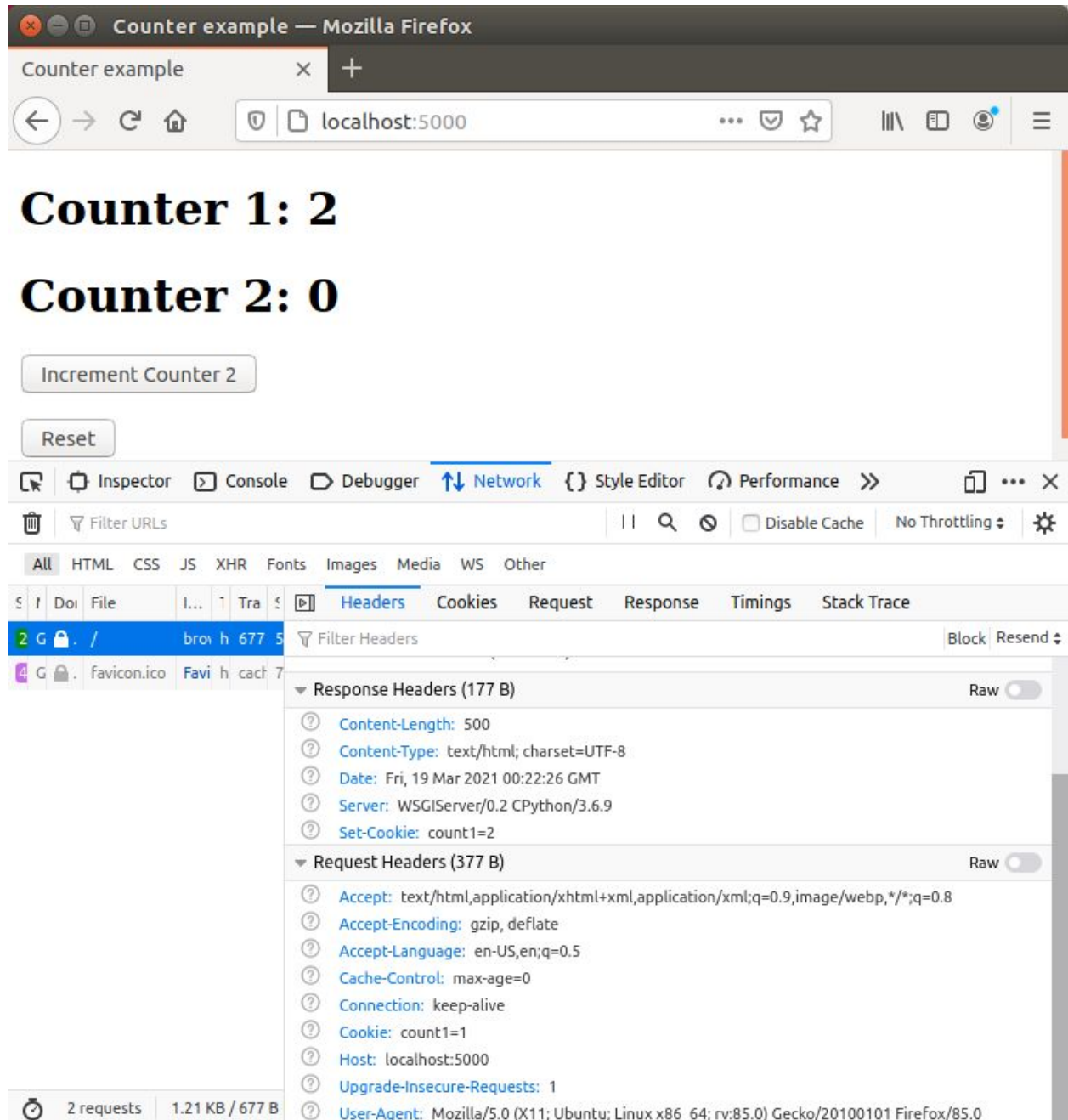
Project 3



This screenshot shows the counter the first time it is run on Firefox.



The screenshot shows the first time the counter is run on Google Chrome.



This screenshot shows the Set-Cookie's value in the Response Headers the first time the counter starts up on Firefox (The Set-Cookie won't show up in the Response Headers the first time for some reason so that is why counter 1 value is 2)

Counter example — Mozilla Firefox

Counter example

localhost:5000

Counter 1: 3

Counter 2: 1

Increment Counter 2

Reset

Inspector Console Debugger Network Style Editor Performance

Filter URLs

All HTML CSS JS XHR Fonts Images Media WS Other

St	File	Size	Type	Time	Size
3	increment	doc	h	716	5
2	/	doc	h	677	5
4	favicon.ico	Favi	h	cach	7

Filter Headers

Block Resend

Response Headers (177 B)

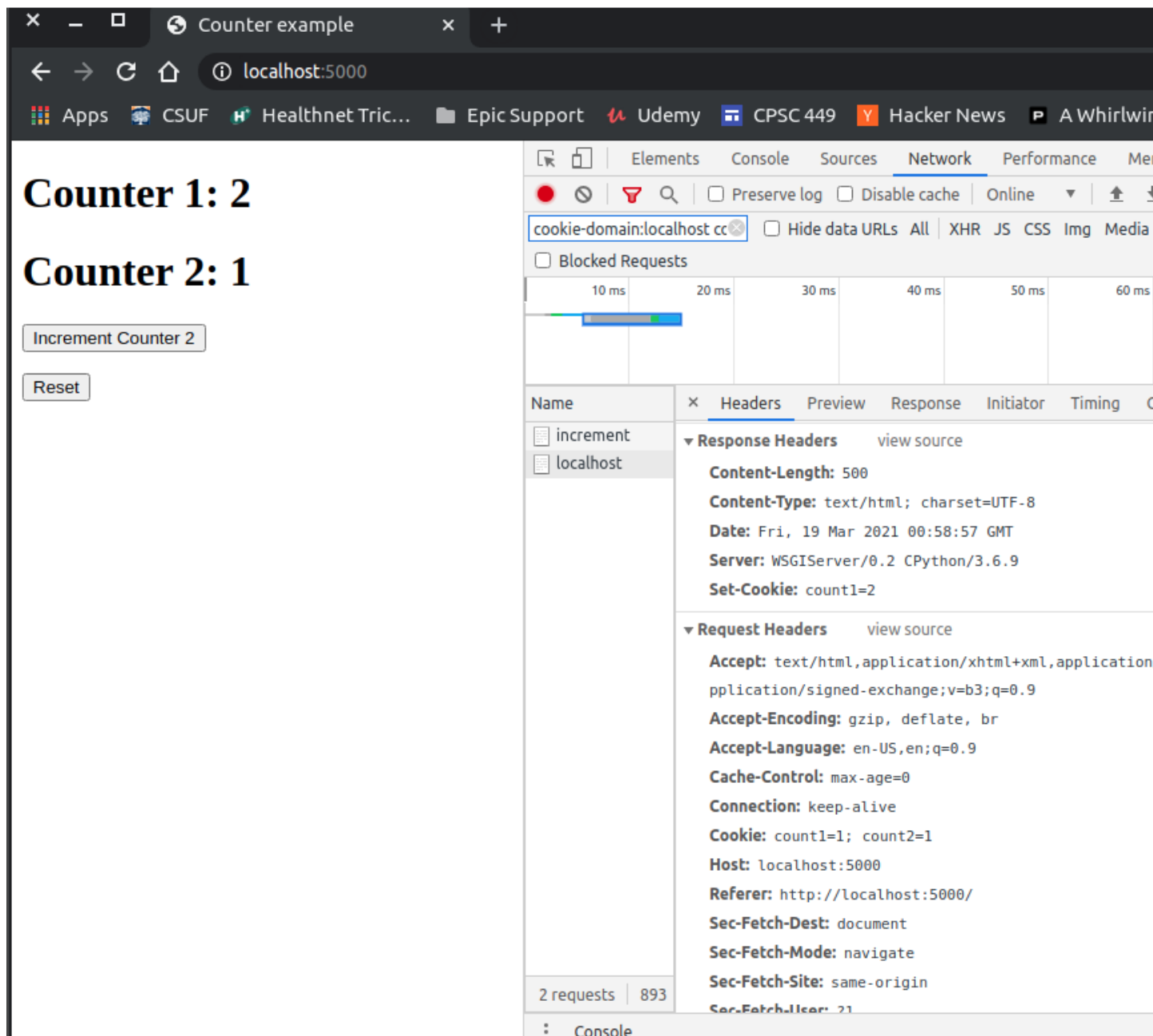
- Content-Length: 500
- Content-Type: text/html; charset=UTF-8
- Date: Fri, 19 Mar 2021 00:23:34 GMT
- Server: WSGIServer/0.2 CPython/3.6.9
- Set-Cookie: count1=3

Request Headers (394 B)

- Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,*/*;q=0.8
- Accept-Encoding: gzip, deflate
- Accept-Language: en-US,en;q=0.5
- Connection: keep-alive
- Cookie: count1=2; count2=1
- Host: localhost:5000
- Referer: http://localhost:5000/
- Upgrade-Insecure-Requests: 1
- User-Agent: Mozilla/5.0 (X11; Ubuntu; Linux x86_64; rv:85.0) Gecko/20100101 Firefox/85.0

3 requests 1.70 KB / 1.36 K

This screen shot shows the Set-Cookie value in the Response Headers with the incremented value in Firefox.



This screenshot shows the Set-Cookie's value in the Response Headers the first time the counter starts up on Google Chrome (The Set-Cookie won't show up in the Response Headers the first time for some reason so that is why counter 1 value is 2)

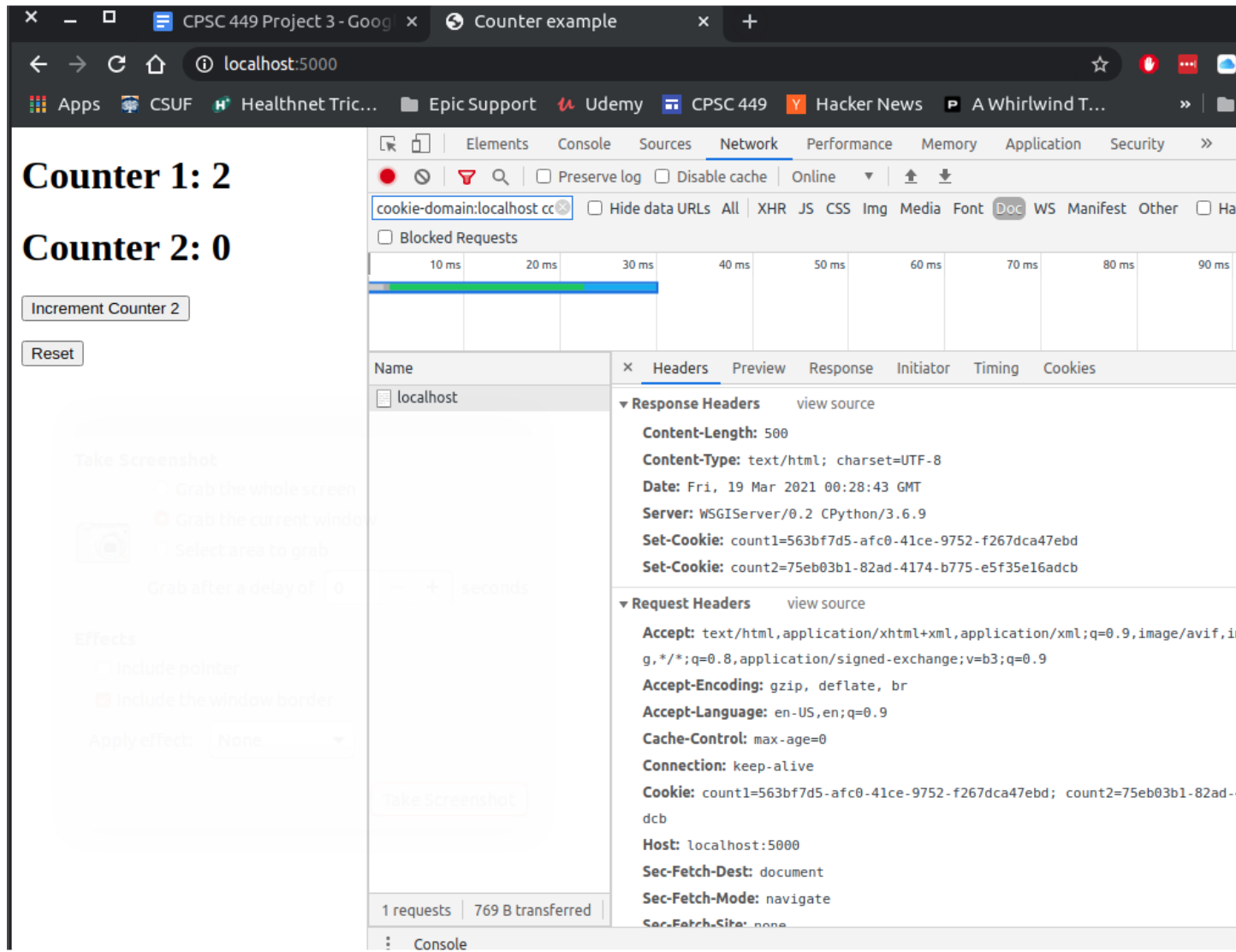
The screenshot displays a web browser window with the address bar showing `localhost:5000`. The page content includes two counters: "Counter 1: 3" and "Counter 2: 2". Below the counters are two buttons: "Increment Counter 2" and "Reset". A "Take Screenshot" dialog box is overlaid on the page, featuring options to grab the whole screen, current window, or a selected area, with a delay timer set to 0 seconds. The "Effects" section includes checkboxes for "Include pointer" (unchecked) and "Include the window border" (checked), and an "Apply effect" dropdown set to "None". A "Take Screenshot" button is also present in the dialog.

The browser's developer tools are open to the Network tab, showing a list of requests. The selected request is from `localhost`. The details pane for this request shows the following information:

- General:**
 - Request URL: `http://localhost:5000/`
 - Request Method: `GET`
 - Status Code: `200 OK`
 - Remote Address: `127.0.0.1:5000`
 - Referrer Policy: `strict-origin-when-cross-origin`
- Response Headers:**
 - Content-Length: `500`
 - Content-Type: `text/html; charset=UTF-8`
 - Date: `Fri, 19 Mar 2021 00:59:43 GMT`
 - Server: `WSGIServer/0.2 CPython/3.6.9`
 - Set-Cookie: `count1=3`
- Request Headers:**
 - Accept: `text/html,application/xhtml+xml,application/javascript;q=0.9`
 - Accept-Encoding: `gzip, deflate, br`
 - Accept-Language: `en-US,en;q=0.9`
 - Cache-Control: `max-age=0`
 - Connection: `keep-alive`

The bottom of the developer tools shows "2 requests" and "893" bytes. The Console tab is also visible at the bottom.

This screen shot shows the Set-Cookie value in the Response Headers with the incremented value in Google Chrome.



This screenshot shows the Set-Cookie value in the Response header. It now shows the cookie value as the session id instead of the counter value. (Google Chrome won't load up the Set-Cookie in the Response Header the first time so that is why the counter 1 is 2 instead of 1. You must refresh the page first)

The screenshot displays a web browser window with the address bar showing `localhost:5000`. The page content includes two counters: "Counter 1: 3" and "Counter 2: 1". Below the counters are two buttons: "Increment Counter 2" and "Reset". A "Take Screenshot" dialog box is open, showing options to grab the whole screen, current window, or select an area, with a delay of 0 seconds. The "Effects" section has "Include pointer" unchecked and "Include the window border" checked. The "Apply effect" dropdown is set to "None".

The browser's developer tools are open, showing the Network tab. A request to `cookie-domain:localhost cc` is selected. The Response Headers section shows the following values:

- Content-Length:** 500
- Content-Type:** text/html; charset=UTF-8
- Date:** Fri, 19 Mar 2021 00:29:48 GMT
- Server:** WSGIServer/0.2 CPython/3.6.9
- Set-Cookie:** count1=563bf7d5-afc0-41ce-9752-f267dca47ebd
- Set-Cookie:** count2=75eb03b1-82ad-4174-b775-e5f35e16adcb

The Request Headers section shows the following values:

- Accept:** text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8,application/signed-exchange;v=b3;q=0.9
- Accept-Encoding:** gzip, deflate, br
- Accept-Language:** en-US,en;q=0.9
- Cache-Control:** max-age=0
- Connection:** keep-alive
- Cookie:** count1=563bf7d5-afc0-41ce-9752-f267dca47ebd; count2=75eb03b1-82ad-4174-b775-e5f35e16adcb
- Host:** localhost:5000
- Referer:** http://localhost:5000/
- Sec-Fetch-Dest:** document
- Sec-Fetch-Mode:** navigate

The bottom of the developer tools shows "2 requests" and "1.0 kB transferred".

This screenshot shows the Set-Cookie value in the Response Header after the page get refreshed along with counter 2 being incremented. The Set-Cookie and the cookies' value are still the same even with the incrementation. This is on Google Chrome.

Counter example — Mozilla Firefox

Counter example

localhost:5000

Counter 1: 2

Counter 2: 0

Increment Counter 2

Reset

Inspector Console Debugger Network Style Editor Performance Memory Storage

Filter URLs

Filter Headers

Sta	Me	Domain	File	Initia...	Ty	Trans...	Size
200	GET	lo...	/	brow...	htm	756 B	500
404	GET	lo...	favicon.ico	Favic...	htm	cached	742

Response Headers (256 B)

- Content-Length: 500
- Content-Type: text/html; charset=UTF-8
- Date: Fri, 19 Mar 2021 00:30:48 GMT
- Server: WSGIServer/0.2 CPython/3.6.9
- Set-Cookie: count1=b53c398d-848e-4f51-bd2e-ef07bd4ccb94
- Set-Cookie: count2=ae4eaa2c-b90a-4fdf-961b-d4b6a0f4f8af

Request Headers (457 B)

- Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,*/*;q=0.8
- Accept-Encoding: gzip, deflate
- Accept-Language: en-US,en;q=0.5
- Cache-Control: max-age=0
- Connection: keep-alive
- Cookie: count1=b53c398d-848e-4f51-bd2e-ef07bd4ccb94; count2=ae4eaa2c-b90a-4fdf-961b-d4b6a0f4f8af
- Host: localhost:5000
- Upgrade-Insecure-Requests: 1
- User-Agent: Mozilla/5.0 (X11; Ubuntu; Linux x86_64; rv:85.0) Gecko/20100101 Firefox/85.0

2 requests 1.21 KB / 756 B transferred Finish: 34 ms

This screenshot shows the Set-Cookie value in the Response header. It now shows the cookie value as the session id instead of the counter value. (Firefox won't load up the Set-Cookie in the Response Header the first time so that is why the counter 1 is 2 instead of 1. You must refresh the page first)

Counter example — Mozilla Firefox

Counter example

localhost:5000

Counter 1: 3

Counter 2: 1

Increment Counter 2

Reset

Inspector Console Debugger Network Style Editor Performance Memory Storage

Filter URLs

Disable Cache No Throttling

Sta	Me	Domain	File	Initia...	Ty	Trans...	Size
303	POST	localhost	increment	docu...	htm	751 B	500
200	GET	localhost	/	docu...	htm	756 B	500
404	GET	localhost	favicon.ico	Favic...	htm	cached	742

Headers Cookies Request Response Timings

Filter Headers

Referrer Policy no-referrer-when-downgrade

Response Headers (256 B)

- Content-Length: 500
- Content-Type: text/html; charset=UTF-8
- Date: Fri, 19 Mar 2021 00:31:42 GMT
- Server: WSGIServer/0.2 CPython/3.6.9
- Set-Cookie: count1=b53c398d-848e-4f51-bd2e-ef07bd4ccb94
- Set-Cookie: count2=ae4eaa2c-b90a-4fdf-961b-d4b6a0f4f8af

Request Headers (464 B)

- Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,*/*;q=0.8
- Accept-Encoding: gzip, deflate
- Accept-Language: en-US,en;q=0.5
- Connection: keep-alive
- Cookie: count1=b53c398d-848e-4f51-bd2e-ef07bd4ccb94; count2=ae4eaa2c-b90a-4fdf-961b-d4b6a0f4f8af
- Host: localhost:5000
- Referer: http://localhost:5000/
- Upgrade-Insecure-Requests: 1
- User-Agent: Mozilla/5.0 (X11; Ubuntu; Linux x86_64; rv:85.0) Gecko/20100101 Firefox/85.0

3 requests 1.70 KB / 1.47 KB transferred Finish: 111 ms

This screenshot shows the Set-Cookie value in the Response Header after the page get refreshed along with counter 2 being incremented. The Set-Cookie and the cookies' value are still the same even with the incrementation. This is on Firefox.

Counter example — Mozilla Firefox

Counter example

localhost:5000

Counter 1: 2

Counter 2: 0

Increment Counter 2

Reset

Inspector Console Debugger Network Style Editor Performance Memory Storage

Filter URLs

Filter Headers

Block Resend

Response Headers (256 B)

- Content-Length: 500
- Content-Type: text/html; charset=UTF-8
- Date: Fri, 19 Mar 2021 00:33:48 GMT
- Server: WSGIServer/0.2 CPython/3.6.9
- Set-Cookie: count1=24083c89-d86b-4675-9334-c428726b540e
- Set-Cookie: count2=c35bfb29-4826-4a07-9210-34ebc60fa7dc

Request Headers (457 B)

- Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,*/*;q=0.8
- Accept-Encoding: gzip, deflate
- Accept-Language: en-US,en;q=0.5
- Cache-Control: max-age=0
- Connection: keep-alive
- Cookie: count1=24083c89-d86b-4675-9334-c428726b540e; count2=c35bfb29-4826-4a07-9210-34ebc60fa7dc
- Host: localhost:5000
- Upgrade-Insecure-Requests: 1
- User-Agent: Mozilla/5.0 (X11; Ubuntu; Linux x86_64; rv:85.0) Gecko/20100101 Firefox/85.0

2 requests 1.21 KB / 756 B transferred Finish: 47 ms

In this screenshot for firefox we have counter 1 = 2 and counter 2 = 0. The Set-Cookie for count 1 = 24083c89-d86b-4675-9334-c428726b540e and the Set-Cookie for count 2 = c35bfb29-4826-9210-34ebc60fa7dc.

Counter example — Mozilla Firefox

Counter example x +

localhost:5000

Counter 1: 1

Counter 2: 0

Increment Counter 2

Reset

Inspector Console Debugger Network Style Editor Performance Memory Storage >>

Filter URLs

Disable Cache No Throttling

Sta	Me	Domain	File	Initia...	Ty	Trans...	Size
303	POST	localhost	reset	document	html	829 B	500
200	GET	localhost	/	document	html	756 B	500
404	GET	localhost	favicon.ico	Favicon	html	cached	742

Headers Cookies Request Response Timings

Filter Headers

Block Resend

Response Headers (256 B) Raw

- Content-Length: 500
- Content-Type: text/html; charset=UTF-8
- Date: Fri, 19 Mar 2021 00:34:44 GMT
- Server: WSGIServer/0.2 CPython/3.6.9
- Set-Cookie: count1=06fcace3-5982-4f3c-9dc9-2b6cc9e5a3c6
- Set-Cookie: count2=d70ab5a6-2aee-42be-840e-0e62c9f57fc6

Request Headers (366 B) Raw

- Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,*/*;q=0.8
- Accept-Encoding: gzip, deflate
- Accept-Language: en-US,en;q=0.5
- Connection: keep-alive
- Host: localhost:5000
- Referer: http://localhost:5000/
- Upgrade-Insecure-Requests: 1
- User-Agent: Mozilla/5.0 (X11; Ubuntu; Linux x86_64; rv:85.0) Gecko/20100101 Firefox/85.0

3 requests 1.70 KB / 1.55 KB transferred Finish: 248 ms

Once the reset button is hit count 1 value is now 06fcace3-5982-4f3c-9dc9-2b6cc9e5a3c6 and the value for count 2 is now d70ab5a6-2aee-42be-840e-0e62c9f57fc6.

The screenshot shows a web browser window with the address bar at `localhost:5000`. The page displays two counters: "Counter 1: 5" and "Counter 2: 1". Below the counters are two buttons: "Increment Counter 2" and "Reset". The browser's developer tools are open, showing the Network tab. A request to `localhost` is selected, and the Headers panel is expanded. The Response Headers show:

- Content-Length:** 500
- Content-Type:** text/html; charset=UTF-8
- Date:** Fri, 19 Mar 2021 00:35:45 GMT
- Server:** WSGIServer/0.2 CPython/3.6.9
- Set-Cookie:** count1=563bf7d5-afc0-41ce-9752-f267dca47ebd
- Set-Cookie:** count2=75eb03b1-82ad-4174-b775-e5f35e16adcb

The Request Headers show:

- Accept:** text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,image/apng,*/*;q=0.8,application/signed-exchange;v=b3;q=0.9
- Accept-Encoding:** gzip, deflate, br
- Accept-Language:** en-US,en;q=0.9
- Cache-Control:** max-age=0
- Connection:** keep-alive
- Cookie:** count1=563bf7d5-afc0-41ce-9752-f267dca47ebd; count2=75eb03b1-82ad-4174-b775-e5f35e16adcb
- Host:** localhost:5000
- Sec-Fetch-Dest:** document
- Sec-Fetch-Mode:** navigate
- Sec-Fetch-Site:** none

The status bar at the bottom of the network panel indicates "1 requests" and "769 B transferred".

In this screenshot for Google chrome we have counter 1 = 5 and counter 2 = 1. The Set-Cookie for count 1 = 563bf7d5-afc0-41ce-9752-f267dca47ebd and the Set-Cookie for count 2 = 75eb03b1-82ad-4174-b775-e5f35e16adcb.

The screenshot shows a web browser window with the address bar at `localhost:5000`. The page displays two counters: **Counter 1: 1** and **Counter 2: 0**. Below the counters are two buttons: `Increment Counter 2` and `Reset`. The `Reset` button has been clicked, as indicated by the network traffic in the developer tools.

The developer tools are open to the **Network** tab, showing a list of requests. The selected request is from `cookie-domain:localhost`. The **Response Headers** section shows the following details:

- Content-Length:** 500
- Content-Type:** text/html; charset=UTF-8
- Date:** Fri, 19 Mar 2021 00:36:19 GMT
- Server:** WSGIServer/0.2 CPython/3.6.9
- Set-Cookie:** count1=9a766ee8-171f-449a-bfb1-3e9ad43b69e5
- Set-Cookie:** count2=11ab700f-3000-4f3e-8efe-b8eacfb65089

The **Request Headers** section shows the following details:

- Accept:** text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,image/apng,*/*;q=0.8,application/signed-exchange;v=b3;q=0.9
- Accept-Encoding:** gzip, deflate, br
- Accept-Language:** en-US,en;q=0.9
- Cache-Control:** max-age=0
- Connection:** keep-alive
- Host:** localhost:5000
- Referer:** http://localhost:5000/
- Sec-Fetch-Dest:** document
- Sec-Fetch-Mode:** navigate
- Sec-Fetch-Site:** same-origin
- Sec-Fetch-User:** ?1

The status bar at the bottom of the developer tools indicates **2 requests** and **1.1 kB transferred**.

Once the reset button is hit count 1 value is now 9a766ee8-171f-449a-bfb1-3e9ad43b69e5 and the value for count 2 is now 11ab700f-3000-4f3e-8efe-b8eacfb65089.

```
alfonso@alfonso-System-Product-Name: ~/Desktop/backEndWeb/serverSideSession
alfonso@alfonso-System-Product-Name:~/Desktop/backEndWeb/serverSideSession$ ./dump.py http://localhost:5100
{'5f116cc0-b135-4125-a7e3-016ec979b583': '1'}
{'a0c35712-b85a-4556-9c81-3c1c02a9fa93': '0'}
alfonso@alfonso-System-Product-Name:~/Desktop/backEndWeb/serverSideSession$
```

Running the command `./dump.py http://localhost:5100` will return the keys and values in the key-value store. In this case, the session id along with the counter value are returned.