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## SUCCESSFUL EXCHANGE

web\_server.py

```
webserver — Python web_server.py 1234 — 88x28

brycesouers@Bryces-MacBook-Air webserver % python3 web_server.py 1234
SERVER >> [SUCCESS]: Socket created and setup successfully.

Ready to serve...
SERVER >> [('127.0.0.1', 62538)]: Connected successfully.
SERVER >> [200 OK] Sent 'HelloWorld.html'.

Ready to serve...
█
```

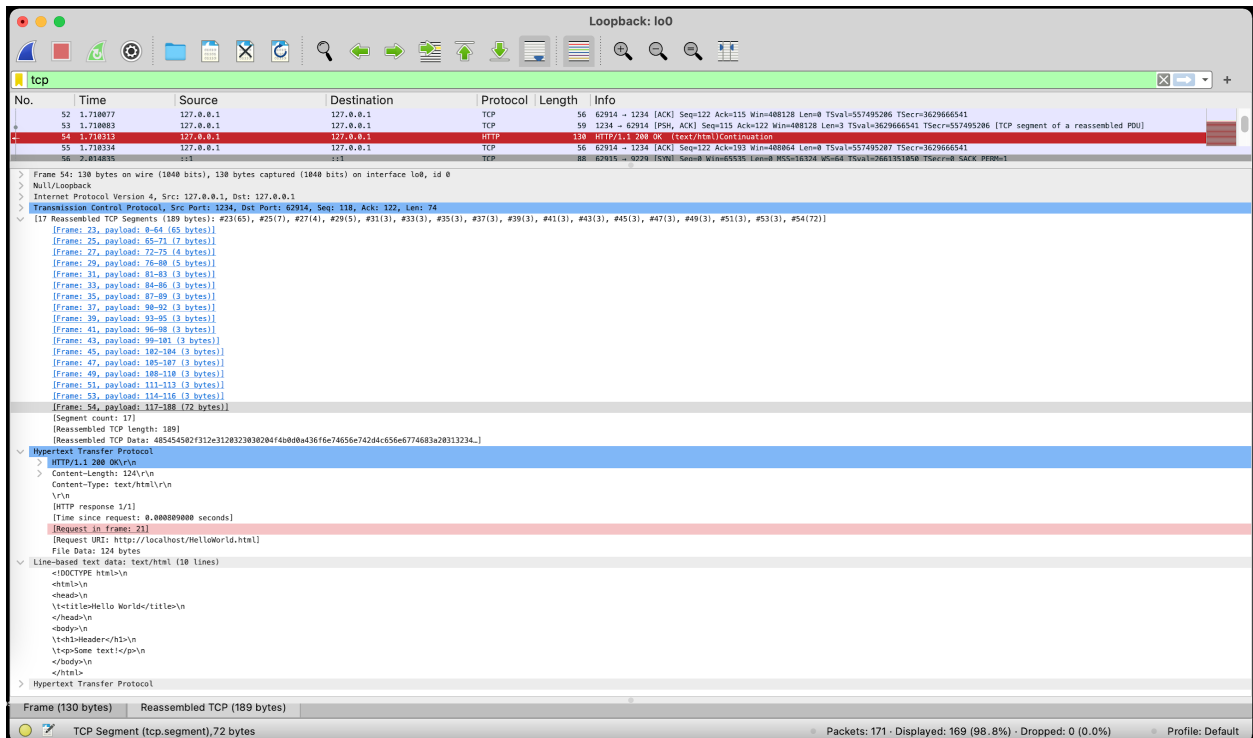
web\_client.py

```
webserver — zsh — 88x30

brycesouers@Bryces-MacBook-Air webserver % python3 web_client.py localhost 1234 HelloWorld.html
-----The client is ready to send-----
('127.0.0.1', 62538)-->('127.0.0.1', 1234)
HTTP/1.1 200 OK
Content-Length: 124
Content-Type: text/html

<!DOCTYPE html>
<html>
<head>
  <title>Hello World</title>
</head>
<body>
  <h1>Header</h1>
  <p>Some text!</p>
</body>
</html>
```

This shows a successful request and response from both the server and the client's side. The file requested was 'HelloWorld.html'. The client has been throttled (it only receives 16 bytes at a time and there is a sleep function of 0.1 seconds between each segment). The WireShark view of this interaction is below:



## SUCCESSFUL BROWSER REQUEST

web\_server.py

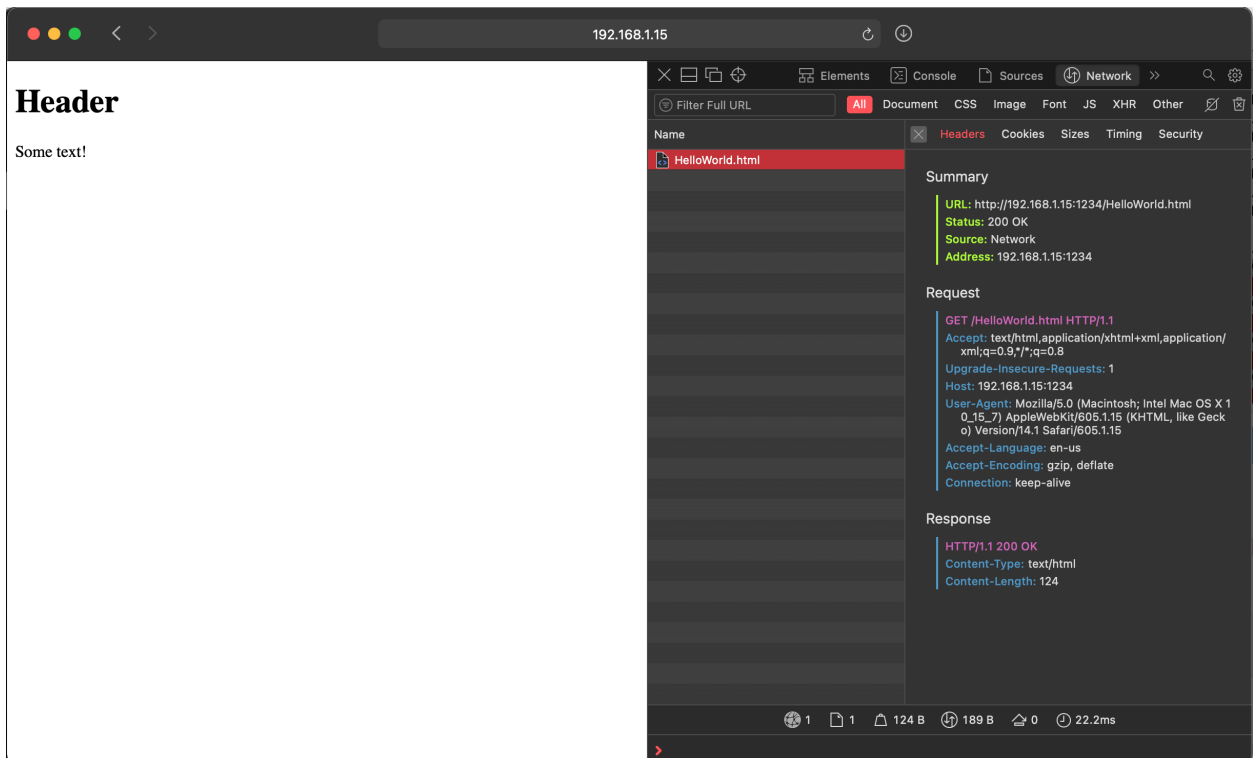
```
webserver — Python web_server.py 1234 — 88x28

[brycesouers@Bryces-MacBook-Air webserver % python3 web_server.py 1234
SERVER >> [SUCCESS]: Socket created and setup successfully.

Ready to serve...
SERVER >> [('192.168.1.15', 64515)]: Connected successfully.
SERVER >> [200 OK] Sent 'HelloWorld.html'.

Ready to serve...
█
```

Browser



## NON-EXISTENT FILE REQUEST

web\_server.py

```
webserver — Python web_server.py 1234 — 88x28
brycesouers@Bryces-MacBook-Air webserver % python3 web_server.py 1234
SERVER >> [SUCCESS]: Socket created and setup successfully.

Ready to serve...
SERVER >> [('127.0.0.1', 50748)]: Connected successfully.
SERVER >> [404 Not Found] '1.html' does not exist.

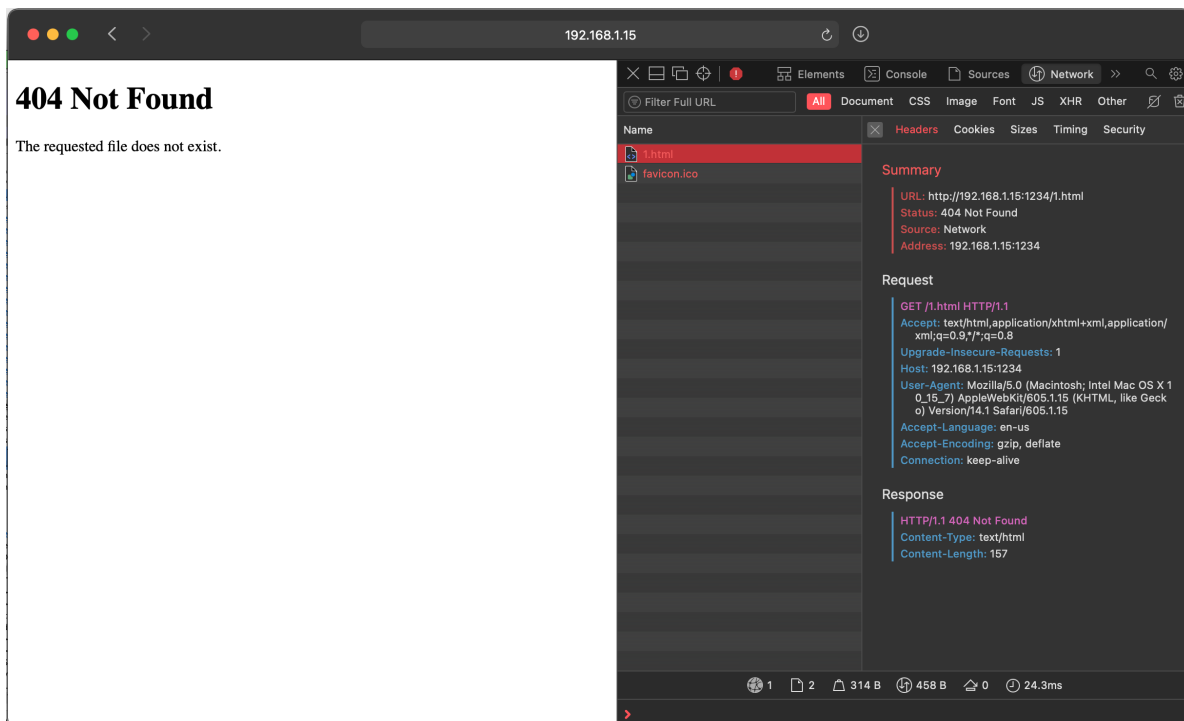
Ready to serve...
█
```

web\_client.py

```
webserver — -zsh — 88x30
brycesouers@Bryces-MacBook-Air webserver % python3 web_client.py localhost 1234 1.html
-----The client is ready to send-----
('127.0.0.1', 50748)-->('127.0.0.1', 1234)
HTTP/1.1 404 Not Found
Content-Length: 157
Content-Type: text/html

<!DOCTYPE html>
<html>
<head>
  <title>404 Not Found</title>
</head>
<body>
  <h1>404 Not Found</h1>
  <p>The requested file does not exist.</p>
</body>
</html>
```

Browser



## WEB SERVER KEYBOARD INTERRUPT

```
webserver — -zsh — 88x28
[brycesouers@Bryces-MacBook-Air webserver % python3 web_server.py 1234]
SERVER >> [SUCCESS]: Socket created and setup successfully.

Ready to serve...
SERVER >> [('127.0.0.1', 50748)]: Connected successfully.
SERVER >> [404 Not Found] '1.html' does not exist.

Ready to serve...
SERVER >> [('192.168.1.15', 51196)]: Connected successfully.
SERVER >> [404 Not Found] '1.html' does not exist.

Ready to serve...
SERVER >> [('192.168.1.15', 51197)]: Connected successfully.
SERVER >> [404 Not Found] 'favicon.ico' does not exist.

Ready to serve...
^C
SERVER >> [INTERRUPT] Shutting down...
brycesouers@Bryces-MacBook-Air webserver %
```

## WEB SERVER "STOP" COMMAND

```
webserver — -zsh — 88x28
[brycesouers@Bryces-MacBook-Air webserver % python3 web_server.py 1234]
SERVER >> [SUCCESS]: Socket created and setup successfully.

Ready to serve...
SERVER >> [('192.168.1.15', 51820)]: Connected successfully.
SERVER >> [200 OK] Sent 'HelloWorld.html'.

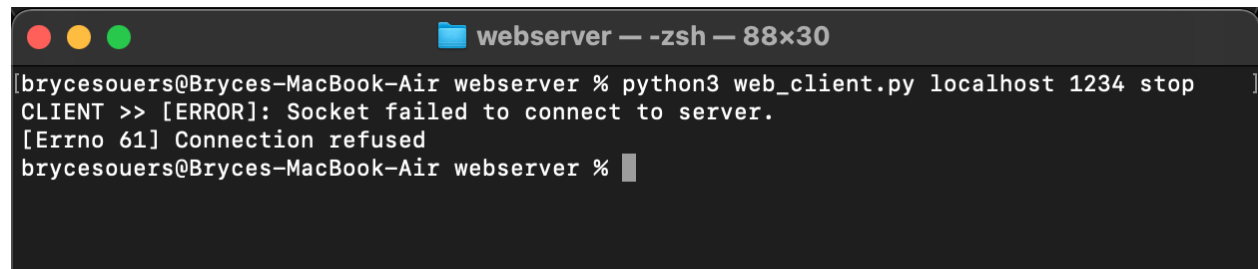
Ready to serve...
SERVER >> [('192.168.1.15', 51845)]: Connected successfully.
SERVER >> [404 Not Found] '1.html' does not exist.

Ready to serve...
SERVER >> [('192.168.1.15', 51870)]: Connected successfully.
SERVER >> [STOP] Stop command received, shutting down...
brycesouers@Bryces-MacBook-Air webserver %
```

```
webserver — -zsh — 88x30
[brycesouers@Bryces-MacBook-Air webserver % python3 web_client.py localhost 1234 stop]
-----The client is ready to send-----
('127.0.0.1', 52027)-->('127.0.0.1', 1234)

brycesouers@Bryces-MacBook-Air webserver %
```

# WEB CLIENT WITH NO SERVER - ERROR HANDLING

A terminal window titled "webserver — -zsh — 88x30" with standard macOS window controls (red, yellow, green buttons). The terminal shows a user running a Python script to connect to a server. The script fails with a "Connection refused" error (Errno 61).

```
[brycesouers@Bryces-MacBook-Air webserver % python3 web_client.py localhost 1234 stop  
CLIENT >> [ERROR]: Socket failed to connect to server.  
[Errno 61] Connection refused  
brycesouers@Bryces-MacBook-Air webserver %
```