

# Project - 2

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**Browser Used:** Google Chrome

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## How to run

- > Make all
- > ./proxy PortNumber
- > python proxy\_tester.py proxy {port number optional}

## Design Choices made:

1. Request length is less than 4096 bytes.
2. Server should be given no more than 20 simultaneous/ parallel requests.
3. All parsing error and buffer overflows are replied with "500 Internal Server Error".
4. The server reads a request until there is something to read and then quits if request end is observed([CLRF][CLRF]) else waits for a fixed amount of time before quitting.
5. Signal is used to keep track of number of childs, a handler is defined that is called on exit of every child process .

# Explanation of Testing Results

## 1. Script1

- I added an extra wait in the script to pass the last test case, as it was immediately trying to get response.

## 2. Script2

- 11/13 test cases passed, 1 of which was the 4th one, I did not add any wait in this script hence got failed.
- The other was apache benchmark, it did not passed due to slow connection at hostel network and yield connection timeout, works fine on CSE network.

## 3. Browser Response

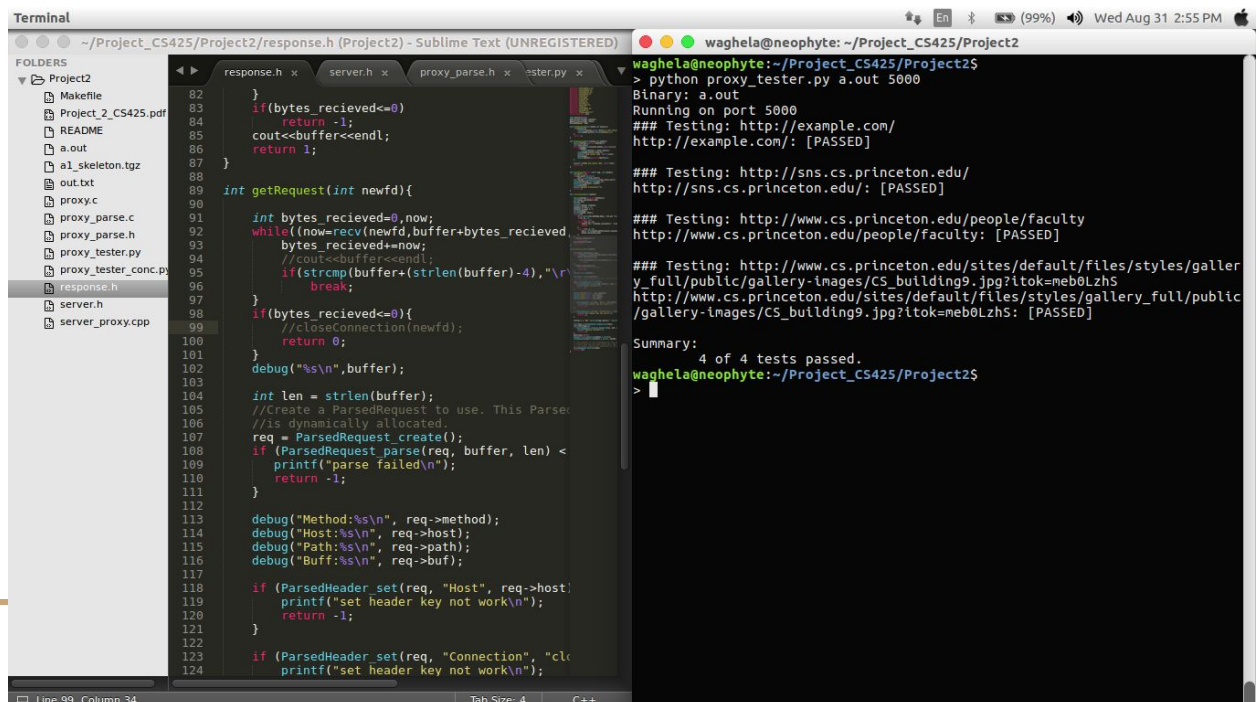
- A request to 9gag.com was sent on port 3000 which processed successfully (localhost2 proxy setting was server:localhost port:3000).
- The “parse failed” is due to the dynamic components in other web pages that are trying to send various request.

## 4. Malformed Response

- To test 500 Internal Error

# Testing Results

## 1. OutPut of Script1 (proxy\_tester.py)



```
Terminal
~/Project_CS425/Project2/response.h (Project2) - Sublime Text (UNREGISTERED)
waghela@neophyte: ~/Project_CS425/Project2$
> python proxy_tester.py a.out 5000
Binary: a.out
Running on port 5000
### Testing: http://example.com/
http://example.com/: [PASSED]

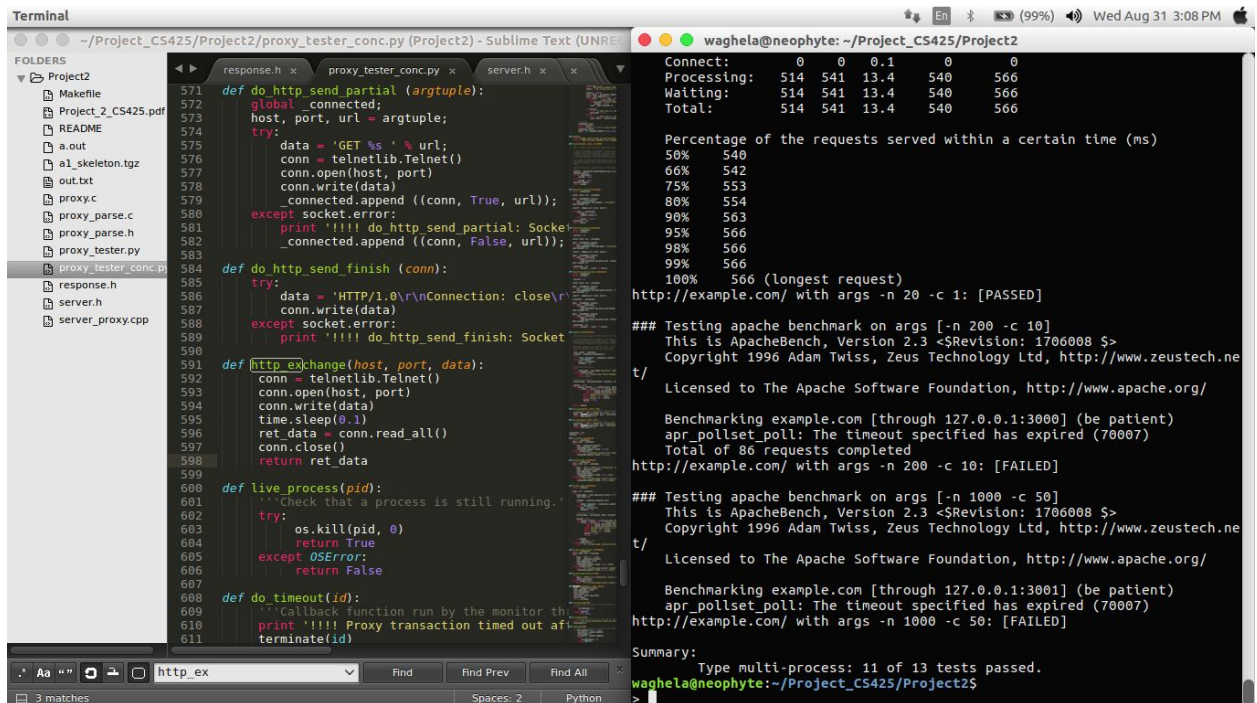
### Testing: http://sns.cs.princeton.edu/
http://sns.cs.princeton.edu/: [PASSED]

### Testing: http://www.cs.princeton.edu/people/faculty
http://www.cs.princeton.edu/people/faculty: [PASSED]

### Testing: http://www.cs.princeton.edu/sites/default/files/styles/gallery_full/public/gallery-images/CS_building9.jpg?itok=meb0LzhS
http://www.cs.princeton.edu/sites/default/files/styles/gallery_full/public/gallery-images/CS_building9.jpg?itok=meb0LzhS: [PASSED]

Summary:
4 of 4 tests passed.
waghela@neophyte:~/Project_CS425/Project2$
```

## 2. OutPut of Script2 (proxy\_tester\_conc.py)



```
Terminal
~/Project_CS425/Project2/proxy_tester_conc.py (Project2) - Sublime Text (UNRE...)
waghela@neophyte: ~/Project_CS425/Project2

Connect:      0      0      0.1      0      0
Processing:   514    541    13.4    540    566
Waiting:      514    541    13.4    540    566
Total:        514    541    13.4    540    566

Percentage of the requests served within a certain time (ms)
50%    540
66%    542
75%    553
80%    554
90%    563
95%    566
98%    566
99%    566
100%   566 (longest request)
http://example.com/ with args -n 20 -c 1: [PASSED]

### Testing apache benchmark on args [-n 200 -c 10]
This is ApacheBench, Version 2.3 <$Revision: 1706008 $>
Copyright 1996 Adam Twiss, Zeus Technology Ltd, http://www.zeustech.ne
t/
Licensed to The Apache Software Foundation, http://www.apache.org/

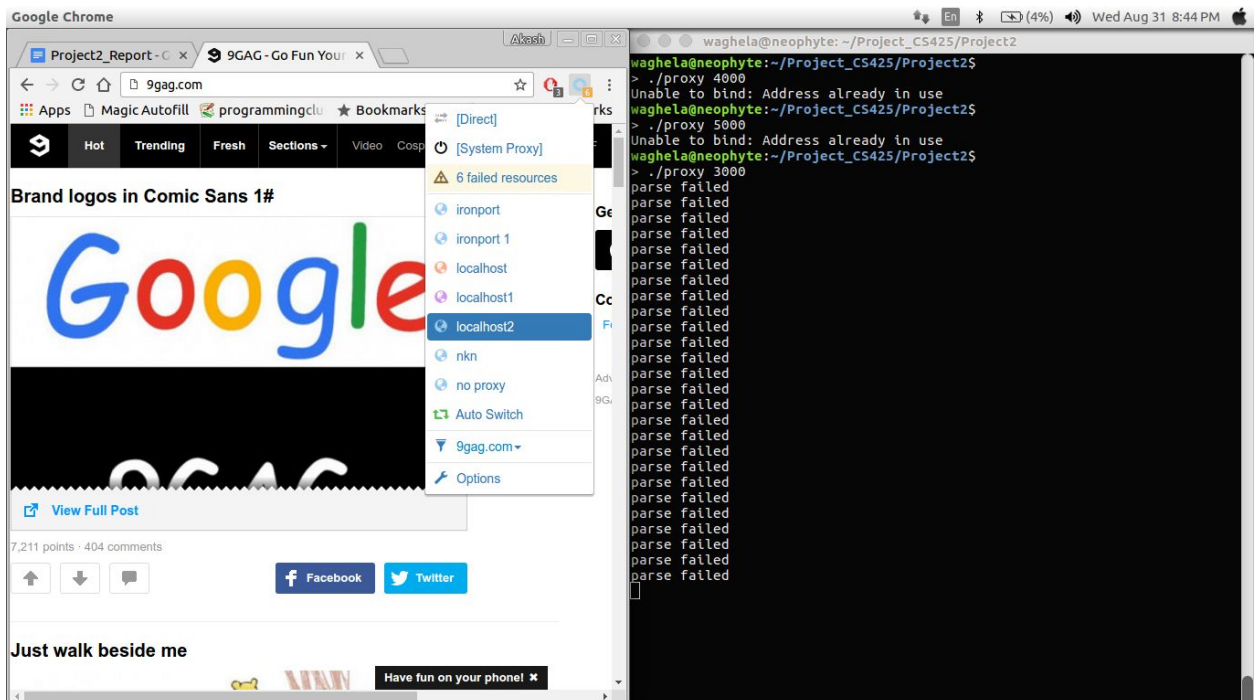
Benchmarking example.com [through 127.0.0.1:3000] (be patient)
apr_pollset_poll: The timeout specified has expired (70007)
Total of 86 requests completed
http://example.com/ with args -n 200 -c 10: [FAILED]

### Testing apache benchmark on args [-n 1000 -c 50]
This is ApacheBench, Version 2.3 <$Revision: 1706008 $>
Copyright 1996 Adam Twiss, Zeus Technology Ltd, http://www.zeustech.ne
t/
Licensed to The Apache Software Foundation, http://www.apache.org/

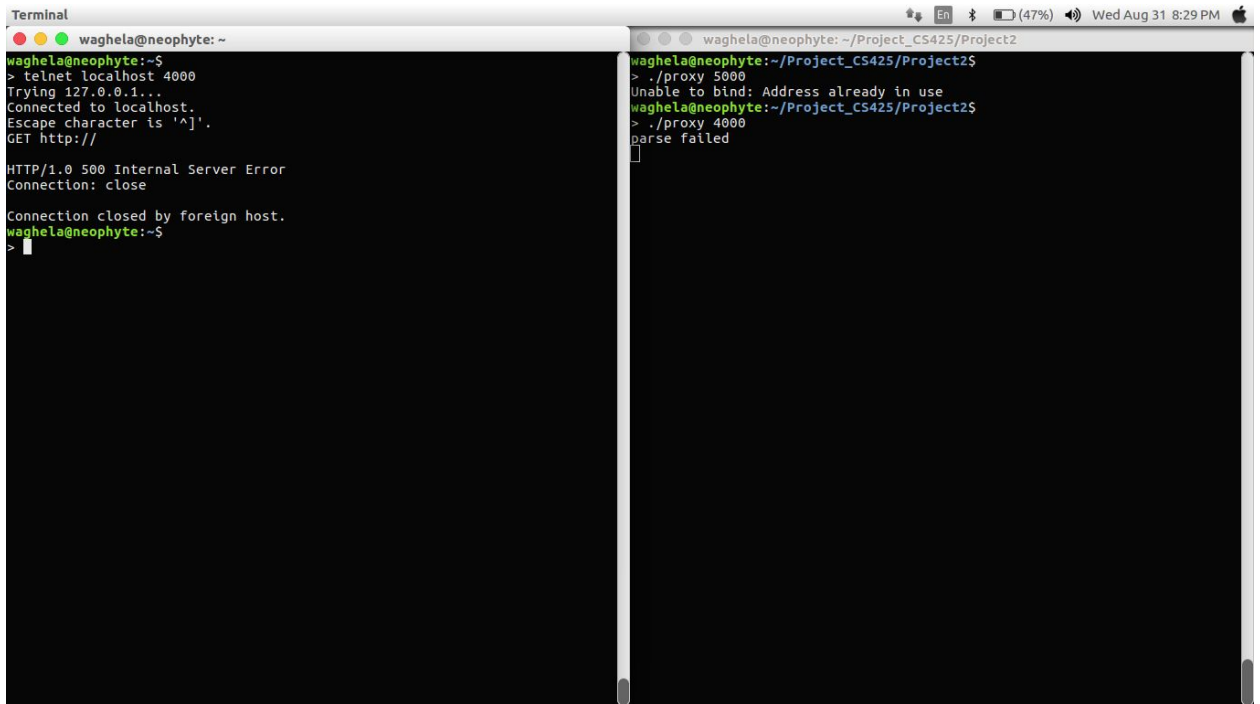
Benchmarking example.com [through 127.0.0.1:3001] (be patient)
apr_pollset_poll: The timeout specified has expired (70007)
http://example.com/ with args -n 1000 -c 50: [FAILED]

Summary:
Type multi-process: 11 of 13 tests passed.
waghela@neophyte:~/Project_CS425/Project2$
```

## 3. Browser Response



## 4. Malformed Request



```
Terminal
waghela@neophyte: ~
waghela@neophyte:~$
> telnet localhost 4000
Trying 127.0.0.1...
Connected to localhost.
Escape character is '^]'.
GET http://

HTTP/1.0 500 Internal Server Error
Connection: close

Connection closed by foreign host.
waghela@neophyte:~$
>

waghela@neophyte: ~/Project_CS425/Project2
waghela@neophyte:~/Project_CS425/Project2$
> ./proxy 5000
Unable to bind: Address already in use
waghela@neophyte:~/Project_CS425/Project2$
> ./proxy 4000
parse failed
>
```

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