

Project 3 debugging:

Problem: Server not running properly

Solution: Run your server code in the same directory as the sample.sh file and then while it's running you can run sh sample.sh in another tab or sum

Problem: How to test the code?

Solution: bash sample.sh on another terminal

Problem:

```
PS C:\Users\Kevin\Downloads\proj3> bash sample.sh
bash : The term 'bash' is not recognized as the name of a cmdlet,
function, script file, or operable program. Check the spelling of the
name, or if a path was included, verify that the path is correct and
try again.
At line:1 char:1
+ bash sample.sh
+ ~~~~
+ CategoryInfo          : ObjectNotFound: (bash:String) [], Comma
ndNotFoundException
+ FullyQualifiedErrorId : CommandNotFoundException

PS C:\Users\Kevin\Downloads\proj3> █
```

Solution:

run it on ilab or a linux machine (MUST RUN ON ILAB, BASH ONLY WORKS ON LINUX)

OR USE WSL

https://learn.microsoft.com/en-us/windows-server/administration/openssh/openssh_install_firstuse?tabs=gui

<https://learn.microsoft.com/en-us/windows/wsl/install>

Problem:

Anyone having a problem where you need to empty port 8080 each time and if so how did you fix it?

Solution:

Problem:

Yo guys for the return 501 error thing if we don't have a proper username or password are we just using return to return the error message ?

Solution:

Yeah then the server takes it and sends it as a response to the client I'm p sure

Use `.send()`

Problem: "modules you used are not allowed from the autograder"?

A screenshot of a code editor with a dark background. The editor shows a file named 'server.py' with the following imports:

```
1 import socket
2 import json
3 import random
4 from datetime import datetime, timedelta
5 import hashlib
6 import sys
7
```

 The editor tabs at the top show 'accounts.json', 'passwords.json', and 'sample.sh'.

Solution: Not allowed to import any more modules in the autograder, even though they're classes

`datetime.datetime.now()`

Problem: missing a print statement will cause a 0 even if everything else is perfect

Problem: how are we supposed to send requests from client side

Solution:

-using curl, as is outlined in sample.sh

- open another terminal while our server is running and run the command provided in sample.sh?

Problem: So my client is printing

< HTTP/1.0 200 OK

< Set-Cookie: sessionID=5f26adcc5e2490cd

but is not printing "Logged In" even though I am sending it to client.

```
log_message(f"LOGIN SUCCESSFUL: {username} : {password}")
```

```
return f'HTTP/1.0 200 OK\r\nSet-Cookie: sessionID={session_id}\r\n\r\nLogged in!'
```

```
FIX return f'HTTP/1.0 200 OK\r\nSet-Cookie: sessionID={session_id}\r\n\r\nLogged in!\r\n\r\n'
```

-This is not right, don't do this. With this "Logged in!" is interpreted as a header field which is not right. The curl bash script that is given does receive the body that you send it, but instead of printing all of it out it just outputs how many bytes it received in the body ({ [10 bytes data]) 10 bytes in my case "Logged in!" is 10 bytes. If you have the following output after running sample.sh then it is correct. Make sure that you send "HTTP/1.0 200 OK" and not "HTTP/1.0 200 Ok" with lowercase k. Make sure all of the characters match exactly with the writeup.

- Sanjay, ensure that only the output in the pseudocode is printed to the terminal, don't print out any extra lines such as "Server started" and such

Does anyone know why is it happening?

Solution:

-Are you sending Logged in as the response body? The body is two newlines after the header

Don't forget the time the message was logged; If I remember correctly its SERVER LOG:
year-month-day-hour-minute-second (insert message here)

-In all honesty I have no clue either. No matter what I do, the cookie sends and it's able to start up a get request, but I'm stuck with the whole "no chunk, no close, no size" thing. And for get, the message doesn't print either, but I know for sure it was received because of something that tells me the size of the message in bytes.

Tbh we prob have a similar issue lol

If it's even an issue at all

`\r\n\r\n` tells the client this is end of message

Try:`\r\n` – put logged in on a new line & will definitely print

Problem_* Header without colon

0 0 0 0 0 0 0 0 --:--:-- --:--:-- --:--:-- 0

* Closing connection 0

curl: (8) Header without colon

Before, Logged in wasn't showing up and following was printin

{ [10 bytes data]

100 10 0 10 0 0 543 0 --:--:-- --:--:-- --:--:-- 10000

* Closing connection 0

REAL SOLUTION:

f'HTTP/1.0 200 OK\r\nSet-Cookie: sessionID={session_id}\r\nLogged in!\r\n\r\n'

PRINTS: % Total % Received % Xferd Average Speed Time Time Time Current

Dload Upload Total Spent Left Speed

0 0 0 0 0 0 0 0 --:--:-- --:--:-- --:--:-- 0* Trying 127.0.0.1:8080...

* Connected to 127.0.0.1 (127.0.0.1) port 8080 (#0)

> POST / HTTP/1.1

> Host: 127.0.0.1:8080

> User-Agent: curl/7.86.0

> Accept: */*

> username: Richard

> password: 3TQI8TB39DFIMI6

>

* Mark bundle as not supporting multiuse

* HTTP 1.0, assume close after body

< HTTP/1.0 200 OK

< Set-Cookie: sessionID=5e9a68c9649fe6c8

Logged in!

{ [2 bytes data]

100 2 0 2 0 0 135 0 --:--:-- --:--:-- --:--:-- 2000

* Closing connection 0

Problem: Did anyone have any issues getting the cookies for the GET request using sample.sh?

Solution: The professor's original sample.sh will get the cookie as long as it is sent correctly in the header

Problem:

Traceback (most recent call last):

File "/common/home/smk373/proj3/server.py", line 102, in <module>

start_server(IP, PORT, ACCOUNTS_FILE, SESSION_TIMEOUT, ROOT_DIRECTORY)

File "/common/home/smk373/proj3/server.py", line 80, in start_server

server_socket.bind((ip, port))

OSError: [Errno 98] Address already in use

anyone know how to fix this?

Solution: -The server's probably still running, You can force close it w ctrl + c

-This sometimes happens when the python script doesn't release the socket before terminating. Make sure to close the socket before the end of the program

~_yeah somthing was already listening on that port but i wasnt able to terminate

switching to a diff ilab fixed the issue

- You can use the command "lsof -i :PORT" to find the process on that port. (replace PORT with the port)

~

Problem: How we supposed to get the cookies for the GET request?

Solution:

-_You mean let the program know what the cookie is from the request, or have the program actually remember what the cookie is

Cuz the cookie is in the get request itself

```

Emery@DESKTOP-TBCPSDR MINGW64 ~/documents/code shit/assignment
$ bash sample.sh
* processing: http://127.0.0.1:8080/
% Total    % Received % Xferd  Average Speed   Time    Time     Time
0         0     0    0      0      0      0      0      0  --:--:--  --:--:--
...
* Connected to 127.0.0.1 (127.0.0.1) port 8080
> POST / HTTP/1.1
> Host: 127.0.0.1:8080
> User-Agent: curl/8.2.1
> Accept: */*
> username: Richard
> password: 3TQI8TB39DFIMI6
< HTTP/1.1 200 OK
< Set-Cookie: sessionId=0x5efbf82a3e7dd6f7
* no chunk, no size. Assume close to signal end
[ 10 bytes data]
100    10    0   10    0    0   848    0  --:--:--  --:--:--
X * Closing connection
  \nCookie (sessionId) for user: 0x5efbf82a3e7dd6f7
  The numberless hall dusts father.* processing: http://127.0.0.1:
  * Trying 127.0.0.1:8080...
  * Connected to 127.0.0.1 (127.0.0.1) port 8080
  > GET /file.txt HTTP/1.0
  > Host: 127.0.0.1:8080
  > User-Agent: curl/8.2.1
  > Accept: */*
  > Cookie: sessionId=0x5efbf82a3e7dd6f7
  * HTTP 1.0, assume close after body
  < HTTP/1.0 200 OK
  [ 33 bytes data]
  * Closing connection
Emery@DESKTOP-TBCPSDR MINGW64 ~/documents/code shit/assignment 3

```

Ex: I didn't mess with the sample file at all, and after post is dealt with, it sends this

So you'd likely just look for where it says cookie in the request and act accordingly

Also I think the extra stuff like "Logged in!" And whatever the message is (in Richard's case, something about his dusty ass dad, idk) that's what the [X bytes data] is. Idk, take what I say with a grain of salt, it works for me, even with Bash testing so I'll try on an actual Linux machine when I get back to Rutgers and if it still doesn't work, I gotta bug some people I know that are smarter than me lol. Works for me but not

for the autograder

~_Ensure that the console output of the server exactly matches the writeup, no extra messages like "server started" and such

Problem:

Has anyone gotten this before:

```

* Trying 127.0.0.1:8080...
* Connected to 127.0.0.1 (127.0.0.1) port 8080 (#0)
> GET /file.txt HTTP/1.0
> Host: 127.0.0.1:8080
> User-Agent: curl/7.84.0
> Accept: */*
> Cookie: sessionId=32a8ef36f23c0306
>
* Mark bundle as not supporting multiuse
* HTTP 1.0, assume close after body

```

< HTTP/1.0 401 Unauthorized
* The requested URL returned error: 401
* Closing connection 0

Solution:

Problem:

For some reason my "Logged in!" Is not being displayed

> username: Richard
> password: 3TQI8TB39DFIMI6
>
* Mark bundle as not supporting multiuse
* HTTP 1.0, assume close after body
< HTTP/1.0 200 OK
< Set-Cookie: sessionID=292252a2fa10da52
<
{ [14 bytes data]

Solution:

Problem: log with MESSAGE "SESSION EXPIRED: {username} : {target}" is "target" the url?

Solution: Target should be the filename;

GET /file.txt HTTP/1.0 || Target is "/file.txt" this part || or for POST its just always /

Tips / Hints for Project 3 HTTP

Note: I completed successfully with score: 120/120 (100%)

TIPS:

1. OSError: [Errno 98] Address already in use cooldown

- use the following code right after creating the socket, and just before binding it.

```
server_socket.setsockopt(socket.SOL_SOCKET, socket.SO_REUSEADDR, 1)
```

- This line allows reusing the port. Now you can immediately re-run the server after closing it w/ CTRL+C without this [Errno 98] error.

2. Cases where Server Logs must end in the {target} filepath;

- Only need end in {filename.txt}. You SHOULD NOT display, for example, "accounts[username]/[filename.txt]" as the target filepath in the server log message

3. Server IP and port:

- Server_IP = "localhost"
- Server_Port = [any port]

4. Correct Outputs

Correct_Server_Logs.txt

- This output must be exactly matched to pass the autograder.

Correct_Curl_Script_Output.txt

- This output is just to help w/ debugging, this output doesn't need to be perfectly matched to pass the autograder

project

~ An instructor (Alborz Jelvani) endorsed this note ~

Edit good note 12

followup discussions, for lingering questions and comments

- Resolved

Unresolved

@191_ft
- 

Alborz Jelvani

4 hours ago

To add: **Make sure your server is using HTTP 1.0 in the response!**

good comment 0
- 

Anonymous Gear

4 hours ago

How do we specify this? I have been using HTTP 1.1 and I thought that was the 'default'.

helpful! 0
- 

Anonymous Gear

4 hours ago

Nevermind, I see we specify it when we form our response.

Actions ▾

QUESTION about logging file path

current I am printing the file name this way "2023-11-20-23-39 SESSION EXPIRED: Richard : /file1.txt"
with forward /, do we have to get rid of the /

project

Edit good question 0

Updated 21 hours ago by Anonymous Gear

S the students' answer, where students collectively construct a single answer

Click to start off the wiki answer

i the instructors' answer, where instructors collectively construct a single answer

Keep the "/", that is correct.

thanks! 0

Updated 20 hours ago by Alborz Jelvani

Actions ▾

On the pseudocode, it says every time we finish POST or GET, it will close the connection, and then enter the loop and accept a new connection. I try to use `sock.close()` to close the connection, but this will cause the sample.sh stop as well. So I did not put any close connection code after the POST executed.

I could not figure out what have cause this to happen.

project

Updated 18 hours ago by KANRAN PENG

S the students' answer, where students collectively construct a single answer

[Click to start off the wiki answer](#)

i the instructors' answer, where instructors collectively construct a single answer

CURL is telling you the problem. Your server is not accepting the connection.
Another observation: **Make sure your server is using HTTP 1.0 in the response!**

Updated 4 hours ago by Alborz Jelvani

followup discussions, *for lingering questions and comments*

 KANRAN PENG 9 hours ago

I think my it says my server do not receive connection is because i shut down my server with control c, but before that, i could not get anything back from the server, I think it is because the curl do not know when is the end of my body part.

Stuck at 90/120

Anyone see anything wrong with my logs for the 12 test cases? Stuck at 90/120 and have put hours and hours into trying to find what the autograder wants but can't

```
python3 server.py 127.0.0.1 8080 accounts.json 5 accounts/
SERVER LOG: 2023-11-21-16-59-08 LOGIN FAILED
SERVER LOG: 2023-11-21-16-59-08 LOGIN FAILED
SERVER LOG: 2023-11-21-16-59-08 LOGIN FAILED: Richard : 3TQI8TB39DFIMI6
SERVER LOG: 2023-11-21-16-59-08 LOGIN FAILED: Richard : 3TQI8TB39DFIMI7
SERVER LOG: 2023-11-21-16-59-08 LOGIN SUCCESSFUL: Richard : 3TQI8TB39DFIMI6
SERVER LOG: 2023-11-21-16-59-08 LOGIN SUCCESSFUL: Richard : 3TQI8TB39DFIMI6
SERVER LOG: 2023-11-21-16-59-08 COOKIE INVALID: /file.txt
SERVER LOG: 2023-11-21-16-59-08 GET SUCCEEDED: Richard : /file.txt
SERVER LOG: 2023-11-21-16-59-08 LOGIN SUCCESSFUL: Jerry : 4W61E0D8P37GLLX
SERVER LOG: 2023-11-21-16-59-08 GET SUCCEEDED: Jerry : /file.txt
SERVER LOG: 2023-11-21-16-59-08 GET FAILED: Jerry : /file2.txt
SERVER LOG: 2023-11-21-16-59-14 SESSION EXPIRED: Jerry : /file.txt
```

project

Edit

good question

0

S the students' answer, where students collectively construct a single answer

Click to start off the wiki answer

i the instructors' answer, where instructors collectively construct a single answer

A debugging strategy:

Put in a counter to remember the # of requests for your server.

Respond properly to the first X requests and then return a null/error response for the rest regardless of the input.

You should see the points change as a function of X. Use that to figure out which responses did not work.

Take/comment out the counter when you're done.

-R