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CSE 130

HTTP Server with Multi-Threading and Logging Write-Up

Testing:

- I began testing with multiple curl requests ending with "&" in a .sh script to test if my server could handle multiple threads at once.
- I then moved on the git tests to see how my server could improve. I failed a lot of them.
- I was able to find a few test scripts on Piazza and Discord:
    - Clark's Bash script that tests concurrency -> passed all tests
    - mintest.sh from Discord -> passed all tests
    - shared test git repo from Piazza
        - Could not pass a few of the tests, especially the ones related to logging and PUT requests
- Disclaimer: I haven't been able to pass of the logging tests on git, but I am still submitting this because I have reached the end of my grace days. Specifically, I fail tests 13-16 and 20. On my end, logging seems to work, but even though I have to submit prematurely, I still want to continue to find what's wrong with it.

Questions:

- I'm going to be honest, it's the third day of my grace days and it's almost 9. I have been trying to figure out how to use time(1) to time my server from asgn1 compared to asgn2 for the past 20 minutes. I don't think I'll be able to do it in time.
- What is likely to be the bottleneck in your system? How much concurrency is available in various parts, such as dispatch, worker, logging? Can you increase concurrency in any of these areas and, if so, how?
    - The bottleneck in my system is likely to be in my logging. I believe that my critical section is too big and could be decreased to speed up the process. Additionally, there may be a little bit of extra work when the dispatcher is looping through the threads trying to determine which threads are available. I can probably find a more efficient way to find available threads.
- For this assignment you are logging the entire contents of files. In real life, we would not do that. Why?
    - In real life, there would be no need to log the entire contents of files because it becomes unrealistically slow for very large files. Just the headers are necessary to log the requests concurrently.