COMP4621 Course Project
Proxy Server

COMP4621 TAs

April 12, 2020

1 Background

A proxy server is an application that acts as an intermediary for requests from clients seeking resources from other servers. The proxy server may exists in the same machine as a firewall server or it may be on separate server, which forwards requests through the firewall. You can consult the **RFC**[2] and Wikipedia[4] for more information.

2 Requirements

You should:

1. Implement the local proxy server using C/C++, Java or Python.
2. Support multiple threads.
3. Support forwarding HTTP requests.
4. Support forwarding HTTPS requests.
5. Support access control. For example, if user want to access sing.cse.ust.hk, return "404 Not Found" status code.
6. Support caching.

You should **NOT**:

1. Directly use third-party libraries that provide HTTP or proxy support.
2. Use multiplexing facilities, such as EPOLL or SELECT.
3. Copy from others.
4. Copy from Github or other public source code.

3 Grading

You should record a video to demostrate your program, showing the requirements you have met (with either subtitle or narration for highlight). You should also submit a report to highlight how do you implement each requirement in your code.

You should send TA an email (czengaf@connect.ust.hk) along with a **.zip** file attachment, including **video, report and source code** (link to Github or Bitbucket is preferred)

The grading scheme is as follows:

1. Multi-thread (20 points).
2. HTTP requests forwarding (20 points).
3. HTTPS requests forwarding (20 points).
4. Access control (20 points).
5. Caching (20 points).

The requirement will be counted only if this part has been shown on video, report and source code (**all but not only one**).

4 Other useful links

- HTTP/1.1: Semantics and Content - methods, status codes and headers[3]
- HTTP/1.1: Caching - browser and intermediary caches[1]

References

[1] RFC for HTTP caching. `https://tools.ietf.org/html/rfc7234`.

[2] RFC for HTTP message syntax and routing. `https://tools.ietf.org/html/rfc7230`.

[3] RFC for HTTP semantics and content. `https://tools.ietf.org/html/rfc7231`.

[4] Wikipedia page for proxy. `https://en.wikipedia.org/wiki/Proxy_server`.