

COMP 4981

Assignment 1

server.c server

Report

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Purpose	2
Requirements	2
Platforms	2
Language	2
Documents	2

Purpose

The server.c's program purpose is to act as a basic HTTP server in C that can handle both GET, POST, and HEAD requests.

Requirements

Task	Status
GET	Fully implemented
HEAD	Fully implemented
POST	Fully implemented
DATABASE READ/WRITE NDBM	Fully implemented
CONCURRENCY I/O Multiplexing	Fully implemented
Error Handling	Fully implemented

Platforms

server.c has been tested on:

- macOS 12.2
- Fedora 34
- Manjaro
- Ubuntu 23.1
- Windows 11

Browsers

- GET and HEAD can be run from these browsers
 - Chrome
 - Chrome mobile(android)
 - Brave
 - Opera
 - Chromium
 - Edge
 - Edge mobile(android/ios)
- POST can be used for
 - Take a string to the server
 - Store it in the database
 - Override the current data stored
 - Read it back
 - Send it back to the client as a response

Language

- ISO C17
- Compiles with gcc and clang

Documents

- [Design](#)
- [Testing](#)
- [User Guide](#)

Findings

- Features
 - It can work with most browsers and almost all Operating systems
 - Implemented webroot file tree to access via "/"
 - Users can add any HTML or text-based files
 - Can work with either HTTP 1.0 and HTTP 1.1
 - Always on working for GET client request
 - Data Layer created for db.h and db.c
 - ./db/
 - Access to sub-directories
 - <IP_addr>:<PORT>/sub_dir/sub
- Limitations works in most browsers but breaks
 - Other MIME types are not implemented and are limited to HTML only
 - Discovered a bug with Firefox only on any OS
 - Can only load media after server close
 - Can only read from webroot where creation is not allowed