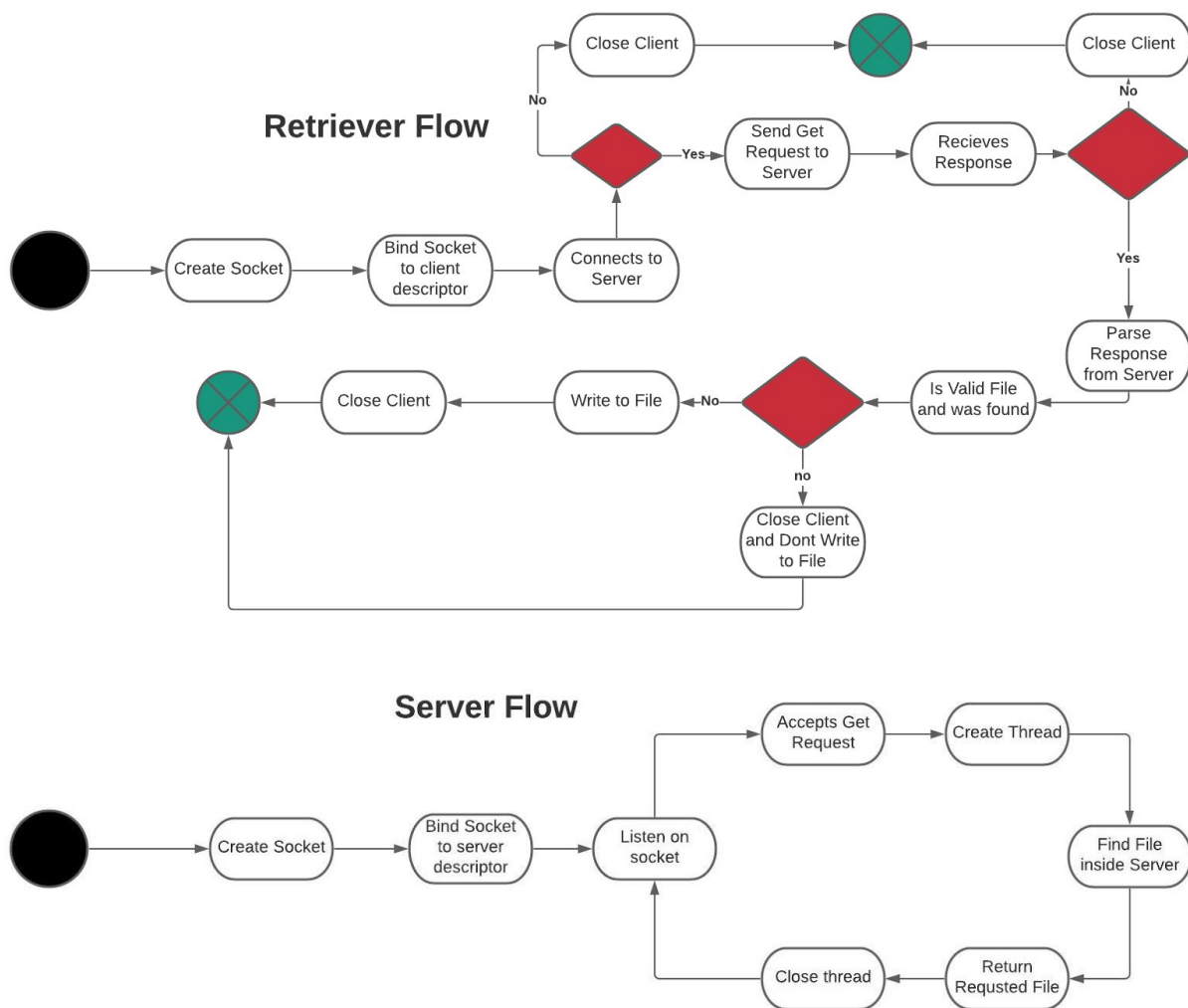


HW2 Css432

Inside of this project we had two scripts. One script representing the Retriever which makes a GET http request in order to obtain files from a website or server. Once the Server script receives the message it tries to find the HTTP file and if found will send it back to Retriever. Once the Retriever receives the acknowledgement and HTTP file it will then store the file locally and close the connection. The Server will stay on and look for other GET requests. We are currently running HTTP/1.1 because it is more efficient and safer than HTTP/1.0.

Diagrams:



Running The Code:

Retriever:

```
ip=64.227.48.38  
wp=SecretFile.html
```

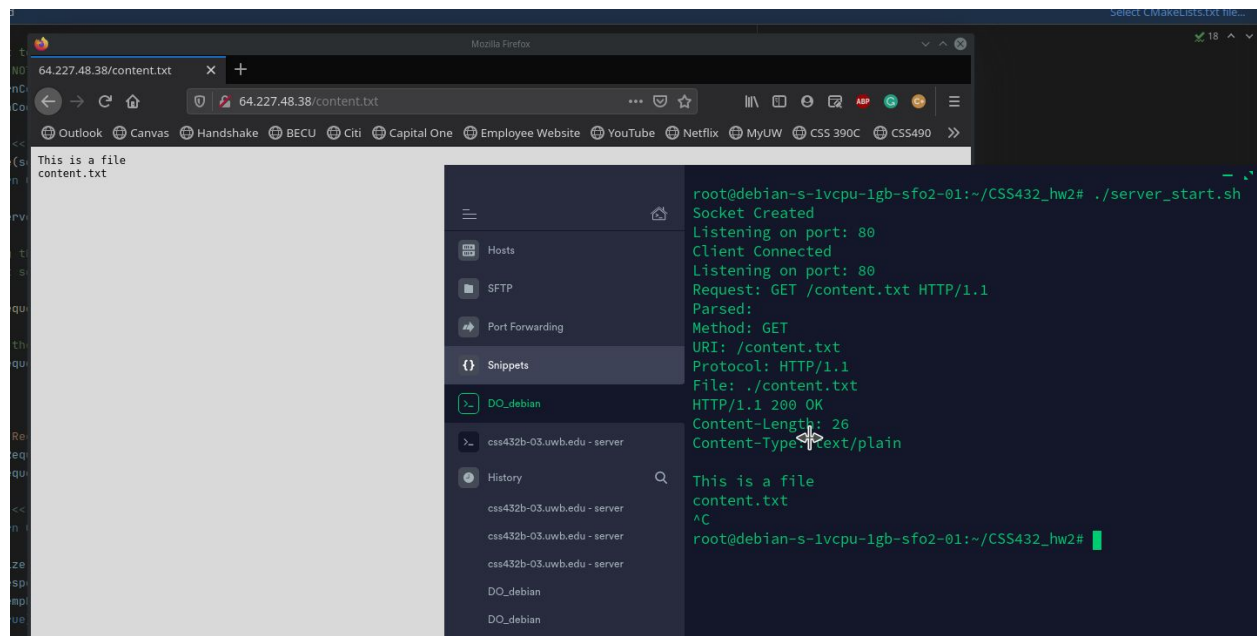
```
# compile retriever  
g++ -o retriever ./Retriever.cpp  
./retriever $ip $wp
```

Server:

```
g++ -o server ./Server.cpp -l pthread  
# start server  
./server echo "Server running"
```

Screenshots:

1) Real Web browser accessing your server (screenshot only)



2) Your retriever accessing a real server (screenshot and demo script)

```
#!/bin/bash  
# define ip and file/webpage  
ip=www.washington.edu/  
# compile retriever  
g++ -o retriever ./Retriever.cpp
```

```
# start retriever
# 200 ok
./retriever $ip research.html
```

The image shows a web browser window on the left and a terminal window on the right. The browser window displays a list of hosts and a search bar. The terminal window shows the output of the `./retriever` command, which is a C++ program that sends HTTP requests to a server and displays the response.

Browser Window:

- Hosts: CSS432B-02.uwb.edu - client, CSS432B-03.uwb.edu - server (1)
- History: CSS432B-02.uwb.edu - client, CSS432B-02.uwb.edu - client, CSS432B-03.uwb.edu - server, CSS432B-03.uwb.edu - server, CSS432B-03.uwb.edu - server, CSS432B-03.uwb.edu - server, DO_debian, DO_debian, DO_debian, DO_debian, DO_debian, DO_debian, DO_debian, DO_debian, CSS432B-02.uwb.edu - client, CSS432B-02.uwb.edu - client, DO_debian, CSS432B-03.uwb.edu - server

Terminal Window:

```
Client Connected
Listening on port: 4001
Request: GET SecretFile.html HTTP/1.1
HTTP/1.1 401 Unauthorized
Content-Length: 27
Content-Type: text/plain

HTTP/1.1 401 Unauthorized

Client Connected
Listening on port: 4001
Request: GET content.txt HTTP/1.1
File: ./content.txt
HTTP/1.1 200 OK
Content-Length: 26
Content-Type: text/plain

This is a file
content.txt
Client Connected
Listening on port: 4001
Request: GET ../file.html HTTP/1.1
HTTP/1.1 403 Forbidden
Content-Length: 24
Content-Type: text/plain

HTTP/1.1 403 Forbidden

Client Connected
Listening on port: 4001
Request: GET /content.txt HTTP/1.1
File: ./content.txt
HTTP/1.1 200 OK
Content-Length: 26
Content-Type: text/plain

This is a file
content.txt
Client Connected
Listening on port: 4001
Request: GET ../hjkhl HTTP/1.1
File: ../hjkhl
HTTP/1.1 404 Not Found
Content-Length: 22
Content-Type: text/plain
```

CSS_Servers_output

```
[duncanws@CSS432B-03 CSS432_hw2]$ ./server_start.sh
./Server.cpp: In function 'Request parse_request(std::string)':
./Server.cpp:78:1: warning: control reaches end of non-void function [-Wreturn-type]
}
^
Socket Created
Listening on port: 4001
Client Connected
Listening on port: 4001
Request: GET SecretFile.html HTTP/1.1
HTTP/1.1 401 Unauthorized
Content-Length: 27
Content-Type: text/plain
HTTP/1.1 401 Unauthorized

Client Connected
Listening on port: 4001
Request: GET content.txt HTTP/1.1
File: ./content.txt
HTTP/1.1 200 OK
Content-Length: 26
Content-Type: text/plain

This is a file
content.txt
Client Connected
Listening on port: 4001
Request: GET ../file.html HTTP/1.1
HTTP/1.1 403 Forbidden
Content-Length: 24
Content-Type: text/plain
HTTP/1.1 403 Forbidden

Client Connected
Listening on port: 4001
Request: GET /content.txt HTTP/1.1
File: ./content.txt
HTTP/1.1 200 OK
Content-Length: 26
Content-Type: text/plain

This is a file
content.txt
Client Connected
Listening on port: 4001
Request: GET ../hjkhl HTTP/1.1
File: ../hjkhl
HTTP/1.1 404 Not Found
Content-Length: 22
Content-Type: text/plain
Error: File Not Found.
[]

[duncanws@CSS432B-02 CSS432_hw2]$ ./retriever_start.sh
Connected to server
Request Sent GET SecretFile.html HTTP/1.1
Host: 10.158.82.115

Error: Bad Response HTTP/1.1 401 Unauthorized
Connected to server
Request Sent GET content.txt HTTP/1.1
Host: 10.158.82.115

This is a file
content.txt
Finished Writing HTTP file to the output file
Connected to server
Request Sent GET ../file.html HTTP/1.1
Host: 10.158.82.115

Error: Bad Response HTTP/1.1 403 Forbidden
Connected to server
Request Sent GET /content.txt HTTP/1.1
Host: 10.158.82.115

This is a file
content.txt
Finished Writing HTTP file to the output file
Connected to server
Request Sent GET ../hjkhl HTTP/1.1
Host: 10.158.82.115

Error: Bad Response HTTP/1.1 404 Not Found
[duncanws@CSS432B-02 CSS432_hw2]$
```

3) Your retriever accessing a file from your server (demo script)

(attached inside zip file as retriever_start.sh) file

4) Your retriever requesting an unauthorized file from your server (demo script)

(attached inside zip file as retriever_start.sh) file

5) Your retriever requesting a forbidden file from your server (demo script)

(attached inside zip file as retriever_start.sh) file

6) Your retriever requesting a non-existent file from your server (demo script)

(attached inside zip file as retriever_start.sh) file

7) Your retriever sending a malformed request to your server (demo script)

(attached inside zip file as retriever_start.sh) file

Conclusion:

In conclusion, having the Retriever grab a file from the server and save it locally is useful in order to obtain files from the internet and be able to access them offline. This is an efficient way to store files on your local machine and obtain them from anywhere across the world.