

## HTTP Server and Retriever

My project has 3 cpp files, client.cpp, the retriever, server.cpp, the server, AND clientT.cpp this is the retriever that interacts with my server since my server runs on port 5555 not 80, since 80 is taken. Simple change port in code to switch it to port 80.

## Real Web Browser Accessing my Server:

I was unsure how to write a script to access my server through a real web browser.

### Your Retriever Accessing a real Server:

[illegible]

This shows my retriever accessing [www.google.com](http://www.google.com) and asking for index.html. My retriever unfortunately can not GET img and script tags. I tried to implement it but the request wouldn't go through. I do have the code in the client.cpp it has been commented out. At the end of displaying the document that we get, I do display the names of the images to get. But my get requests to get those images fail. I also get all the script tags but the requests for them also failed.

If you initially try to request a image though, it does work.

### Your Retriever accessing a file from your server:

My server runs on port 5555 because port 80 is taken.

1. **The request that my server received doesn't make sense.**

Bad syntax, etc. In this case my server sends back a error 400 bad request with a custom bad request page

```

khuzema@uw1-320-07:~/CSS432/P2$ ./clientt uw1-320-07 client.cpp
HTTP/1.0 400 Bad Request
Content-Length: 54
Content-Type: text/html; charset=UTF-8

<!DOCTYPE html>
<html>
  <style>
    .hell {
      display: block;
      color: red;
      height: 500px;
      width: 500px;
      border: 5px solid blue;
      background-color: lightgreen;
    }
    .Whell {
      padding-left: 500px;
    }
  </style>
  <head> <h1>Error 400</h1>

  </head>
  <body>
    <div class="Whell">
    <div class="hell">

    <p style="text-align:center;">BAD REQUEST</p>

    </div>
  </div>
</body>

</html>
khuzema@uw1-320-07:~/CSS432/P2$ █

```

## 2. The file requested is not found

In this case my server sends back an error 404 file not found with a custom error 404 page

```

khuzema@uw1-320-07:~/CSS432/P2$ ./clientt uw1-320-07 index.html
HTTP/1.0 404 File Not Found
Content-Length: 54
Content-Type: text/html; charset=UTF-8

<!DOCTYPE html>
<html>
  <style>
    .hell {
      display: block;
      color: red;
      height: 500px;
      width: 500px;
      border: 5px solid blue;
      background-color: lightgreen;
    }
    .whell {
      padding-left: 500px;
    }
  </style>
  <head> <h1>Error 404</h1>

  </head>
  <body>
    <div class="Whell">
    <div class="hell">

    <p style="text-align:center;">FILE NOT FOUND</p>

    </div>
  </div>
</body>

</html>
khuzema@uw1-320-07:~/CSS432/P2$ █

```

### 3. File requested is found

In this case my server sends a 200 OK with the file that was requested

```

khuzema@uw1-320-07:~/CSS432/P2$ ./clientt uw1-320-07 client.cpp
HTTP/1.1 200 OK
Content-Type: text/html; charset=UTF-8

#include <sys/types.h>
#include <sys/socket.h>
#include <netinet/in.h>
#include <arpa/inet.h>
#include <netdb.h>
#include <unistd.h>
#include <strings.h>
#include <netinet/tcp.h>
#include <sys/uio.h>
#include <stdlib.h>
#include <sys/time.h>
#include <sys/types.h>
#include <stdio.h>
#include <iostream>
#include <fstream>
#include <vector>
#include <cstdlib>
#include <cstring>
#include <errno.h>
#include <sys/time.h>

using namespace std;

int main (int argc, char* argv[]) {
    //Get Arguments and set Local Vars
    int server_port = 80;
    string serverip = argv[1];
    char server_name[serverip.size() + 1];
    strcpy(server_name, serverip.c_str());

    string fileName = argv[2];
    char file_name[fileName.size() + 1];
    strcpy(file_name, fileName.c_str());

    //cout << "Port: " << server_port << " Server Name: " << server_name << " fileName: "
    //<< file_name << endl;

    // figure out the IP address
    struct hostent* host = gethostbyname(server_name);

    // set up the data structure
    sockaddr_in sendSockAddr;
    bzero((char*) &sendSockAddr, sizeof(sendSockAddr));
    sendSockAddr.sin_family = AF_INET;
    sendSockAddr.sin_addr.s_addr = inet_addr(inet_ntoa(*(struct in_addr*)*host->h
addr_list));
    sendSockAddr.sin_port = htons(server_port);

    // create the socket

```

On my Servers side these requests show as:

```
khuzema@uw1-320-07:~/CSS432/P2$ ./server
Received Connection
GET /index.html HTTP/1.1
User-Agent: Mozilla/4.0 (compatible; MSIE5.01; Windows NT)
Host: uw1-320-07
Accept-Language: en-us
Connection: Keep-Alive

Received Connection
GET /index.html HTTP/1.1
User-Agent: Mozilla/4.0 (compatible; MSIE5.01; Windows NT)
Host: uw1-320-07
Accept-Language: en-us
Connection: Keep-Alive

Received Connection
GET /client.cpp HTTP/1.1
User-Agent: Mozilla/4.0 (compatible; MSIE5.01; Windows NT)
Host: uw1-320-07
Accept-Language: en-us
Connection: Keep-Alive

Received Connection
GE /client.cpp HTTP/1.1
User-Agent: Mozilla/4.0 (compatible; MSIE5.01; Windows NT)
Host: uw1-320-07
Accept-Language: en-us
Connection: Keep-Alive
```