

```

1  #include <stdio.h>
2  #include <stdlib.h>
3  #include <string.h>
4  #include <sys/types.h>
5  #include <sys/socket.h>
6  #include <netinet/in.h>
7  #include <arpa/inet.h>
8  #include "Practical.h"
9  #include <unistd.h>
10
11 #include <sys/stat.h> //NOTE THE INCLUSION OF A NEW HEADER FILE
12
13 static const int MAXPENDING = 5; // Maximum outstanding connection requests
14
15 int main(int argc, char *argv[]) {
16     int numBytes = 0, char_in, count = 0, size = 0; // VARIABLES FOR FILE MANIPULATION
17     char recvbuffer[BUFSIZE], sendbuffer[BUFSIZE], path[200] = {'.'}, discard1[50],
18     discard2[50]; // BUFFERS
19     struct stat st; //STRUCTURE REQUIRED TO HOLD OPEN FILE ATTRIBUTES
20     FILE * hFile; //FILE POINTER REQUIRED TO OPEN FILE
21     .
22     .
23     .
24     .
25
26     sscanf(recvbuffer, "%s %s %s", discard1, (path+1), discard2); //NOTE THE SECOND
27     ELEMENT OF PATH IS REFERENCED
28
29     if(strcmp(path, "./favicon.ico") == 0) //CHECK IF REQUEST IS FOR FAVICON -
30     IGNORE AND CONTINUE TO NEXT ITERATION
31     {
32         printf("\n\nFound favicon.ico\n\n");
33         close(clntSock); // Close client socket
34         continue;
35     }
36
37     if(strcmp(path, "./*") == 0) //CHECK WHAT IS IN PATH
38     {
39         IF ./ REPLACE WITH HOME PAGE FILE NAME
40
41         strcpy(path, "./index.html");
42
43     }
44
45     hFile = fopen(path, "r"); //ATTEMPTING TO OPEN FILE IN PATH
46
47     if (hFile == NULL) //IF REQUESTED FILE DOES NOT EXIST
48     {
49         THIS IF SECTION ASSUMES REQUESTED FILE DOES NOT EXIST
50
51         OPEN THE ERROR PAGE
52
53         strcpy(path, "./error.html");
54         stat(filename, &st);
55         size = st.st_size; //RETRIEVING FILE SIZE OF OPEN FILE
56

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57         STORE NEGATIVE HTTP HEADERS (404 RESPONSE) IN OUTGOING BUFFER
58
59     }
60     else
61     {
62
63         THIS ELSE SECTION ASSUMES REQUESTED FILE EXISTS AND IS OPEN
64
65         stat(path, &st);
66         size = st.st_size;    //RETRIEVING FILE SIZE OF OPEN FILE
67
68         STORE POSITIVE HTTP HEADERS (200 RESPONSE) IN OUTGOING BUFFER
69     }
70
71     SEND HTTP HEADERS TO CONNECTED SOCKET
72     RESET OUTGOING BUFFER
73
74     while((char_in = fgetc(hFile)) != EOF)    //READING CONTENTS OF FILE
75     CHARACTER-BY-CHARACTER
76     {
77         sendbuffer[count] = char_in;    //STORING EACH CHARACTER IN OUTGOING BUFFER
78         count++;
79     }
80
81     sendbuffer[count] = '\0';    //NULL TERMINATE FILE CONTENTS
82
83     SEND FILE CONTENTS TO CONNECTED SOCKET
84
85     RESET ALL VARIABLES AND BUFFERS (INCLUDING send/recvbuffers), CLOSE FILE AND
86     CONNECTED SOCKET
87 } //END FOR LOOP
88
89 }// END MAIN
90

```