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#include <arpa/inet.h>
#include <netinet/in.h>
#include <sys/socket.h>
#include <string.h>
#include <stdlib.h>
#include <stdio.h>
//header located at /usr/include

/*
  Functions Used:
int socket(int domain, int type, int protocol);

int setsockopt(int socket, int level, int option_name,
               const void *option_value, socklen_t option_len);

int bind(int socket, const struct sockaddr *address,
         socklen_t address_len);

int listen(int socket, int backlog);

int accept(int socket, struct sockaddr *restrict address,
           socklen_t *restrict address_len);

ssize_t send(int socket, const void *buffer, size_t length, int flags);

ssize_t recv(int socket, void *buffer, size_t length, int flags);

Structures Used:
/* Structure describing an Internet socket address. */
/*
struct sockaddr_in
{
    __SOCKADDR_COMMON (sin_);
    in_port_t sin_port;           // Port number.
    struct in_addr sin_addr;      // Internet address.

    // Pad to size of `struct sockaddr'.
    unsigned char sin_zero[sizeof (struct sockaddr) -
                          __SOCKADDR_COMMON_SIZE -
                          sizeof (in_port_t) -
                          sizeof (struct in_addr)];
};

*/
void memdump(const unsigned char *data, const unsigned int length);

int main(void) {
    int sockfd, new_sockfd, sock_options, bind_sock, listen_sock;
    struct sockaddr_in server_addr, client_addr; // My address information
    socklen_t sin_size;
    int recv_length=1, option_value=1;
    char buffer[1024];

    sockfd = socket(PF_INET, SOCK_STREAM, 0);
    if (sockfd == -1)
    {
        printf("Couldnt create a socket");
    }

    sock_options = setsockopt(sockfd, SOL_SOCKET, SO_REUSEADDR, &option_value, sizeof(int));
    if (sock_options == -1)

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{
    printf("Couldnt use setsockopt function");
}

server_addr.sin_family = AF_INET; // Host byte order
server_addr.sin_port = htons(4444); // Short, network byte order
server_addr.sin_addr.s_addr = 0; // Automatically fill with my IP.
for(int i = 0; i < 8 ;i++)
{
    server_addr.sin_zero[i] = 0;
}

bind_sock = bind(sockfd, (struct sockaddr *)&server_addr, sizeof(struct sockaddr));
if(bind_sock == -1)
{
    printf("Failed binding to socket");
}

listen_sock = listen(sockfd, 8);
if (listen_sock == -1)
{
    printf("Failed listening to socket");
}

while(1) { // Accept loop.
    sin_size = sizeof(struct sockaddr_in);
    new_sockfd = accept(sockfd, (struct sockaddr *)&client_addr, &sin_size);
    if(new_sockfd == -1)
    {
        printf("failed accepting connection");
    }

    printf("server: got connection from %s port %d\n", inet_ntoa(client_addr.sin_addr), ntohs(
    client_addr.sin_port));

    send(new_sockfd, "*Hell0 world!*\n", 15, 0);

    recv_length = recv(new_sockfd, &buffer, 1024, 0);
    while(recv_length > 0)
    {
        printf("RECV: %d bytes\n", recv_length);
        memdump(buffer, recv_length);
        recv_length = recv(new_sockfd, &buffer, 1024, 0);
    }
}

}

void memdump(const unsigned char *data, const unsigned int length)
{
    unsigned char byte;
    unsigned int i, j;
    for(i=0; i < length; i++) {
        byte = data[i];
        printf("%02x ", data[i]); // Display byte in hex.
    if((i%16)==15) || (i==length-1)) {
        for(j=0; j < 15-(i%16); j++)
            printf(" ");
        printf("|| ");
    }
    for(j=(i-(i%16)); j <= i; j++) { // Display printable bytes from line.
        byte = data[j];
        if((byte > 31) && (byte < 127)) // Outside printable char range

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printf("%c", byte);  
else  
printf(".");  
}  
printf("\n"); // End of the dump line (each line is 16 bytes)  
} // End if  
}  
}
```