ECHO SERVER USING TCP

Ex :3

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Develop a socket program to simulate Echo Server. Echo Server The client sends data to server. The server in turn sends the message back to the client. Send multiple lines of text.

**Server Code:**

#include<stdio.h>

#include<sys/types.h>

#include<sys/socket.h>

#include<netinet/in.h>

#include<string.h>

#include<netdb.h>

#include<stdlib.h>

int main(int argc,char \*\*argv)

{

int len;

int sockfd,newfd,n;

struct sockaddr\_in servaddr,cliaddr;

char buff[1024];

char str[1000];

sockfd = socket(AF\_INET,SOCK\_STREAM,0);

if(sockfd<0)

perror("cannot create socket!");

else

printf("socket is created!\n");

bzero(&servaddr ,sizeof(servaddr));

servaddr.sin\_family=AF\_INET;

servaddr.sin\_addr.s\_addr=INADDR\_ANY;

servaddr.sin\_port=htons(7228);

if(bind(sockfd,(struct sockaddr\*)&servaddr,sizeof(servaddr))<0)

perror("Bind Error");

listen(sockfd,2);

len = sizeof(cliaddr);

newfd = accept(sockfd,(struct sockaddr\*)&cliaddr,&len);

//while(1)

//{

bzero(str,sizeof(str));

n=read(newfd,buff,sizeof(buff));

printf("\nReceived Message(from client) is %s\n",buff);

//printf("\nEnter the message:");

//scanf("%[^\t]",str);

write(newfd,buff,sizeof(buff));

printf("\nMessage sent!:%s",buff);

close(sockfd);

close(newfd);

//}

return 0;

}

/\*Output:

admin@admin-PC ~

$ cd C:/Users/admin/Desktop/sreedhar/networks

admin@admin-PC /cygdrive/c/Users/admin/Desktop/sreedhar/networks

$ gcc server.c -o server

server.c: In function ‘main’:

server.c:36:5: warning: implicit declaration of function ‘read’; did you mean ‘readv’? [-Wimplicit-function-declaration]

36 | n=read(newfd,buff,sizeof(buff));

| ^~~~

| readv

server.c:40:3: warning: implicit declaration of function ‘write’; did you mean ‘writev’? [-Wimplicit-function-declaration]

40 | write(newfd,buff,sizeof(buff));

| ^~~~~

| writev

server.c:42:3: warning: implicit declaration of function ‘close’; did you mean ‘pclose’? [-Wimplicit-function-declaration]

42 | close(sockfd);

| ^~~~~

| pclose

admin@admin-PC /cygdrive/c/Users/admin/Desktop/sreedhar/networks

$ ./server

socket is created!

Received Message(from client) is Hello

if im ruining you right now

please forgive me

you are not being punished

come here im your paradise

Message sent!:Hello

if im ruining you right now

please forgive me

you are not being punished

come here im your paradise

admin@admin-PC /cygdrive/c/Users/admin/Desktop/sreedhar/networks

$

\*/

**Client Code:**

admin@admin-PC /cygdrive/c/Users/admin/Desktop/sreedhar/networks

$#include<stdio.h>

#include<sys/types.h>

#include<sys/socket.h>

#include<netinet/in.h>

#include<string.h>

#include<netdb.h>

#include<stdlib.h>

int main(int argc, char \*\*argv)

{

/\* code \*/

int len;

int sockfd,n;

struct sockaddr\_in servaddr,cliaddr;

char str[1000];

char buff[1024];

sockfd = socket(AF\_INET,SOCK\_STREAM,0);

if(sockfd<0)

perror("cannot create a socket!");

else

printf("socket is created!\n");

bzero(&servaddr,sizeof(servaddr));

servaddr.sin\_family = AF\_INET;

servaddr.sin\_addr.s\_addr = inet\_addr(argv[1]);

servaddr.sin\_port = htons(7228);

connect(sockfd,(struct sockaddr\*)&servaddr,sizeof(servaddr));

//while(1)

//{

bzero( str,sizeof(str));

bzero( buff,sizeof(buff));

printf("\nEnter the message :");

scanf("%[^\t]",buff);

n = write(sockfd,buff,sizeof(buff));

read(sockfd,str,sizeof(str));

printf("\nRecieved message(from server) is %s\n",str);

close(sockfd);

//}

return 0;

}

/\*Output:

admin@admin-PC /cygdrive/c/Users/admin/Desktop/sreedhar/networks

$ gcc client.c -o client

client.c: In function ‘main’:

client.c:26:29: warning: implicit declaration of function ‘inet\_addr’; did you mean ‘ifr\_addr’? [-Wimplicit-function-declaration]

26 | servaddr.sin\_addr.s\_addr = inet\_addr(argv[1]);

| ^~~~~~~~~

| ifr\_addr

client.c:36:7: warning: implicit declaration of function ‘write’; did you mean ‘writev’? [-Wimplicit-function-declaration]

36 | n = write(sockfd,buff,sizeof(buff));

| ^~~~~

| writev

client.c:37:3: warning: implicit declaration of function ‘read’; did you mean ‘readv’? [-Wimplicit-function-declaration]

37 | read(sockfd,str,sizeof(str));

| ^~~~

| readv

client.c:39:3: warning: implicit declaration of function ‘close’; did you mean ‘pclose’? [-Wimplicit-function-declaration]

39 | close(sockfd);

| ^~~~~

| pclose

admin@admin-PC /cygdrive/c/Users/admin/Desktop/sreedhar/networks

$ ./client 192.168.43.154

socket is created!

Enter the message :Hello

if im ruining you right now

please forgive me

you are not being punished

come here im your paradise

Recieved message(from server) is Hello

if im ruining you right now

please forgive me

you are not being punished

come here im your paradise

\*/