

Ex no : 5
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DNS SERVER

Aim:

To write a simple two-way chat program in C that helps client connect to the requested server.

Code:

server.c - SERVER SIDE PROGRAM

```
#include<stdio.h>
#include<netinet/in.h>
#include<sys/types.h>
#include<sys/socket.h>
#include<netdb.h>
#include<stdlib.h>
#include<string.h>
#include<fcntl.h>
#include<unistd.h>
#define MAX 80
#define PORT 43454
#define SA struct sockaddr
void func(int sockfd)
{
    char buff[MAX];
    int n;
    char buffer[6];
    char buf[14];
    FILE *fp;
    fp=fopen("note_ip","r");
    for(;;)
    {
        bzero(buff,MAX);
        read(sockfd,buff,sizeof(buff));
        printf("\nFrom client: %s",buff);

        if(strncmp(buff,"google",6)==0)
        {
            fseek(fp,7,SEEK_SET);
            bzero(buf,MAX);
            fread(buf,7,1,fp);
            printf("\nTo Client :%s",buf);
            write(sockfd,buf,sizeof(buf));
        }
        else if(strncmp(buff,"yahoo",5)==0)
        {
            fseek(fp,21,SEEK_SET);
            bzero(buf,MAX);
            fread(buf,14,1,fp);
            printf("\nTo Client :%s",buf);
            write(sockfd,buf,sizeof(buf));
        }
        else if(strncmp(buff,"bing",4)==0)
        {
            fseek(fp,40,SEEK_SET);
            bzero(buf,MAX);
            fread(buf,14,1,fp);
            printf("\nTo Client :%s",buf);
            write(sockfd,buf,sizeof(buf));
        }
        if(strncmp("exit",buff,4)==0)
        {
            printf("Server Exit...\n");
            write(sockfd,"exit",4);
            break;
        }
        bzero(buff,MAX);
    }
}
int main()
{
    int sockfd,connfd,len;
    struct sockaddr_in servaddr,cli;
```

```

sockfd=socket(AF_INET,SOCK_STREAM,
0);
if(sockfd==-1)
{
printf("socket creation failed...\n");
exit(0);
}
else
printf("Socket successfully
created..\n");
bzero(&servaddr,sizeof(servaddr));
servaddr.sin_family=AF_INET;
servaddr.sin_addr.s_addr=htonl(INA
DDR_ANY);
servaddr.sin_port=htons(PORT);
if((bind(sockfd,(SA*)&servaddr,
sizeof(servaddr)))!=0)
{
printf("socket bind failed...\n");
exit(0);
}
else
printf("Socket successfully
binded..\n");

```

client.c - CLIENT SIDE PROGRAM

```

#include<stdio.h>
#include<netinet/in.h>
#include<sys/types.h>
#include<sys/socket.h>
#include<netdb.h>
#include<string.h>
#include<stdlib.h>
#include<fcntl.h>
#include<unistd.h>
#include<arpa/inet.h>
#define MAX 80
#define PORT 43454
#define SA struct sockaddr
void func(int sockfd)
{
char buff[MAX];
int n;
for(;;)
{
bzero(buff,sizeof(buff));
printf("\nEnter the string : ");
n=0;
while((buff[n++]=getchar())!
='\n');
write(sockfd,buff,sizeof(buff));
bzero(buff,sizeof(buff));

```

```

if((listen(sockfd,5))!=0)
{
printf("Listen failed...\n");
exit(0);
}
else
printf("Server listening..\n");
len=sizeof(cli);
connfd=accept(sockfd,(SA
*)&cli,&len);
if(connfd<0)
{
printf("server accept failed...\n");
exit(0);
}
else
printf("server accept the
client...\n");
func(connfd);
close(sockfd);
}

```

```

read(sockfd,buff,sizeof(buff));
printf("From Server : %s",buff);
if((strcmp(buff,"exit",4))==0)
{
printf("Client Exit...\n");
break;
}
}
}

```

```

int main()
{
int sockfd,connfd;
struct sockaddr_in servaddr,cli;
sockfd=socket(AF_INET,SOCK_STREAM,
0);
if(sockfd==-1)
{
printf("socket creation failed...\n");
exit(0);
}
else
printf("Socket successfully
created..\n");
bzero(&servaddr,sizeof(servaddr));
servaddr.sin_family=AF_INET;

```

```

servaddr.sin_addr.s_addr=inet_addr
("127.0.0.1");
servaddr.sin_port=htons(PORT);
if(connect(sockfd,(SA
*)&servaddr,sizeof(servaddr))!=0)
{
printf("connection with the server
failed...\n");
exit(0);
OUTPUT:

```

```

Socket successfully created..
Socket successfully binded..
Server listening..
server accept the client...

From client: yahoo
To Client :209.191.88.254
From client: google
To Client :8.8.8.8
From client: bing
To Client : 216.27.85.170
From client: exit
Server Exit...

```

```

Socket successfully created..
connected to the server..

Enter the string : yahoo
From Server : 209.191.88.254
Enter the string : google
From Server : 8.8.8.8
Enter the string : bing
From Server : 216.27.85.170
Enter the string : exit
From Server : exitClient Exit...

```

Result:

Thus , the DNS server program is done successfully .