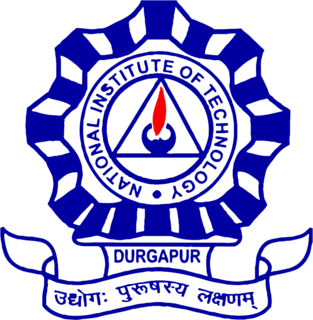
# Assignment 2 Of

**Network & Distributed System Lab (CS2051)**

**Masters of Technology in Computer Science And Engineering**

**submitted to**

**Dr Suvrojit Das Associate Professor Dept. of CSE**

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29 June 2021

## **Objective: Write UDP Chat Program.**

## **Solution:**

//This is the Server side implementation of UDP Chat

#include<sys/types.h>

#include<sys/socket.h>

#include<netinet/in.h>

#include<arpa/inet.h>

#include<netdb.h>

#include<stdio.h>

#include<unistd.h>

#include<string.h>

#define MAX\_MSG 100

#define SERVER\_ADDR "127.0.0.1"

#define SERVER\_PORT 1500

int main()

{

int sd,rc,n,cliLen;

struct sockaddr x;

struct sockaddr\_in cliAddr,servAddr;

char msg[MAX\_MSG];

printf("\n sockaddr %ld",sizeof(x));

printf("\n long %ld",sizeof(long));

printf("\nint %ld",sizeof(int));

printf("\n sockaddr\_in %ld",sizeof(cliAddr));

printf("\n short %ld\n",sizeof(short));

// build server address structure/\*

bzero((char \*)&servAddr,sizeof(servAddr));

servAddr.sin\_family=AF\_INET;

servAddr.sin\_addr.s\_addr=inet\_addr(SERVER\_ADDR);

servAddr.sin\_port=htons(SERVER\_PORT);

//CREATE DATAGRAM SOCKET

sd=socket(AF\_INET,SOCK\_DGRAM,0);

printf("datagram socket craeted successfully\n");

//BIND LOCAL PORT NUMBER

bind(sd,(struct sockaddr\*)&servAddr,sizeof(servAddr));

printf("successfully bind local address\n");

printf("waiting for data on port UDP %u\n",SERVER\_PORT);

while(1)

{

//init buffer

memset(msg,0x0,MAX\_MSG);

//Receive data from client

cliLen=sizeof(cliAddr);

n=recvfrom(sd,msg,MAX\_MSG,0,(struct sockaddr \*) &cliAddr,&cliLen);

printf("from %s: UDP port %u: %s \n",inet\_ntoa(cliAddr.sin\_addr),ntohs(cliAddr.sin\_port),msg);

printf("from %ld: UDP port %ld,in network byte ordering : %s \n",cliAddr.sin\_addr,cliAddr.sin\_port,msg);

}

return 0;

}

//This is the client side implementation of UDP Chat

#include<sys/types.h>

#include<sys/socket.h>

#include<netinet/in.h>

#include<arpa/inet.h>

#include<netdb.h>

#include<stdio.h>

#include<unistd.h>

#include<string.h>

#include<sys/time.h>

#define MAX\_MSG 100

#define SERVER\_ADDR "127.0.0.1"

#define SERVER\_PORT 1500

int main()

{

int sd,rc,n,templen;

struct sockaddr x;

struct sockaddr\_in cliAddr,tempAddr,remoteServAddr;

char msg[MAX\_MSG];

bzero((char \*)&remoteServAddr,sizeof(remoteServAddr));

remoteServAddr.sin\_family=AF\_INET;

remoteServAddr.sin\_addr.s\_addr=inet\_addr(SERVER\_ADDR);

remoteServAddr.sin\_port=htons(SERVER\_PORT);

sd=socket(AF\_INET,SOCK\_DGRAM,0);

printf("datagram socket craeted successfully\n");

do{

//send data to server

printf("Enter data to send:");

scanf("%s",msg);

sendto(sd,msg,strlen(msg)+1,0,(struct sockaddr \*)&remoteServAddr,sizeof(remoteServAddr));

}while(strcmp(msg,"quit"));

close(sd);

}

## 

(a) UDPServer (b) UDPClient

## Figure 1: Output:UDP