## TW-2 : Implementing client server communication using socket programming that uses connection oriented protocol at transport layer.

### Server

#include <sys/socket.h>

#include <netinet/in.h>

#include <arpa/inet.h>

#include <stdio.h>

#include <stdlib.h>

#include <strings.h>

#include <string.h>

#define PORT 4444

int main() {

int listenfd, connfd;

struct sockaddr\_in servAddr, cliAddr;

socklen\_t clilen;

char buffer[1024];

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

printf("[+] Server socket created successfully\n");

bzero(&servAddr, sizeof(servAddr));

servAddr.sin\_family = AF\_INET;

servAddr.sin\_port = htons(PORT);

servAddr.sin\_addr.s\_addr = inet\_addr("127.0.0.1");

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

printf("[+] Bind to PORT %d successful\n", PORT);

listen(listenfd, 5);

printf("[+] Listening...\n");

connfd = accept(listenfd, (struct sockaddr \*) &cliAddr, &clilen);

strcpy(buffer, "Hello World!");

send(connfd, buffer, strlen(buffer), 0);

printf("[+] Data sent to client: %s\n", buffer);

printf("[+] Closing the connection\n");

return 0;

}

### Client

#include <stdio.h>

#include <stdlib.h>

#include <strings.h>

#include <string.h>

#include <sys/socket.h>

#include <sys/types.h>

#include <netinet/in.h>

#include <arpa/inet.h>

#define PORT 4444

int main() {

int sockfd;

struct sockaddr\_in servAddr;

char buffer[1024];

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

printf("[+] Client socket created successfully\n");

bzero(&servAddr, sizeof(servAddr));

servAddr.sin\_family = AF\_INET;

servAddr.sin\_port = htons(PORT);

servAddr.sin\_addr.s\_addr = inet\_addr("127.0.0.1");

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

printf("[+] Connected to server\n");

recv(sockfd, buffer, 1024, 0);

printf("[+] Data received from server: %s\n", buffer);

printf("[+] Closing the connection\n");

return 0;

}

## 

## Output

### Server

NP-Lab/TW-2$ cc server.c

NP-Lab/TW-2$ ./a.out

[+]Server socket created successfully.

[+]Bind to port number 4444.

[+]Listening...

[+]Data sent to client: Hello.

[+]Closing the connection

### Client

NP-Lab/TW-2$ cc client.c

NP-Lab/TW-2$ ./a.out

[+]Client socket created successfully.

[+]Connected to server.

[+]Data received: Hello

[+]Closing the connection.