**Andres Aguirre Gonzalez A01039656**

**Practica 12**

**Server Code:**

// Andres Aguirre Gonzalez A01039656

// 20 de Septiembre del 2019

// Practica 12

/\* A simple server in the internet domain using TCP

The port number is passed as an argument \*/

#include <stdio.h>

#include <stdlib.h>

#include <string.h>

#include <unistd.h>

#include <sys/types.h>

#include <sys/socket.h>

#include <netinet/in.h>

void error(const char \*msg) {

perror(msg);

exit(1);

}

// Recieves program name and port number

int main(int argc, char \*argv[]) {

int sockfd, newsockfd, portno;

socklen\_t clilen;

char buffer[256];

struct sockaddr\_in serv\_addr, cli\_addr;

int n;

if (argc < 2) {

fprintf(stderr,"ERROR, no port provided\n");

exit(1);

}

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

if (sockfd < 0)

error("ERROR opening socket");

bzero((char \*) &serv\_addr, sizeof(serv\_addr));

portno = atoi(argv[1]);

serv\_addr.sin\_family = AF\_INET;

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

serv\_addr.sin\_port = htons(portno);

if (bind(sockfd, (struct sockaddr \*) &serv\_addr,

sizeof(serv\_addr)) < 0)

error("ERROR on binding");

listen(sockfd,5);

clilen = sizeof(cli\_addr);

newsockfd = accept(sockfd, (struct sockaddr \*) &cli\_addr, &clilen);

if (newsockfd < 0)

error("ERROR on accept");

bzero(buffer,256);

n = read(newsockfd,buffer,255);

if (n < 0) error("ERROR reading from socket");

printf("Here is the message: %s\n",buffer);

n = write(newsockfd,"I got your message",18);

if (n < 0) error("ERROR writing to socket");

close(newsockfd);

close(sockfd);

return 0;

}

**Client Code:**

// Andres Aguirre Gonzalez A01039656

// 20/Sep/2019

// Practica 12

#include <stdio.h>

#include <stdlib.h>

#include <unistd.h>

#include <string.h>

#include <sys/types.h>

#include <sys/socket.h>

#include <netinet/in.h>

#include <netdb.h>

void error(const char \*msg) {

perror(msg);

exit(0);

}

// recieves the name of the program, the ip address of your machine and the portnumber of the server

int main(int argc, char \*argv[]) {

int sockfd, portno, n;

struct sockaddr\_in serv\_addr;

struct hostent \*server;

char buffer[256];

if (argc < 3) {

fprintf(stderr,"usage %s hostname port\n", argv[0]);

exit(0);

}

// port number of the server

portno = atoi(argv[2]);

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

if (sockfd < 0)

error("ERROR opening socket");

server = gethostbyname(argv[1]);

//cant find server

if (server == NULL) {

fprintf(stderr,"ERROR, no such host\n");

exit(0);

}

bzero((char \*) &serv\_addr, sizeof(serv\_addr));

serv\_addr.sin\_family = AF\_INET;

bcopy((char \*)server->h\_addr,

(char \*)&serv\_addr.sin\_addr.s\_addr,

server->h\_length);

serv\_addr.sin\_port = htons(portno);

if (connect(sockfd,(struct sockaddr \*) &serv\_addr,sizeof(serv\_addr)) < 0)

error("ERROR connecting");

printf("Please enter the message: ");

bzero(buffer,256);

fgets(buffer,255,stdin);

n = write(sockfd,buffer,strlen(buffer));

if (n < 0)

error("ERROR writing to socket");

bzero(buffer,256);

n = read(sockfd,buffer,255);

if (n < 0)

error("ERROR reading from socket");

printf("%s\n",buffer);

close(sockfd);

return 0;

}

**Test case:**

Video: <https://youtu.be/_oyB_AHj10g>