

Lab Ex.3 - (Client / Server communication using Socket Functions) Experiment

Name: Rahul Goel

Reg.no: RA1911030010094

SERVER CODE:

```
#include<stdio.h>

#include<sys/types.h>

#include<sys/socket.h>

#include<netinet/in.h>


int main()

{

    char serv_mess[256] = "You have reached the server";

    int server_socket;

    server_socket = socket(AF_INET,SOCK_STREAM,0);

    //Define The Server Address

    struct sockaddr_in server_address;

    server_address.sin_family=AF_INET;

    server_address.sin_port=htons(9002);

    server_address.sin_addr.s_addr=INADDR_ANY;

    //Bind the socket to our specified port and IP address

    bind(server_socket,(struct sockaddr*)&server_address,sizeof(server_address));

    listen(server_socket,5);

    int client_socket;
```

```

client_socket=accept(server_socket,NULL,NULL);

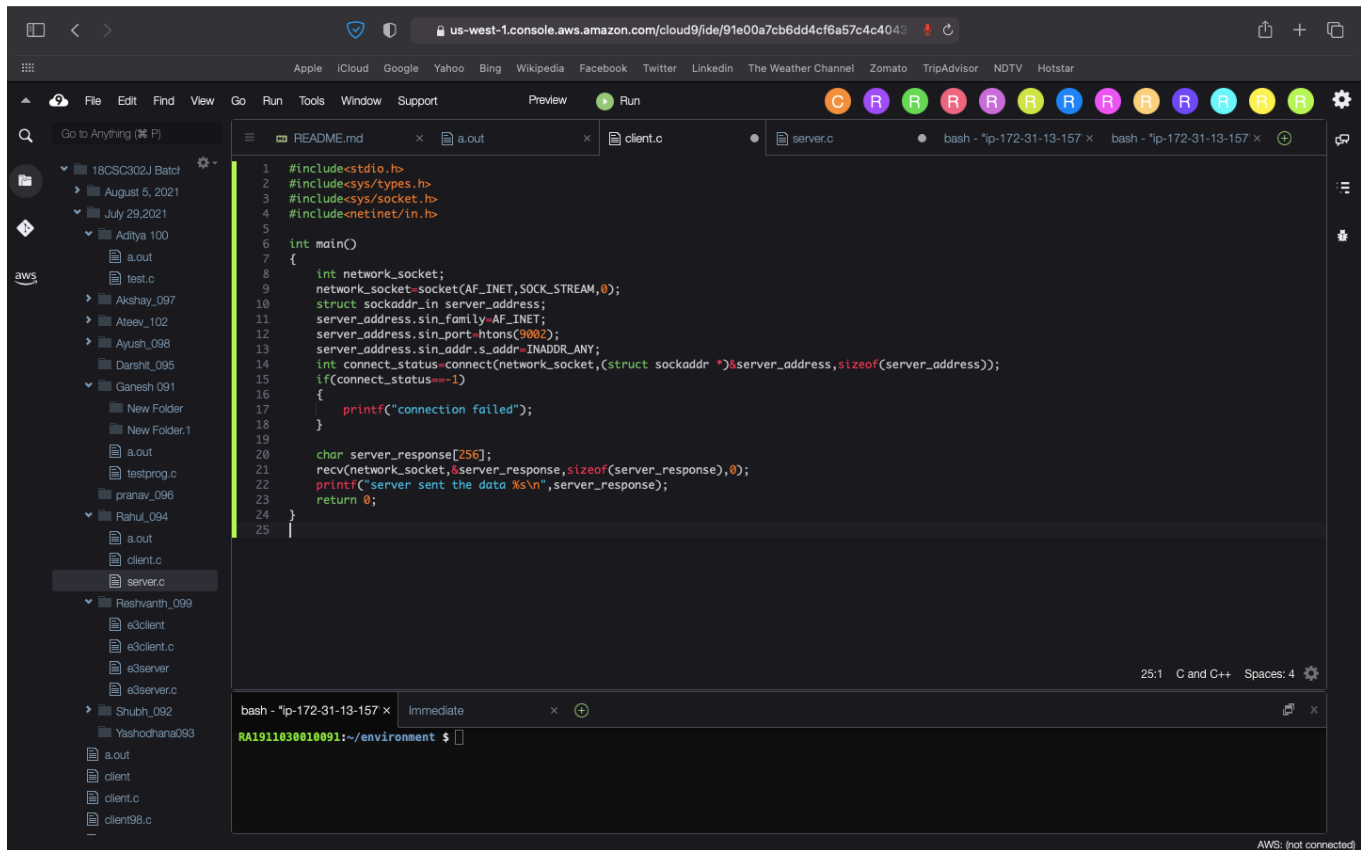
//Send the message

send(client_socket,server_mess,sizeof(server_mess),0);

return 0;

}

```



CLIENT CODE:

```

#include<stdio.h>

#include<sys/types.h>

#include<sys/socket.h>

#include<netinet/in.h>

int main()

{

```

```

int network_socket;

network_socket=socket(AF_INET,SOCK_STREAM,0);

struct sockaddr_in server_address;

server_address.sin_family=AF_INET;

server_address.sin_port=htons(9002);

server_address.sin_addr.s_addr=INADDR_ANY;

int connect_status=connect(network_socket,(struct sockaddr
*)&server_address,sizeof(server_address));

if(connect_status===-1)

{

    printf("connection failed");

}

char server_response[256];

recv(network_socket,&server_response,sizeof(server_response),0);

printf("server sent the data %s\n",server_response);

return 0;

}

```

The screenshot shows a web-based IDE interface. The top bar displays the URL: `us-west-1.console.aws.amazon.com/cloud9/ide/91e00a7cb6dd4cf6a57c4c4043`. The interface includes a file explorer on the left, a central editor, and a terminal at the bottom.

File Explorer: Shows a project structure with folders like `18CSC302J Batch`, `August 5, 2021`, `July 29, 2021`, and `Rahul_094`. The file `server.c` is selected under `Rahul_094`.

Editor: Displays the content of `server.c` with line numbers 1 through 24. The code is as follows:

```

1 #include<stdio.h>
2 #include<sys/types.h>
3 #include<sys/socket.h>
4 #include<netinet/in.h>
5
6 int main()
7 {
8     char serv_mess[256] = "You have reached the server";
9     int server_socket;
10    server_socket = socket(AF_INET,SOCK_STREAM,0);
11    //Define The Server Address
12    struct sockaddr_in server_address;
13    server_address.sin_family=AF_INET;
14    server_address.sin_port=htons(9002);
15    server_address.sin_addr.s_addr=INADDR_ANY;
16    //Bind the socket to our specified port and IP address
17    bind(server_socket,(struct sockaddr*)&server_address,sizeof(server_address));
18    listen(server_socket,5);
19    int client_socket;
20    client_socket=accept(server_socket,NULL,NULL);
21    //Send the message
22    send(client_socket,serv_mess,sizeof(serv_mess),0);
23    return 0;
24 }

```

Terminal: Shows the execution of the program. The prompt is `RA1911030910091:~/environment $`. The output is `RA1911030910091:~/environment $`, indicating the program has completed execution.

Bottom Bar: Displays the status `24:2 C and C++ Spaces: 4`.

us-west-1.console.aws.amazon.com/cloud9/ide/91e00a7cb6dd4cf6a57c4c4049

Apple iCloud Google Yahoo Bing Wikipedia Facebook Twitter LinkedIn The Weather Channel Zomato TripAdvisor NDTV Hotstar

File Edit Find View Go Run Tools Window Support Preview Run

Go to Anything (⌘ P)

18CSC302J Batch

August 5, 2021

July 29, 2021

Aditya_100

a.out

test.c

Akshay_097

Ateev_102

Ayush_098

Darshit_095

Ganesh_091

New Folder

New Folder.1

a.out

testprog.c

pranav_096

Rahul_094

a.out

client.c

server.c

Reshvanth_099

e3client

e3client.c

e3server

e3server.c

Shubh_092

Yashodhana093

a.out

client

client.c

client98.c

README.md

a.out

client.c

server.c

bash - "ip-172-31-13-157 x

bash - "ip-172-31-13-157 x

```
RA1911030010091:~/environment $ vi client.c
RA1911030010091:~/environment $ cc -o client client.c
RA1911030010091:~/environment $ cc client.c
RA1911030010091:~/environment $ ./a.out
server sent the data You have reached the server
RA1911030010091:~/environment $
```

bash - "ip-172-31-13-157 x

Immediate

```
RA1911030010091:~/environment $
```

AWS: (not connected)