

Server:

```
#include<stdio.h>
#include<stdlib.h>
#include<sys/types.h>
#include<sys/socket.h>
#include<netinet/in.h>
#include<unistd.h>
#include<time.h>

//port value and the max size for buffer
#define PORT 9002 //the port users will be connecting to
#define BACKLOG 10 //how many pending connections queue will hold

int main(){
    //*****Time Setup*****
    time_t currentTime ;
    time(&currentTime);
    //*****

    int countClient = 0;

    int socket_descriptor = socket(AF_INET, SOCK_STREAM, 0);

    struct sockaddr_in serverAddress;
    serverAddress.sin_family = AF_INET;
    serverAddress.sin_addr.s_addr=INADDR_ANY;
    serverAddress.sin_port=htons(PORT);

    //binding address
    bind(socket_descriptor, (struct sockaddr*)&serverAddress, sizeof(serverAddress));

    //listening to the queue
    listen(socket_descriptor, BACKLOG);

    printf("\nServer Started ...");

    while(1){
        countClient++;
        printf("\n");

        int client_socket = accept(socket_descriptor, NULL, NULL);
        // char *string = asctime(timeinfo);

        printf("\nClient %d has requested for time at %s", countClient, ctime(&currentTime));

        //sending time to the client side
        // ctime(&time_from_pc)
        send(client_socket, ctime(&currentTime), 30, 0);

    }
    return 0;
}
```

Client:

```
#include <sys/socket.h>
#include <netinet/in.h>
#include "string.h"
```

```

#define PORT 9002 //the port users will be connecting to
#define MAXLINE 30 //for buffer size

int main(){

    int socket_descriptor = socket(AF_INET, SOCK_STREAM, 0);

    char serverResponse[MAXLINE];

    struct sockaddr_in serverAddress;

    serverAddress.sin_family = AF_INET;
    serverAddress.sin_addr.s_addr = INADDR_ANY;
    serverAddress.sin_port = htons(PORT);

    connect(socket_descriptor, (struct sockaddr *)&serverAddress, sizeof(serverAddress));

    recv(socket_descriptor, serverResponse, MAXLINE-1, 0);

    printf("\nTIME FROM SERVER %s\n", serverResponse);

    return 0;
}

```

OUTPUT:-

The screenshot shows the AWS Cloud9 IDE interface. The left sidebar displays a file explorer with a project structure including folders for different experiments (exp3-tcp, exp4-udp, exp5-timeserver) and files like client78.c, server, and server78.c. The main editor area shows the code for client78.c and server78.c. The terminal window at the bottom displays the output of the program, showing the server starting and receiving requests from three clients.

```

RA1911027010068:~/environment/RA1911027010078/exp5-timeserver $ cc -o server server78.c
RA1911027010068:~/environment/RA1911027010078/exp5-timeserver $ ./server

Server Started ...

Client 1 has requested for time at Mon Sep 13 06:36:27 2021

Client 2 has requested for time at Mon Sep 13 06:36:27 2021

Client 3 has requested for time at Mon Sep 13 06:36:27 2021

```

us-west-1.console.aws.amazon.com/cloud9/ide/ab7073db400d4ecd932417a93f5c780b

Apps Classes CodeTantia Edu srmist.edu - Acade... CCC Advanced-Program... GitHub - Computer... sliding-window Arc... E-CLASS Other bookmarks Reading list

File Edit Find View Go Run Tools Window Support Preview Run

Go to Anything (Ctrl-P)

- RA1911027010070
- RA1911027010072
- RA1911027010073
- RA1911027010074
- RA1911027010075
- RA1911027010076
- RA1911027010077
- RA1911027010078
 - exp3-tcp
 - exp4-udp
 - exp5-timeserver
 - client
 - client78.c
 - server
 - server78.c
- New Folder
- RA1911027010079
- RA1911027010080
- RA1911027010081
- RA19110270100068
 - Greatest.c
 - Greatest.c.o
 - README.md

client78.c server78.c /server - "ip-172-31-6-14" x bash - "ip-172-31-6-144" x

```
RA1911027010068:~/environment/RA1911027010078/exp5-timeserver $ cc -o client client.c
cc: error: client.c: No such file or directory
cc: fatal error: no input files
compilation terminated.
RA1911027010068:~/environment/RA1911027010078/exp5-timeserver $ cc -o client client78.c
RA1911027010068:~/environment/RA1911027010078/exp5-timeserver $ ./client

TIME FROM SERVER Mon Sep 13 06:36:27 2021

RA1911027010068:~/environment/RA1911027010078/exp5-timeserver $ ./client

TIME FROM SERVER Mon Sep 13 06:36:27 2021

RA1911027010068:~/environment/RA1911027010078/exp5-timeserver $
```

AWS: (not connected)

26°C Heavy t-s... 12:09