SERVER CODE

```
#include <stdio.h>
#include <netdb.h>
#include <netinet/in.h>
#include <stdlib.h>
#include <string.h>
#include <sys/socket.h>
#include <sys/types.h>
#define MAX 80
#define PORT 8086
#define SA struct sockaddr

// Function designed for chat between client and server.
void func(int sockfd)
{
  char buff[MAX];
  int n;
  // infinite loop for chat
  for (;;) {
    bzero(buff, MAX);

    // read the message from client and copy it in buffer
    read(sockfd, buff, sizeof(buff));
    // print buffer which contains the client contents
    printf("From client: %s\t To client : ", buff);
    bzero(buff, MAX);
    n = 0;
    // copy server message in the buffer
    while ((buff[n++] = getchar()) != '\n')
      ;
```

```
        // and send that buffer to client
        write(sockfd, buff, sizeof(buff));

        // if msg contains "Exit" then server exit and chat ended.
        if (strncmp("exit", buff, 4) == 0) {
            printf("Server Exit...\n");
            break;
        }
    }
}

// Driver function
int main()
{
    int sockfd, connfd, len;
    struct sockaddr_in servaddr, cli;

    // socket create and verification
    sockfd = socket(AF_INET, SOCK_STREAM, 0);
    if (sockfd == -1) {
        printf("socket creation failed...\n");
        exit(0);
    }
    else
        printf("Socket successfully created..\n");
    bzero(&servaddr, sizeof(servaddr));

    // assign IP, PORT
    servaddr.sin_family = AF_INET;
    servaddr.sin_addr.s_addr = htonl(INADDR_ANY);
    servaddr.sin_port = htons(PORT);
```

```
// Binding newly created socket to given IP and verification
if ((bind(sockfd, (SA*)&servaddr, sizeof(servaddr))) != 0) {
   printf("socket bind failed...\n");
   exit(0);
}
else
   printf("Socket successfully binded..\n");

// Now server is ready to listen and verification
if ((listen(sockfd, 5)) != 0) {
   printf("Listen failed...\n");
   exit(0);
}
else
   printf("Server listening..\n");
len = sizeof(cli);

// Accept the data packet from client and verification
connfd = accept(sockfd, (SA*)&cli, &len);
if (connfd < 0) {
   printf("server acccept failed...\n");
   exit(0);
}
else
   printf("server acccept the client...\n");

// Function for chatting between client and server
func(connfd);

// After chatting close the socket
```

```
   close(sockfd);
}
```

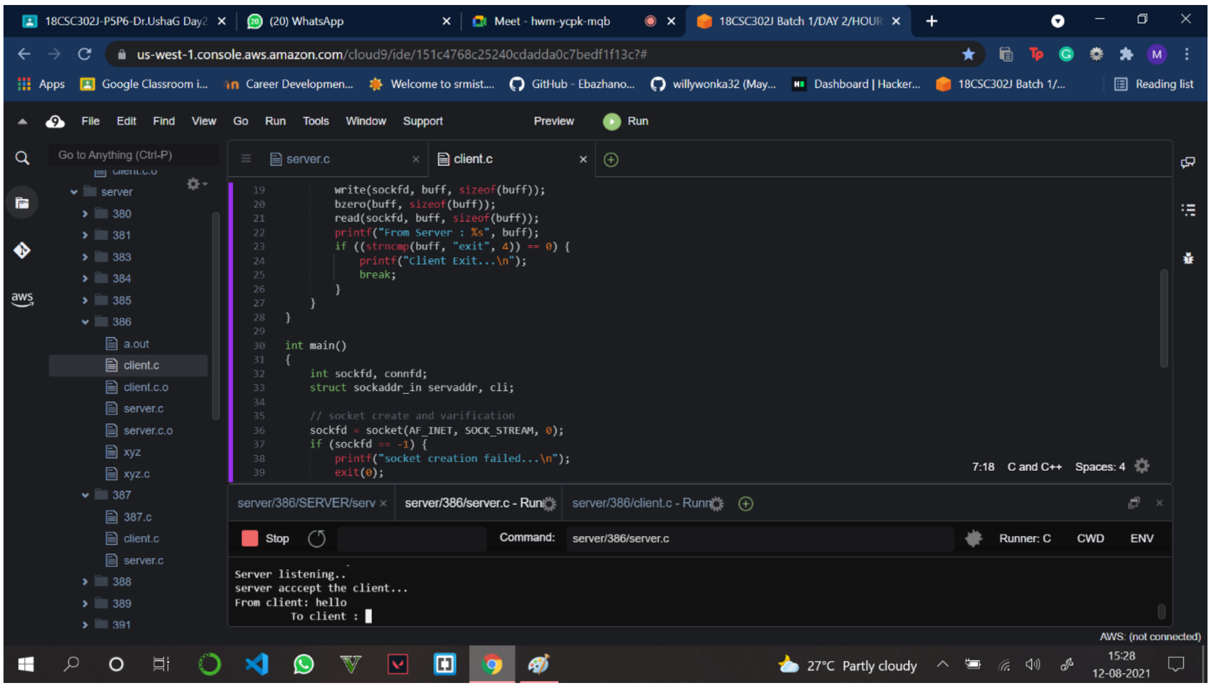
CLIENT CODE

```
#include <netdb.h>
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <sys/socket.h>
#define MAX 80
#define PORT 8086
#define SA struct sockaddr
void func(int sockfd)
{
   char buff[MAX];
   int n;
   for (;;) {
      bzero(buff, sizeof(buff));
      printf("Enter the string : ");
      n = 0;
      while ((buff[n++] = getchar()) != '\n')
         ;
      write(sockfd, buff, sizeof(buff));
      bzero(buff, sizeof(buff));
      read(sockfd, buff, sizeof(buff));
      printf("From Server : %s", buff);
      if ((strncmp(buff, "exit", 4)) == 0) {
         printf("Client Exit...\n");
         break;
      }
   }
```

```
}

int main()
{
   int sockfd, connfd;
   struct sockaddr_in servaddr, cli;

   // socket create and varification
   sockfd = socket(AF_INET, SOCK_STREAM, 0);
   if (sockfd == -1) {
      printf("socket creation failed...\n");
      exit(0);
   }
   else
      printf("Socket successfully created..\n");
   bzero(&servaddr, sizeof(servaddr));

   // assign IP, PORT
   servaddr.sin_family = AF_INET;
   servaddr.sin_addr.s_addr = inet_addr("127.0.0.1");
   servaddr.sin_port = htons(PORT);

   // connect the client socket to server socket
   if (connect(sockfd, (SA*)&servaddr, sizeof(servaddr)) != 0) {
      printf("connection with the server failed...\n");
      exit(0);
   }
   else
      printf("connected to the server..\n");

   // function for chat
```

```
    func(sockfd);


    // close the socket
    close(sockfd);
}
```

OUTPUT



```
            write(sockfd, buff, sizeof(buff));
            bzero(buff, sizeof(buff));
            read(sockfd, buff, sizeof(buff));
            printf("From Server : %s", buff);
            if ((strncmp(buff, "exit", 4)) == 0) {
                printf("Client Exit...\n");
                break;
            }
        }
}

int main()
{
        int sockfd, connfd;
        struct sockaddr_in servaddr, cli;

        // socket create and varification
        sockfd = socket(AF_INET, SOCK_STREAM, 0);
        if (sockfd == -1) {
            printf("socket creation failed...\n");
            exit(0);
```

Command: server/386/server.c

```
Server listening..
server acccept the client...
From client: hello
        To client :
```