EXPERIMENT-1
SOCKET COMMUNICATION USING TCP

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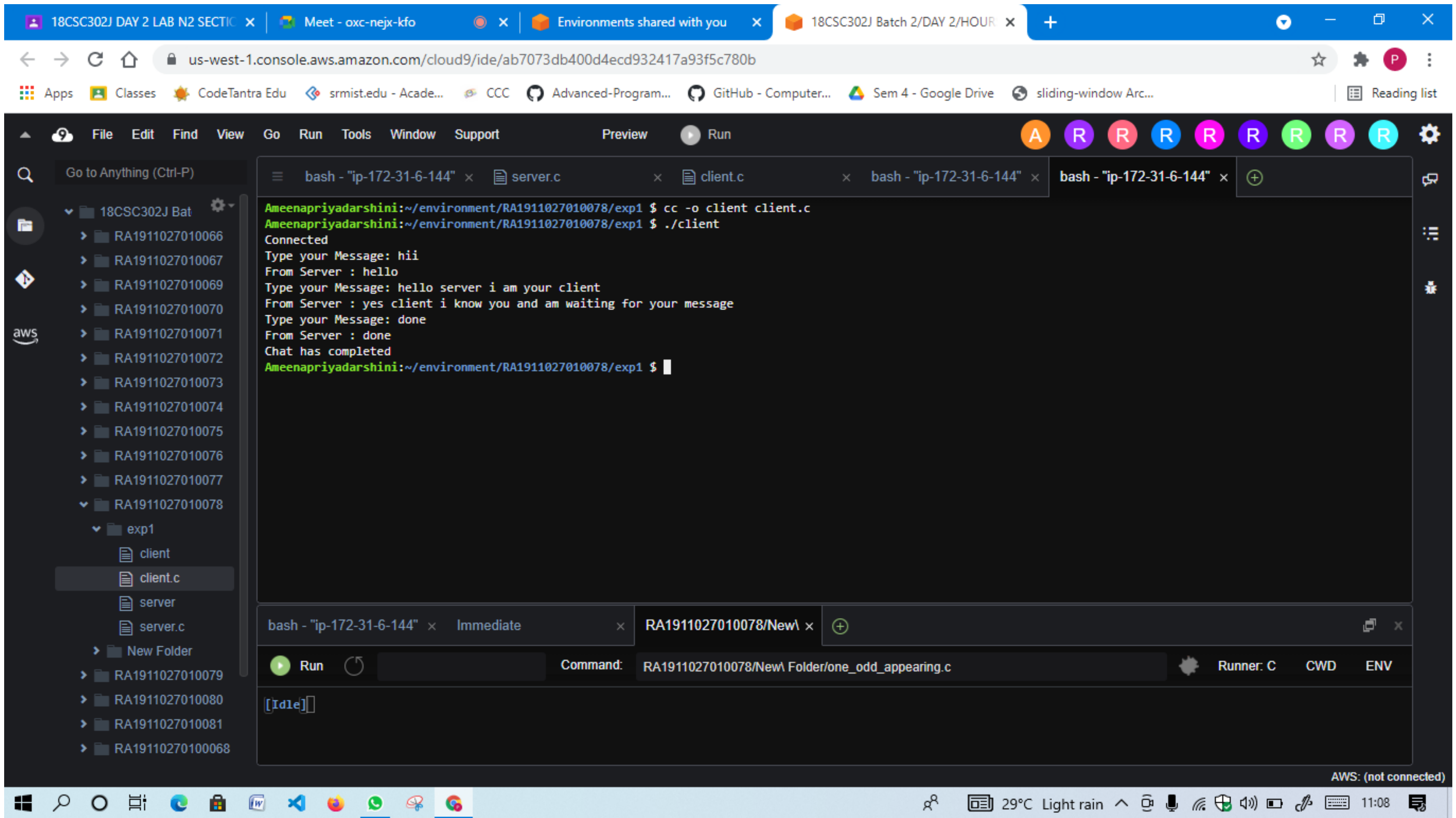
CLIENT code:-

```
#include <stdio.h>
#include <netdb.h>
#include <netinet/in.h>
#include <stdlib.h>
#include <string.h>
#include <sys/socket.h>
#include <sys/types.h>
#include <string.h>
#include <unistd.h>
#include <arpa/inet.h>
void chat (int sock)
{
char item[1000];
int n;
while (1)
{
bzero (item, 1000);
printf ("Type your Message: ");
n = 0;
while ((item[n++] = getchar ()) != '\n');
write (sock, item, sizeof (item));
bzero (item, 1000);
read (sock, item, sizeof (item));
printf ("From Server : %s", item);
if ((strncmp (item, "done", 4)) == 0)
{
printf ("Chat has completed\n");
break;
}
}
}
int main ()
{
int net_socket = socket (AF_INET, SOCK_STREAM, 0);
struct sockaddr_in server_address;
server_address.sin_family = AF_INET;
server_address.sin_port = htons (8080);
server_address.sin_addr.s_addr = INADDR_ANY;
int conn =
connect (net_socket, (struct sockaddr *) &server_address,
sizeof (server_address));
if (conn == -1)
printf ("Connect failed\n");
else
printf ("Connected\n");
chat (net_socket);
close (net_socket);
return 0;
}
```

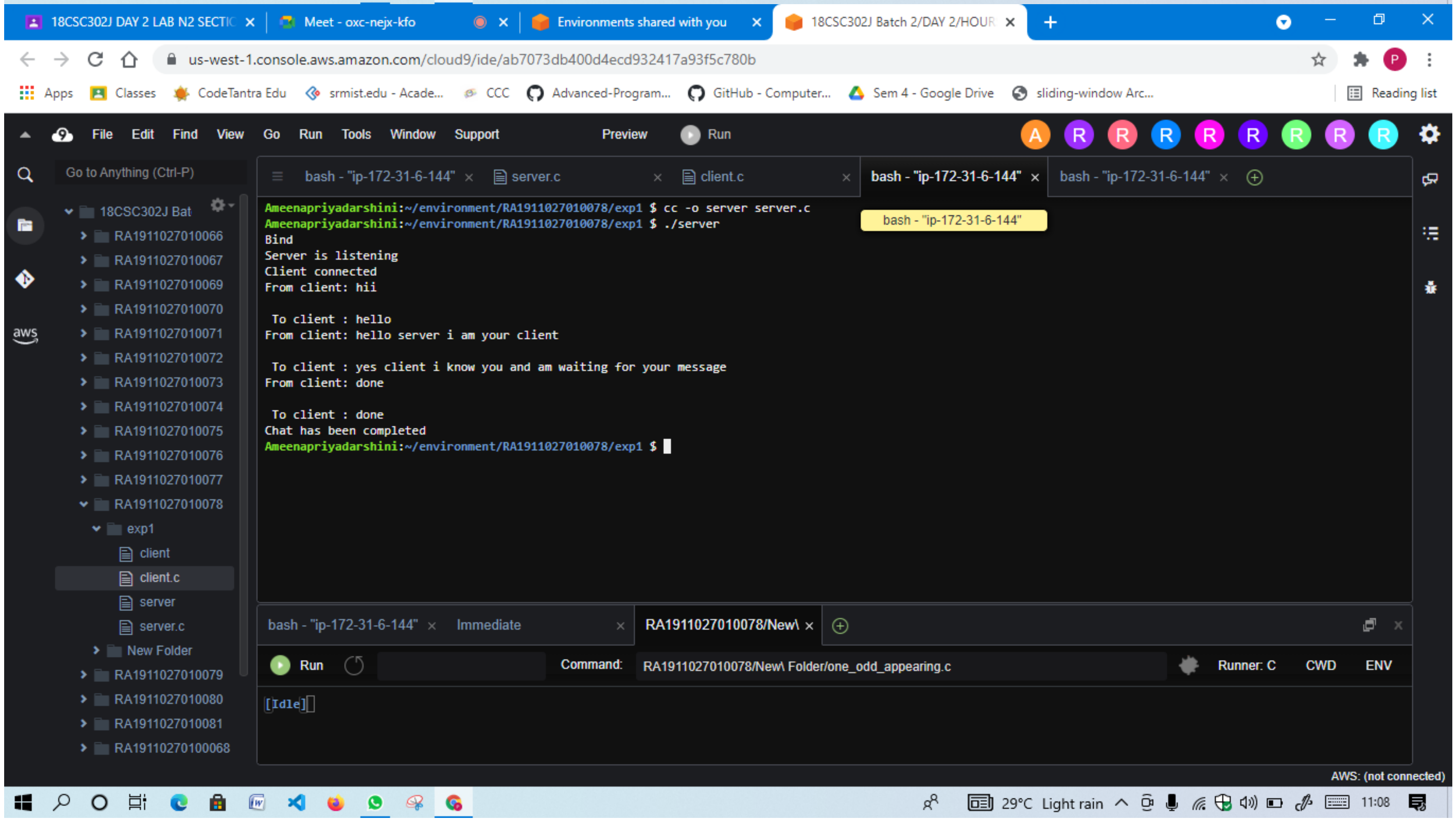
SERVER code:-

```
#include <stdio.h>
#include <netdb.h>
#include <netinet/in.h>
#include <stdlib.h>
#include <string.h>
#include <sys/socket.h>
#include <sys/types.h>
#include <string.h>
#include <unistd.h>
void chat (int sock)
{
char item[1000];
int n;
while (1)
{
bzero (item, 1000);
read (sock, item, sizeof (item));
printf ("From client: %s \n To client : ", item);
bzero (item, 1000);
n = 0;
while ((item[n++] = getchar ()) != '\n');
write (sock, item, sizeof (item));
if (strncmp ("done", item, 4) == 0)
{
printf ("Chat has been completed\n");
break;
}
}
}
int main ()
{
int net_socket = socket (AF_INET, SOCK_STREAM, 0);
int client_socket;
struct sockaddr_in server_address, cli;
server_address.sin_family = AF_INET;
server_address.sin_port = htons (8080);
server_address.sin_addr.s_addr = htons (INADDR_ANY);
int conn = bind (net_socket, (struct sockaddr *) &server_address,
sizeof (server_address));
if (conn == -1)
printf ("Bind failed\n");
else
printf ("Bind\n");
if ((listen (net_socket, 5)) != 0)
{
printf ("Listening has failed\n");
}
else
printf ("Server is listening\n");
int len = sizeof (cli);
client_socket = accept (net_socket, (struct sockaddr *) &cli, &len);
if (client_socket < 0)
{
printf ("Client did not connect\n");
}
else
printf ("Client connected\n");
chat (client_socket);
close (net_socket);
return 0;
}
```

OUTPUT:-



```
Ameenapriyadarshini:~/environment/RA1911027010078/exp1 $ cc -o client client.c
Ameenapriyadarshini:~/environment/RA1911027010078/exp1 $ ./client
Connected
Type your Message: hii
From Server : hello
Type your Message: hello server i am your client
From Server : yes client i know you and am waiting for your message
Type your Message: done
From Server : done
Chat has completed
Ameenapriyadarshini:~/environment/RA1911027010078/exp1 $
```



```
Ameenapriyadarshini:~/environment/RA1911027010078/exp1 $ cc -o server server.c
Ameenapriyadarshini:~/environment/RA1911027010078/exp1 $ ./server
Bind
Server is listening
Client connected
From client: hii

 To client : hello
From client: hello server i am your client

 To client : yes client i know you and am waiting for your message
From client: done

 To client : done
Chat has been completed
Ameenapriyadarshini:~/environment/RA1911027010078/exp1 $
```

RESULT:- The socket communication using TCP was done successfully.