

# TDS Assignment-1

## RPC

**Code** - [https://github.com/harshaldeshpande01/BT18CSE079\\_TDS\\_Assignment-1](https://github.com/harshaldeshpande01/BT18CSE079_TDS_Assignment-1)

### 1. Client server chat

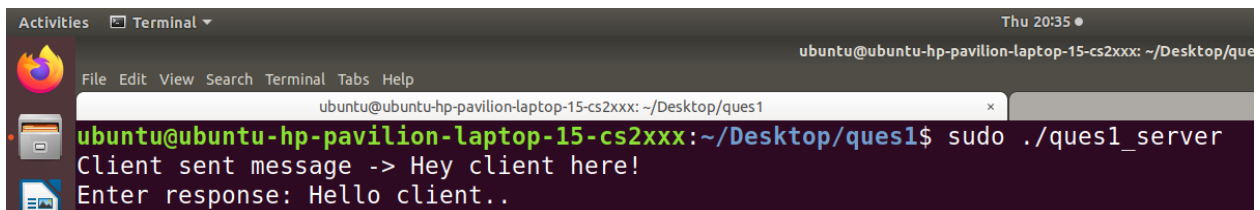
#### Execution steps

1. cd ques1
2. sudo ./ques1\_server
3. sudo ./ques1\_client localhost

#### About the program

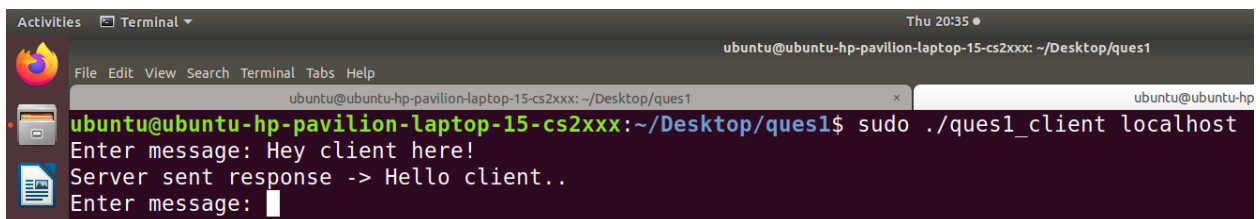
1. Implemented a server-client chat in rpc
2. Client can send messages to the server through stdin until he/she enters "quit" or kills the program
3. Server will send response to the client

#### Output screenshots



```
ubuntu@ubuntu-hp-pavilion-laptop-15-cs2xxx: ~/Desktop/ques1$ sudo ./ques1_server
Client sent message -> Hey client here!
Enter response: Hello client..
```

Server side



```
ubuntu@ubuntu-hp-pavilion-laptop-15-cs2xxx: ~/Desktop/ques1$ sudo ./ques1_client localhost
Enter message: Hey client here!
Server sent response -> Hello client..
Enter message: 
```

Client side

## 2. Factorial using RPC

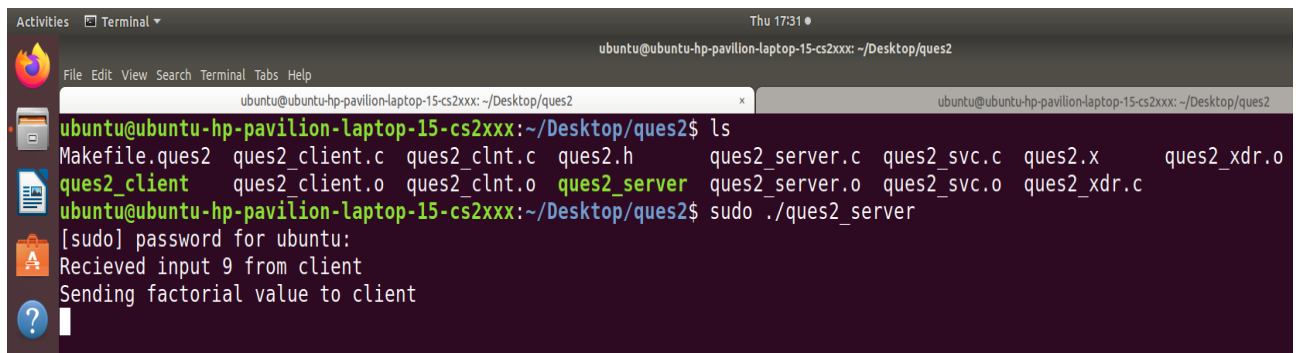
### Execution steps

1. `cd ques2`
2. `sudo ./ques2_server`
3. `sudo ./ques2_client localhost [NUMBER]`

### About the program

1. Client will send a number to server through command line while execution
2. Server will send factorial of that number as response to the client

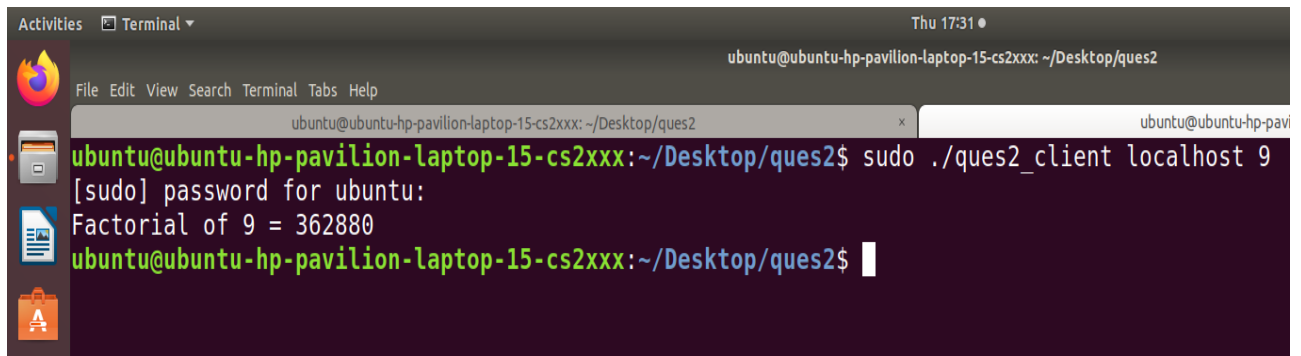
### Output screenshots



```
Activities  Terminal ▾ Thu 17:31 ●
ubuntu@ubuntu-hp-pavilion-laptop-15-cs2xxx: ~/Desktop/ques2

ubuntu@ubuntu-hp-pavilion-laptop-15-cs2xxx: ~/Desktop/ques2
ubuntu@ubuntu-hp-pavilion-laptop-15-cs2xxx:~/Desktop/ques2$ ls
Makefile.ques2  ques2_client.c  ques2_clnt.c  ques2.h      ques2_server.c  ques2_svc.c  ques2.x      ques2_xdr.o
ques2_client    ques2_client.o  ques2_clnt.o  ques2_server  ques2_server.o  ques2_svc.o  ques2_xdr.c
ubuntu@ubuntu-hp-pavilion-laptop-15-cs2xxx:~/Desktop/ques2$ sudo ./ques2_server
[sudo] password for ubuntu:
Recieved input 9 from client
Sending factorial value to client
```

Server side



```
Activities  Terminal ▾ Thu 17:31 ●
ubuntu@ubuntu-hp-pavilion-laptop-15-cs2xxx: ~/Desktop/ques2

ubuntu@ubuntu-hp-pavilion-laptop-15-cs2xxx: ~/Desktop/ques2
ubuntu@ubuntu-hp-pavilion-laptop-15-cs2xxx:~/Desktop/ques2$ sudo ./ques2_client localhost 9
[sudo] password for ubuntu:
Factorial of 9 = 362880
ubuntu@ubuntu-hp-pavilion-laptop-15-cs2xxx:~/Desktop/ques2$
```

Client side

### 3. Date and time

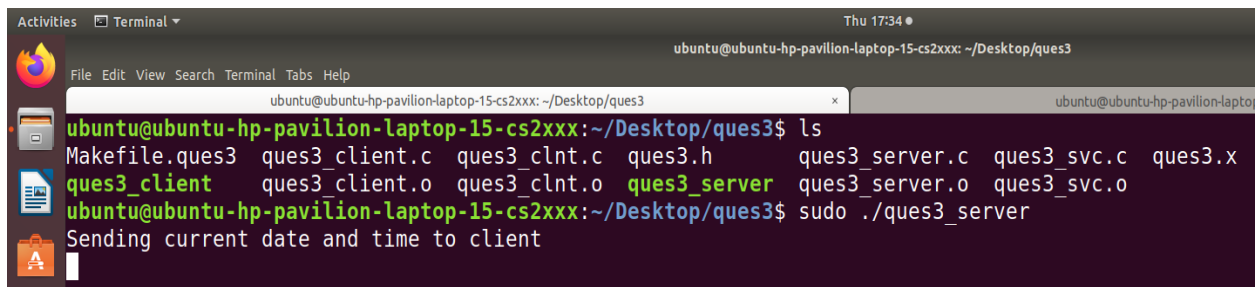
#### Execution steps

1. `cd ques3`
2. `sudo ./ques3_server`
3. `sudo ./ques3_client localhost`

#### About the program

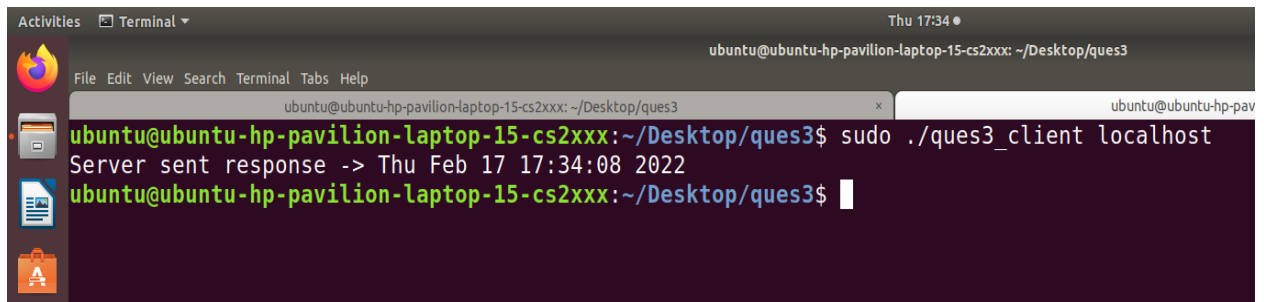
1. Client will connect to the server
2. Server will calculate the current date and time using `<time.h>` and send to the client in string form

#### Output screenshots

A terminal window titled 'Terminal' with a menu bar (File, Edit, View, Search, Terminal, Tabs, Help) and a status bar (Thu 17:34, ubuntu@ubuntu-hp-pavilion-laptop-15-cs2xxx: ~/Desktop/ques3). The terminal shows the following commands and output:

```
ubuntu@ubuntu-hp-pavilion-laptop-15-cs2xxx:~/Desktop/ques3$ ls
Makefile.ques3  ques3_client.c  ques3_clnt.c  ques3.h      ques3_server.c  ques3_svc.c  ques3.x
ques3_client    ques3_client.o  ques3_clnt.o  ques3_server  ques3_server.o  ques3_svc.o
ubuntu@ubuntu-hp-pavilion-laptop-15-cs2xxx:~/Desktop/ques3$ sudo ./ques3_server
Sending current date and time to client
```

Server side

A terminal window titled 'Terminal' with a menu bar (File, Edit, View, Search, Terminal, Tabs, Help) and a status bar (Thu 17:34, ubuntu@ubuntu-hp-pavilion-laptop-15-cs2xxx: ~/Desktop/ques3). The terminal shows the following commands and output:

```
ubuntu@ubuntu-hp-pavilion-laptop-15-cs2xxx:~/Desktop/ques3$ sudo ./ques3_client localhost
Server sent response -> Thu Feb 17 17:34:08 2022
ubuntu@ubuntu-hp-pavilion-laptop-15-cs2xxx:~/Desktop/ques3$
```

Client side