

```
rajat@rajat: ~/A6
rajat@rajat:~$ dir
A6      Documents  examples.desktop  js      mpl  Music      nodejs  Public  temp  UDP
Desktop Downloads  git-test          kasa\  karayacha.odt  MPL  Node-examples  Pictures  sss    Templates  Videos
rajat@rajat:~$ cd A6
rajat@rajat:~/A6$
rajat@rajat:~/A6$ dir
1.txt  a  a.out  cclient.cpp  client.cpp  #cserver.cpp#  cserver.cpp  fclient.cpp  fserver.cpp  server.cpp
rajat@rajat:~/A6$ g++ cserver.cpp
cserver.cpp: In function 'int main()':
cserver.cpp:23:28: warning: deprecated conversion from string constant to 'char*' [-Wwrite-strings]
    die("SOCKET CREATE ERROR");
                           ^
cserver.cpp:32:25: warning: deprecated conversion from string constant to 'char*' [-Wwrite-strings]
    die("ERROR IN BINDING");
                        ^
cserver.cpp:36:30: warning: deprecated conversion from string constant to 'char*' [-Wwrite-strings]
    die("ERROR WHILE LISTENING");
                             ^
rajat@rajat:~/A6$ ./a.out
Socket Created.Awaiting client response...
Client: Hey There
>Whats Up
Awaiting client response...
Client: Over
>^C
rajat@rajat:~/A6$
```

```
rajat@rajat: ~/A6
rajat@rajat:~$ cd A6
rajat@rajat:~/A6$ dir
1.txt a a.out cclient.cpp client.cpp #cserver.cpp# cserver.cpp fclient.cpp fserver.cpp server.cpp
rajat@rajat:~/A6$ g++ cclient.cpp
ccclient.cpp: In function 'void die(char*)':
ccclient.cpp:12:14: error: 'perror' was not declared in this scope
    perror(error);
               ^
ccclient.cpp: In function 'int main()':
ccclient.cpp:31:17: warning: deprecated conversion from string constant to 'char*' [-Wwrite-strings]
    die("connect");
               ^
rajat@rajat:~/A6$ gedit cclient.cpp
rajat@rajat:~/A6$ g++ cclient.cpp
ccclient.cpp: In function 'int main()':
ccclient.cpp:32:17: warning: deprecated conversion from string constant to 'char*' [-Wwrite-strings]
    die("connect");
               ^
rajat@rajat:~/A6$ ./a.out
Socket Created Successfully
CONNECT SUCCESS!..>Hey There
Awaiting server response...
Server: Whats Up
>Over
Awaiting server response...
Server:
>Exit
Awaiting server response...
Server:
>^C
rajat@rajat:~/A6$
```

rajat@rajat: ~/A6/a

↑↓ En (50%) 2:44 PM

```
rajat@rajat:~$ cd A6/a
rajat@rajat:~/A6/a$ g++ fserver.cpp
fserver.cpp: In function 'int main()':
fserver.cpp:21:28: warning: deprecated conversion from string constant to 'char*' [-Wwrite-strings]
    die("SOCKET CREATE ERROR");
                           ^
fserver.cpp:30:25: warning: deprecated conversion from string constant to 'char*' [-Wwrite-strings]
    die("ERROR IN BINDING");
                           ^
fserver.cpp:34:30: warning: deprecated conversion from string constant to 'char*' [-Wwrite-strings]
    die("ERROR WHILE LISTENING");
                           ^
fserver.cpp:40:21: warning: deprecated conversion from string constant to 'char*' [-Wwrite-strings]
    die("ACCEPT ERROR");
                           ^
fserver.cpp:57:24: warning: deprecated conversion from string constant to 'char*' [-Wwrite-strings]
    die("Filename error");
                           ^
fserver.cpp:70:33: warning: deprecated conversion from string constant to 'char*' [-Wwrite-strings]
    die("File transmission error");
                           ^
rajat@rajat:~/A6/a$ ./a.out
Socket Created.
CONNECTION ACCEPTED
Enter Filenane:1.txt
1.txtTransmission Successfulrajat@rajat:~/A6/a$
```

rajat@rajat: ~/A6

```
rajat@rajat:~$ cd A6
rajat@rajat:~/A6$ g++ fclient.cpp
fclient.cpp: In function 'int main()':
fclient.cpp:31:18: warning: deprecated conversion from string constant to 'char*' [-Wwrite-strings]
    die("connect");
                   ^
fclient.cpp:41:26: warning: deprecated conversion from string constant to 'char*' [-Wwrite-strings]
    die("Filemane error");
                         ^
fclient.cpp:53:30: warning: deprecated conversion from string constant to 'char*' [-Wwrite-strings]
    die("CANNOT CREATE FILE");
                             ^
rajat@rajat:~/A6$ ./a.out
Socket Created Succesfully
CONNECT SUCCESS!.Wating for server to send filename.
Filename:1.txtFile receivedrajat@rajat:~/A6$
```



```
rajat@rajat:~/A6$ g++ server.cpp
rajat@rajat:~/A6$ ./a.out
```

The first number is 5

The second number is 3

The operator is +

The first number is 4

The second number is 6

The operator is -

The first number is 7

The second number is 9

The operator is *

The first number is 15

The second number is 3

The operator is /

rajat@rajat: ~/A6

↑↓ En (44%) 2:57 PM

rajat@rajat:~/A6\$ clear

rajat@rajat:~/A6\$ g++ client.cpp

rajat@rajat:~/A6\$./a.out

0
Enter First Number

5

Enter Second Number

3

Enter Operator

+

Result:8

Enter First Number

4

Enter Second Number

6

Enter Operator

-

Result:-2

Enter First Number

7

Enter Second Number

9

Enter Operator

*

Result:63

Enter First Number

15

Enter Second Number

3

Enter Operator

/

Result:5

Enter First Number

*Loopback: lo



```

Frame 6: 67 bytes on wire (536 bits), 67 bytes captured (536 bits) on interface lo, id 0
  Ethernet II, Src: 00:00:00:00:00:00 (00:00:00:00:00:00), Dst: 00:00:00:00:00:00 (00:00:00:00:00:00)
  Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1
  Transmission Control Protocol, Src Port: 35006, Dst Port: 8083, Seq: 2, Ack: 1, Len: 1
    Source Port: 35006
    Destination Port: 8083
    [Stream index: 0]
    [TCP Segment len: 1]
    Sequence number: 2 (relative sequence number)
    Sequence number (raw): 663745649
    [Next sequence number: 3 (relative sequence number)]
    Acknowledgment number: 1 (relative ack number)
    Acknowledgment number (raw): 3620577423
    1900 .... = Header Length: 32 bytes (8)
    Flags: 0x018 (PSH, ACK)
    Window size value: 642
    [Calculated window size: 65536]
    Window size scaling factor: 128
    Checksum: 0xf229 [unverified]
    [Checksum Status: Unverified]
    Urgent pointer: 0
    Options: (12 bytes), No-Operation (NOP), No-Operation (NOP), Timestamps
    [SEQ/ACK analysis]
    [Timestamps]
    TCP payload (1 byte)
    Data (1 byte)

```

```
0005 00 09 09 09 09 09 09 09 00 00 00 00 00 00 45 00      E
0016 00 35 79 7f 43 09 40 06 cc 41 7f 00 00 01 7f 00      5p 0 0 A
0029 09 01 8b 16 1f 43 27 8f f4 71 d7 cd a0 8f 80 18      C' q
0030 02 09 fe 29 09 09 01 01 06 0a 0c 4c 79 85 0c 4c      )
0040 71 6b fe                                qk) Lye L
```



```

1  Frame 8: 67 bytes on wire (536 bits), 67 bytes captured (536 bits) on interface lo, id 0
2  Ethernet II, Src: 00:00:00:00:00:00 (00:00:00:00:00:00), Dst: 00:00:00:00:00:00 (00:00:00:00:00:00)

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- Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1
- Transmission Control Protocol, Src Port: 35906, Dst Port: 8083, Seq: 3, Ack: 1, Len: 1

```

```
Source Port: 35606
Destination Port: 8083
```

```
Stream index: 0]
TCP Segment Len: 11
```

Sequence number: 2 (relative sequence number)
Sequence number (raw): 663746659

```

[Next sequence number: 4 (relative sequence number)]
[Acknowledgment number: 1 (relative ack number)]

```

```
Acknowledgment number (raw): 3629577423
1999..... = Header length: 32 bytes (8)
```

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* Flags: 0x018 (PSH, ACK)
* Window size value: 652

```

```
[Calculated window size: 65536]
[Window size scaling factor: 1.0]
```

```

checkasm: 8cfe29 [unverified]
ofbenksim Status: Unverified

```

```

+ opCodes: [12 bytes], No-operation (NOP), No-operation (NOP), timestamps
+ [SEQ/ACK analysis]

```

```

+ [Timestamps]
+ [CP payload (1 byte)]

```

[illegible]

```
0010 00 35 79 09 49 09 40 06 cc 40 7f 00 00 01 7f 00 5p 0 0 0
0020 09 01 8b 16 1f 43 27 8f f4 72 d7 cd a0 8f 80 18 ... C' r
```

0036 02 09 fe 29 08 09 01 01 06 8a 9c 4c 7f 8b 9c 4c
0040 79 65 yo

☐ Apply a display filter ←Ctrl+/

No.	Time	Source	Destination	Protocol	Length	Info
1	0.000000000	127.0.0.1	127.0.0.1	TCP	166	5943 → 42292 [PSH, ACK] Seq=1 Ack=1 Win=512 Len=0 TSval=204640594 TSecr=2046433462
2	0.000082965	127.0.0.1	127.0.0.1	TCP	66	42292 → 5943 [ACK] Seq=1 Ack=191 Win=512 Len=0 TSval=204640595 TSecr=204640594
3	0.000131104	127.0.0.1	127.0.0.1	TCP	200	5943 → 42292 [ACK] Seq=1 Ack=191 Win=512 Len=0 TSval=204640595 TSecr=204640594
4	0.000312111	127.0.0.1	127.0.0.1	TCP	66	42292 → 5943 [ACK] Seq=1 Ack=295 Win=512 Len=0 TSval=204640595 TSecr=204640595
5	0.000396228	127.0.0.1	127.0.0.1	TCP	66	42292 → 5943 [ACK] Seq=1 Ack=326 Win=512 Len=0 TSval=204640595 TSecr=204640595
6	0.001773501	127.0.0.1	127.0.0.1	TCP	66	42292 → 5943 [FIN, ACK] Seq=1 Ack=295 Win=512 Len=0 TSval=204640595 TSecr=204640595
7	0.001811884	127.0.0.1	127.0.0.1	TCP	66	5943 → 42292 [ACK] Seq=296 Ack=1 Win=512 Len=0 TSval=204640596 TSecr=204640596

```

Frame 3: 260 bytes on wire (2080 bits), 260 bytes captured (2080 bits) on interface lo, id 0
Ethernet II, Src: 00:00:00:00:00:00 (00:00:00:00:00:00), Dst: 00:00:00:00:00:00 (00:00:00:00:00:00)
Internet Protocol Version 4, Src: 127.0.0.1, Dst: 127.0.0.1
Transmission Control Protocol, Src Port: 5643, Dst Port: 42292, Seq: 381, Ack: 1, Len: 194

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[Transmission Control] Protocol, Src Port: 5985, Dst Port: 44222, Seq. Num: 194
Destination Port: 44222
[Stream index: 0]
TCP Segment Len: 194
Sequence number: 101 (relative sequence number)
Sequence number (raw): 1279333938
Next sequence number: 195 (relative sequence number)
Acknowledgment number: 1 (relative ack number)
Acknowledgment number (raw): 1493585887
1900 ... = Header Length: 32 bytes (8)
Flags: SYN, RST, PSN, ACK
Window size value: 612
[Calculated window size: 512]
Window size scaling factor: 1 (unknown)
Checksum: 67f6ee (unverified)
[Checksum Status: Unverified]
Urgent pointer: 0
Options (12 bytes), No-Operation (NOP), No-Operation (NOP), Timestamps
[SEQ/ACK analysis]
[Timestamps]
TCP payload (194 bytes)
Data (194 bytes)

```

[illegible]

