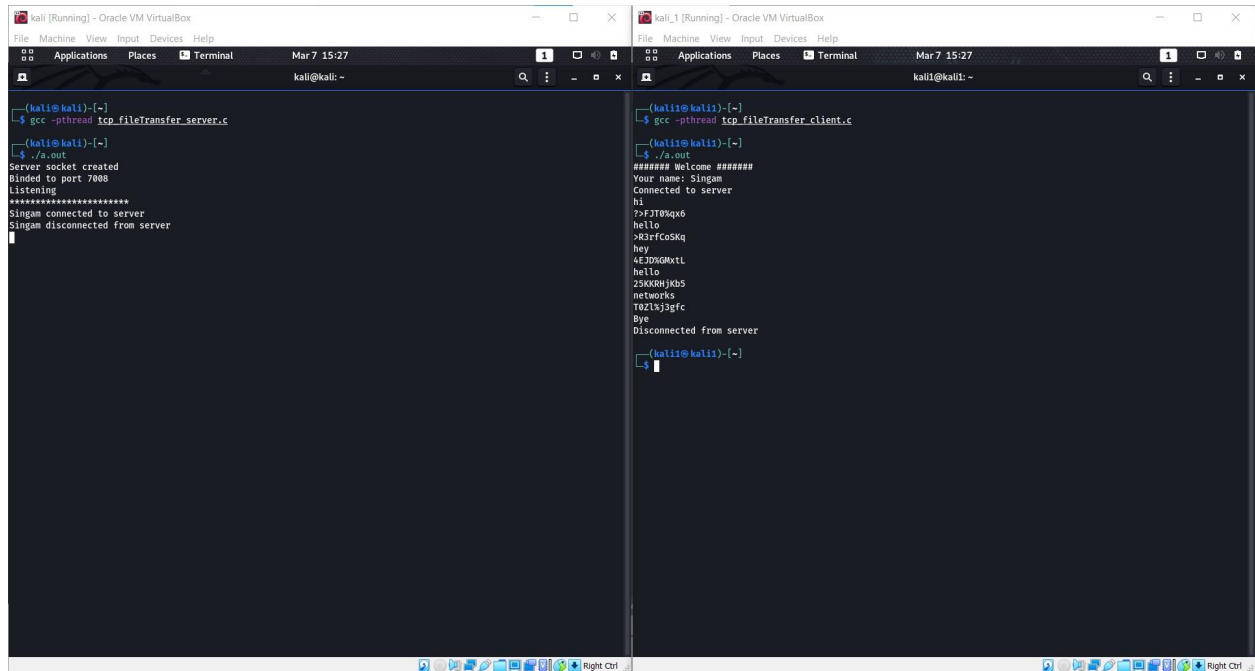


Networks Lab Experiment 6

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Chat

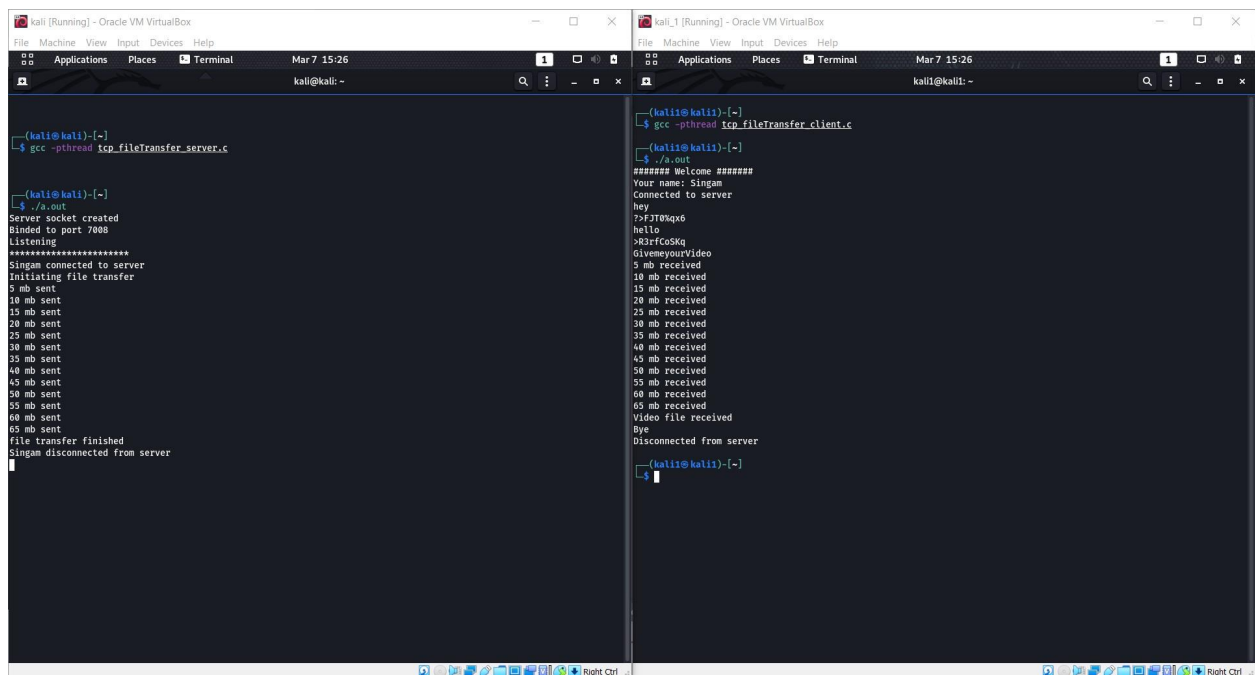


```
(kali@kali)-[~]
└─$ gcc -pthread http_fileTransfer_server.c
└─$ ./a.out
Server socket created
Binded to port 7000
Listening
*****
Singam connected to server
Singam disconnected from server

(kali1@kali1)-[~]
└─$ gcc -pthread http_fileTransfer_client.c
└─$ ./a.out
##### Welcome #####
Your name: Singam
Connected to server
hi
?FJT0kx6
hello
>R3rFcoSkq
hey
4E20G0xtL
hello
25KXKHjKb5
networks
T0Z1sj3gfc
Bye
Disconnected from server

(kali1@kali1)-[~]
```

File transfer



```
(kali@kali)-[~]
└─$ gcc -pthread tcp_fileTransfer_server.c
└─$ ./a.out
Server socket created
Binded to port 7000
Listening
*****
Singam connected to server
Initiating file transfer
5 mb sent
10 mb sent
15 mb sent
20 mb sent
25 mb sent
30 mb sent
35 mb sent
40 mb sent
45 mb sent
50 mb sent
55 mb sent
60 mb sent
65 mb sent
file transfer finished
Singam disconnected from server

(kali1@kali1)-[~]
└─$ gcc -pthread tcp_fileTransfer_client.c
└─$ ./a.out
##### Welcome #####
Your name: Singam
Connected to server
hey
?FJT0kx6
hello
>R3rFcoSkq
GivemeyourVideo
5 mb received
10 mb received
15 mb received
20 mb received
25 mb received
30 mb received
35 mb received
40 mb received
45 mb received
50 mb received
55 mb received
60 mb received
65 mb received
Video file received
Bye
Disconnected from server

(kali1@kali1)-[~]
```

File sent from server

```
(kali@kali)-[~]  
$ ls -l | grep .mp4  
-rwxrwxrwx 1 kali kali 69632912 Mar  7 13:29 sampleVideo.mp4
```

File received by client

```
(kali1@kali1)-[~]  
$ ls -l | grep .mp4  
-rw-r--r-- 1 kali1 kali1 69632912 Mar  7 16:00 receivedVideo.mp4
```

Note: This experiment is done with 2 different vms where one acts as server and other acts as client

Recording Data Transmission:

Command : `ifstat -t -i eth0 0.1 > capture.txt`

The ***ifstat*** command prints network interface statistics

-t flag allows to add timestamp in front of each line

-i flag specifies the list of interfaces to monitor

0.1 is to record transmission rate for every 0.1 seconds

> capture.txt specifies to write statistics into a file

```
(kali@kali)-[~]  
$ ifstat -t -i eth0 0.1 > capture.txt
```

GNUPlot

It is a command-driven interactive plotting program

GNUPlot commands

set xdata time - set x axis as time

set timefmt "%H:%M:%S" - set time format

set xrange[" "] - set range of x values

plot "capture.txt" using 1:2 with lines - plot file with line graphs

```
(kali㉿kali)-[~]  
$ gnuplot  
  
G N U P L O T  
Version 5.4 patchlevel 1    last modified 2020-12-01  
  
Copyright (C) 1986-1993, 1998, 2004, 2007-2020  
Thomas Williams, Colin Kelley and many others  
  
gnuplot home:      http://www.gnuplot.info  
faq, bugs, etc:    type "help FAQ"  
immediate help:    type "help" (plot window: hit 'h')  
  
Terminal type is now 'qt'  
gnuplot> set xdata time  
gnuplot> set timefmt "%H:%M:%S"  
gnuplot> set xrange["16:00:30":"16:00:54"]  
gnuplot> plot "capture.txt" using 1:2 with lines  
gnuplot>
```

GNU plots

Transmission rate for every 0.1 sec

