

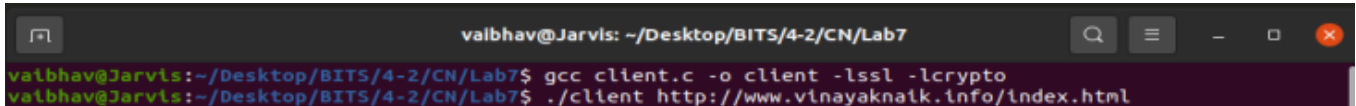
Computer Networks Lab 7

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Write TCP client to download and locally save a file.

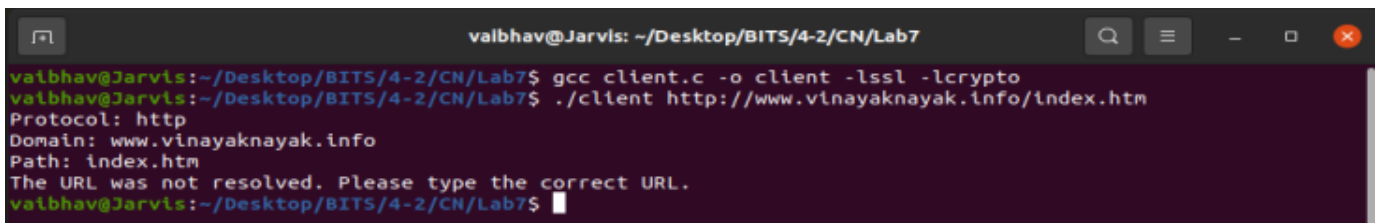
1. The client, as a command-line argument, accepts the URL of the file. The URL can be HTTP or HTTPS-based. (2 marks)



```
vaibhav@Jarvis: ~/Desktop/BITS/4-2/CN/Lab7
vaibhav@Jarvis:~/Desktop/BITS/4-2/CN/Lab7$ gcc client.c -o client -lssl -lcrypto
vaibhav@Jarvis:~/Desktop/BITS/4-2/CN/Lab7$ ./client http://www.vinayaknaik.info/index.html
```

Url of the file is: <http://www.vinayaknaik.info/index.html> which is taken as Command Line Argument.

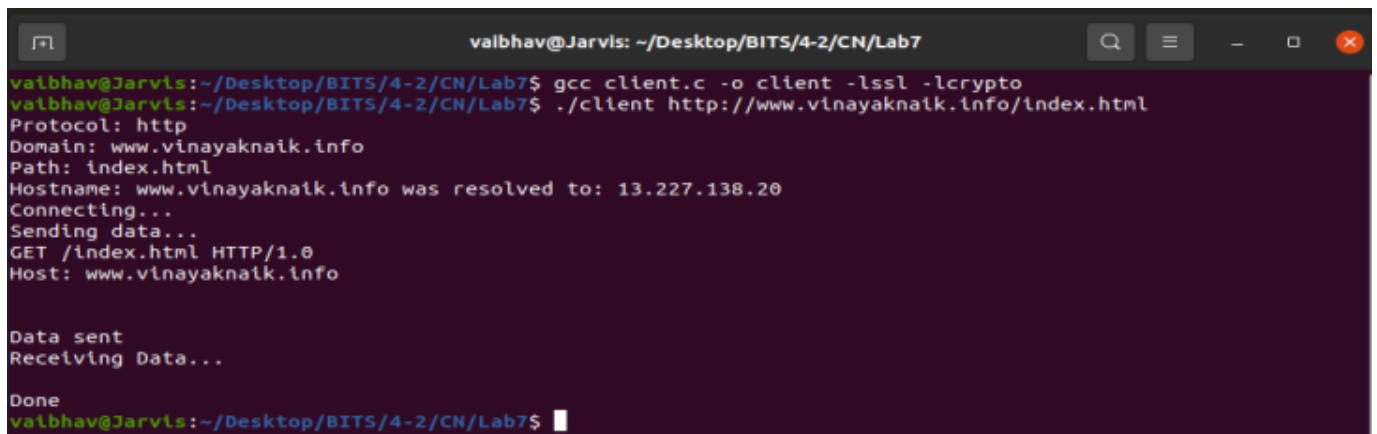
2. If the URL does not exist or unreachable, the client prints an error and exits. (2 marks)



```
vaibhav@Jarvis: ~/Desktop/BITS/4-2/CN/Lab7
vaibhav@Jarvis:~/Desktop/BITS/4-2/CN/Lab7$ gcc client.c -o client -lssl -lcrypto
vaibhav@Jarvis:~/Desktop/BITS/4-2/CN/Lab7$ ./client http://www.vinayaknayak.info/index.htm
Protocol: http
Domain: www.vinayaknayak.info
Path: index.htm
The URL was not resolved. Please type the correct URL.
vaibhav@Jarvis:~/Desktop/BITS/4-2/CN/Lab7$
```

The incorrect url given is : <http://www.vinayaknayak.info/index.html> which is the incorrect URL. The client code identifies it and gives the error message and exits.

3. After connecting to the server, the client sends a GET request to the server. (2 marks)



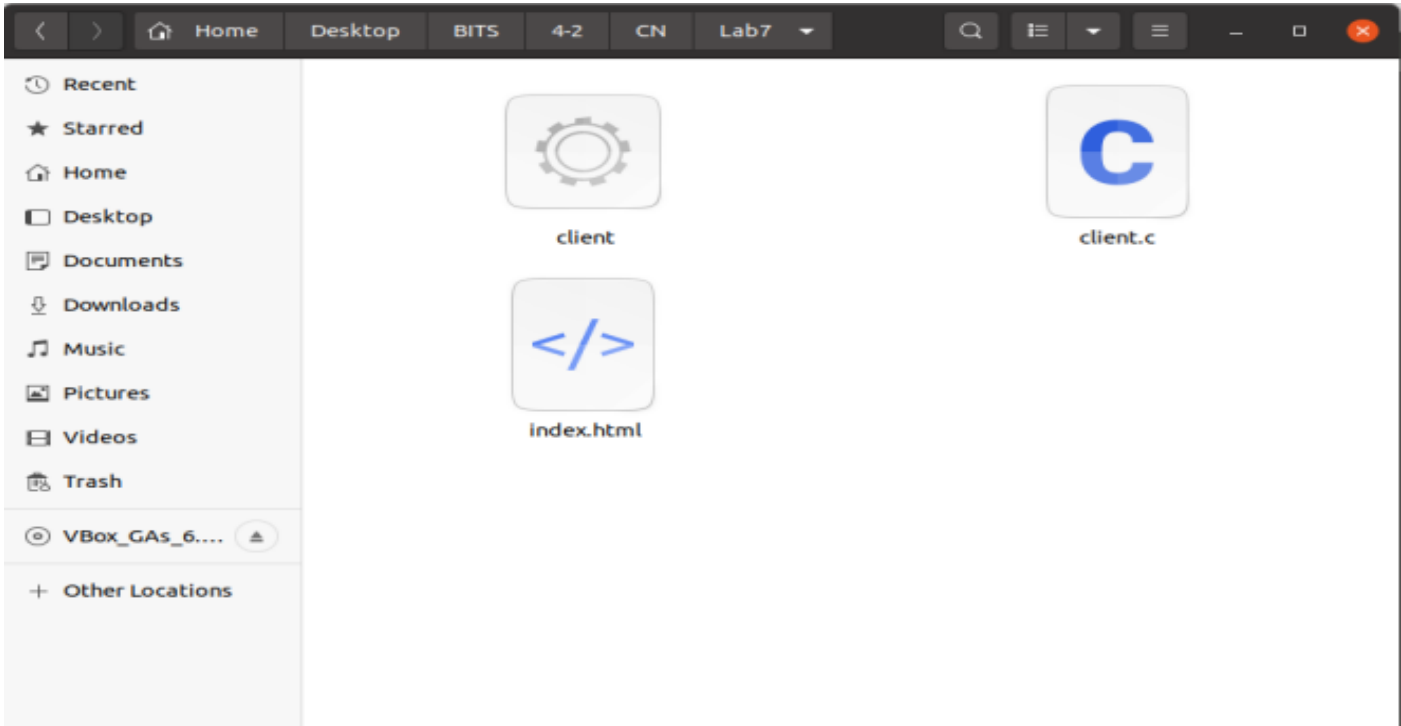
```
vaibhav@Jarvis: ~/Desktop/BITS/4-2/CN/Lab7
vaibhav@Jarvis:~/Desktop/BITS/4-2/CN/Lab7$ gcc client.c -o client -lssl -lcrypto
vaibhav@Jarvis:~/Desktop/BITS/4-2/CN/Lab7$ ./client http://www.vinayaknaik.info/index.html
Protocol: http
Domain: www.vinayaknaik.info
Path: index.html
Hostname: www.vinayaknaik.info was resolved to: 13.227.138.20
Connecting...
Sending data...
GET /index.html HTTP/1.0
Host: www.vinayaknaik.info

Data sent
Receiving Data...

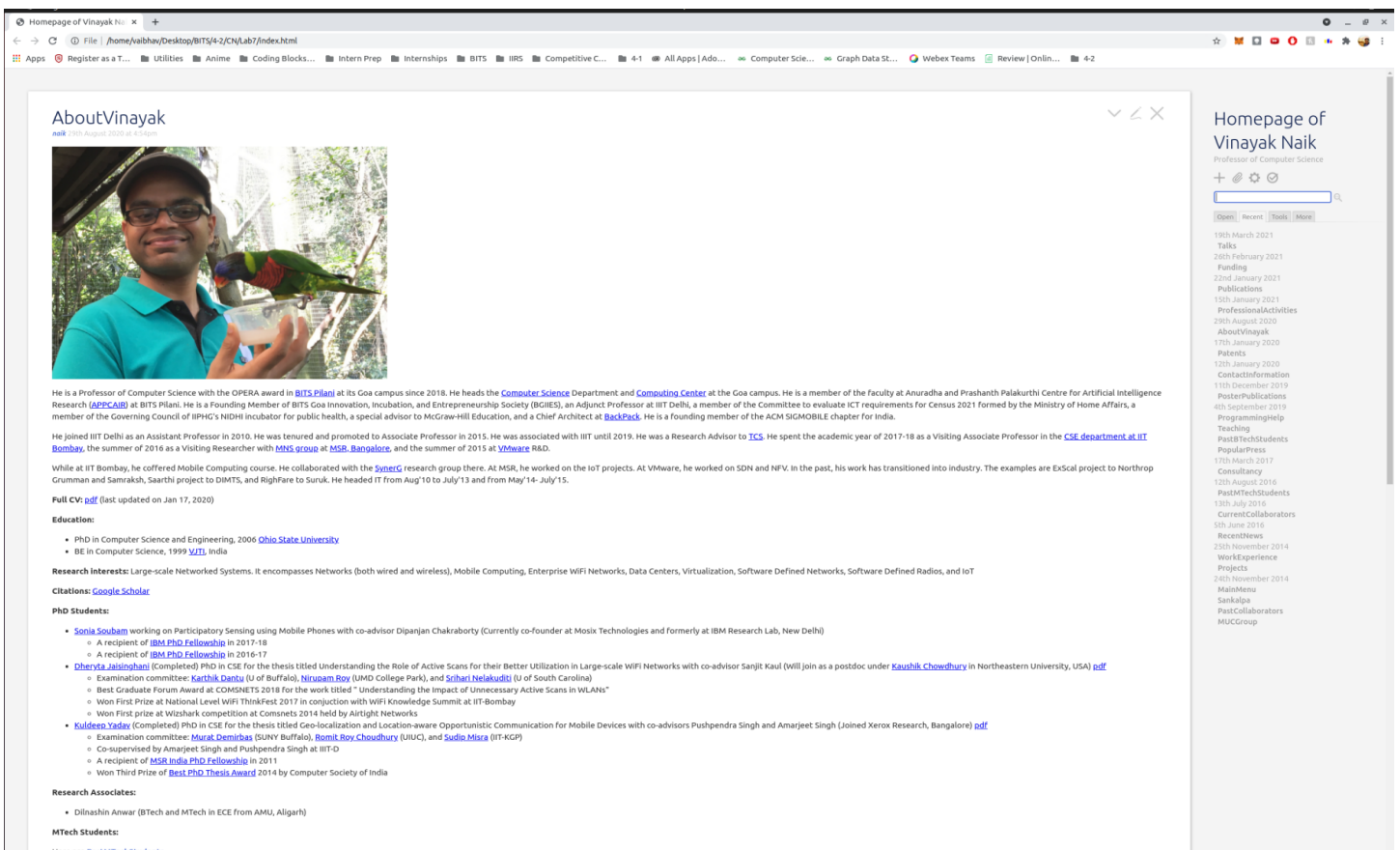
Done
vaibhav@Jarvis:~/Desktop/BITS/4-2/CN/Lab7$
```

Client sends a get request to the server.

4. The client downloads the whole file and saves it to the local folder with the same file name as mentioned in the URL. (8 marks)



The file is downloaded in the same folder with the same name which is mentioned in the URL.



The file is opening as seen in the above picture.

5. If a file with the same name exists, the old file is overwritten. (1 mark)

```
vaibhav@Jarvis: ~/Desktop/BITS/4-2/CN/Lab7
vaibhav@Jarvis:~/Desktop/BITS/4-2/CN/Lab7$ gcc client.c -o client -lssl -lcrypto
vaibhav@Jarvis:~/Desktop/BITS/4-2/CN/Lab7$ ./client http://www.vinayaknaik.info/index.html
Protocol: http
Domain: www.vinayaknaik.info
Path: index.html
Hostname: www.vinayaknaik.info was resolved to: 13.227.235.73
Connecting...
Sending data...
GET /index.html HTTP/1.0
Host: www.vinayaknaik.info

Data sent
Receiving Data...

Done
vaibhav@Jarvis:~/Desktop/BITS/4-2/CN/Lab7$ ./client http://www.vinayaknaik.info/index.html
Protocol: http
Domain: www.vinayaknaik.info
Path: index.html
Hostname: www.vinayaknaik.info was resolved to: 13.227.138.44
Connecting...
Sending data...
GET /index.html HTTP/1.0
Host: www.vinayaknaik.info

Data sent
Receiving Data...

Done
vaibhav@Jarvis:~/Desktop/BITS/4-2/CN/Lab7$
```

When the same file is again downloaded, the old file is overwritten in the same folder.



The overwritten file can be seen in the folder.

6. The client exits after downloading the file. (1 mark)

```
valbhav@Jarvis: ~/Desktop/BITS/4-2/CN/Lab7
valbhav@Jarvis:~/Desktop/BITS/4-2/CN/Lab7$ gcc client.c -o client -lssl -lcrypto
valbhav@Jarvis:~/Desktop/BITS/4-2/CN/Lab7$ ./client http://www.vinayaknaik.info/index.html
Protocol: http
Domain: www.vinayaknaik.info
Path: index.html
Hostname: www.vinayaknaik.info was resolved to: 13.227.235.73
Connecting...
Sending data...
GET /index.html HTTP/1.0
Host: www.vinayaknaik.info

Data sent
Receiving Data...

Done
valbhav@Jarvis:~/Desktop/BITS/4-2/CN/Lab7$ ./client http://www.vinayaknaik.info/index.html
Protocol: http
Domain: www.vinayaknaik.info
Path: index.html
Hostname: www.vinayaknaik.info was resolved to: 13.227.138.44
Connecting...
Sending data...
GET /index.html HTTP/1.0
Host: www.vinayaknaik.info

Data sent
Receiving Data...

Done
valbhav@Jarvis:~/Desktop/BITS/4-2/CN/Lab7$
```

The client exits after downloading the file everytime.

We can even download pdf from the net using this. Below screenshot shows this

URL : <http://www.axmag.com/download/pdfurl-guide.pdf>

```
valbhav@Jarvis: ~/Desktop/BITS/4-2/CN/Lab7
valbhav@Jarvis:~/Desktop/BITS/4-2/CN/Lab7$ gcc client.c -o client -lssl -lcrypto
valbhav@Jarvis:~/Desktop/BITS/4-2/CN/Lab7$ ./client http://www.axmag.com/download/pdfurl-guide.pdf
Protocol: http
Domain: www.axmag.com
Path: download/pdfurl-guide.pdf
Hostname: www.axmag.com was resolved to: 47.88.2.145
Connecting...
Sending data...
GET /download/pdfurl-guide.pdf HTTP/1.0
Host: www.axmag.com

Data sent
Receiving Data...

Done
valbhav@Jarvis:~/Desktop/BITS/4-2/CN/Lab7$
```

