

1. Team name: Team Lab5, I Have added simple text and images and it is a basic website, also in header there is hyper link to visit next webpage.  
File attached and Viva shown to TA.
2. By using Simple JavaScript, I added two buttons, one for checking current date and time and another one for changing Image in "Index.html".
3. a) <http://localhost:9090> I tested my webserver by using this link.  
Screenshot attached below:



## Team Lab5

[About](#)

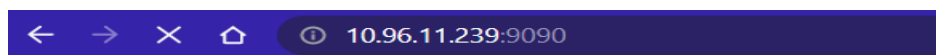
**Welcome !**

Hello! This is side kanwar and Afzal, Here is few links to listen our favourite music:

1. [Ek Din aap](#)
2. [Ramayan](#)
3. [Kishore Kumar Playlist](#)
4. [Arijit Singh Playlist](#)

let as know your favourite one? [Let us know!](#)

- b) We used <http://10.196.11.239:9090> to test in check in another device and it was reachable.  
Screenshot attached below.



## Team Lab5

[About](#)

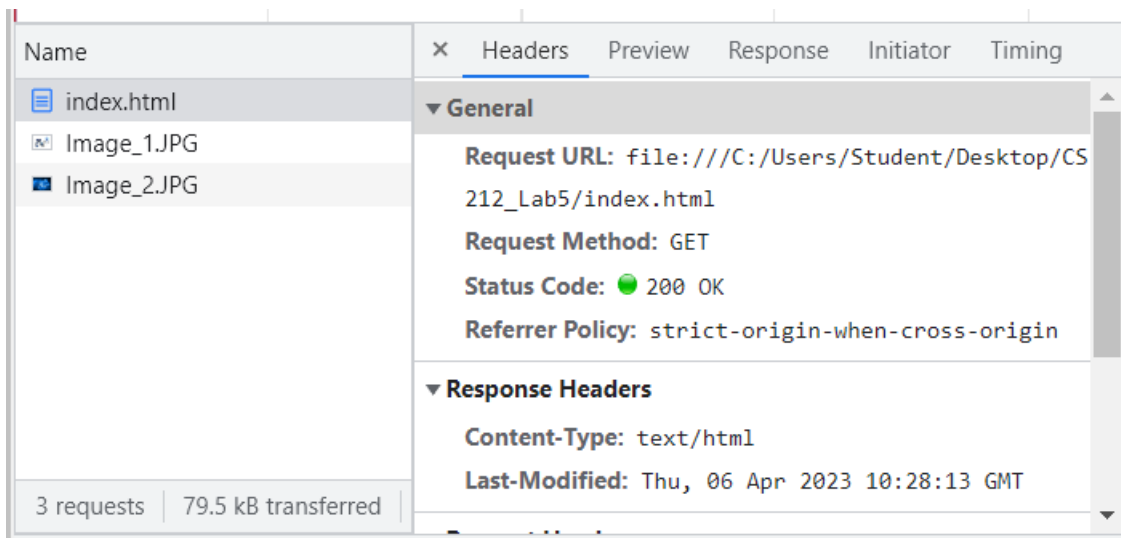
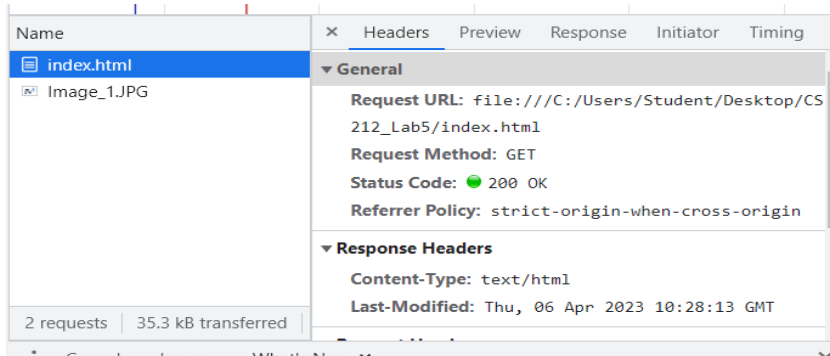
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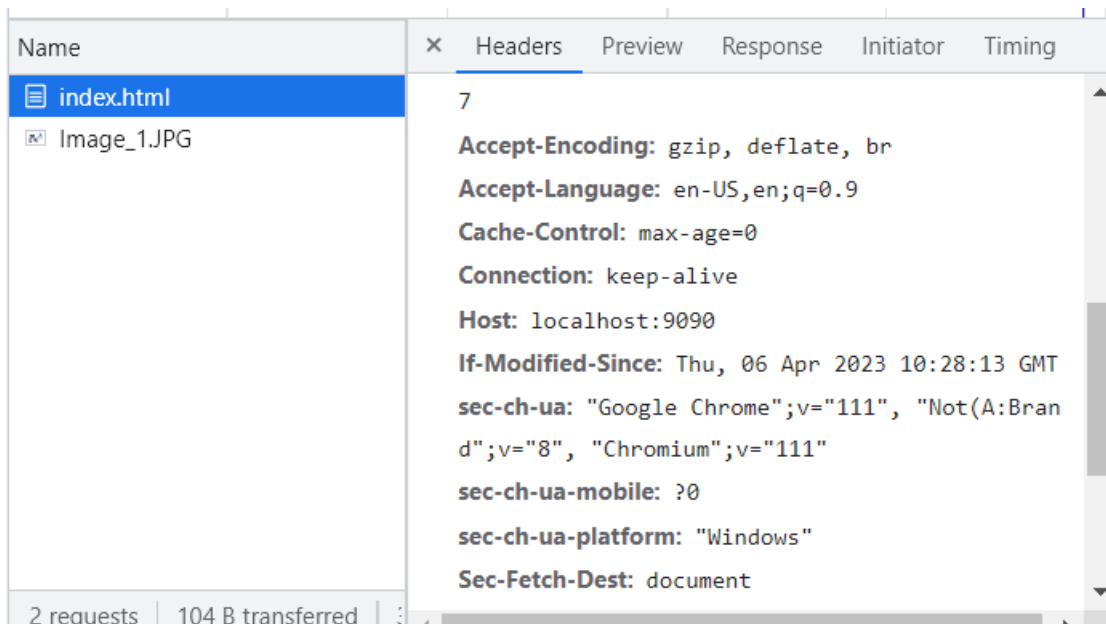
1. [Ek Din aap](#)
2. [Ramayan](#)
3. [Kishore Kumar Playlist](#)
4. [Arijit Singh Playlist](#)

let as know your favourite one? [Let us know!](#)

4. a) Raw HTTP request Screenshot:



b) In persistent connection HTTP, multiple objects can be sent over a single TCP connection. Non-persistent connection HTTP can be either with a parallel or without a parallel connection. A persistent HTTP connection can be either non-pipelined or pipelined.  
My connection is persistent.



c) output of <https://www.iitgoa.ac.in/~nehak/example.html>

Name	Stat...	Type	Initiator	Size	Time	Waterfall	
example.html	304	doc...	Other	270 B	609...		
cat.jpeg	200	jpeg	example...	(me...	0 ms		
dog.jpeg	200	jpeg	example...	(me...	0 ms		
favicon.ico	302	text...	Other	685 B	1.40 s		
IIT-Goa-Logo1-5...	200	png	favicon.ico	(dis...	9 ms		

5. a) Output of \$ dig @a.root-servers.net com NS

```

rajkanwar@Khanwarraaj: /mnt/c/Users/Student/Desktop/CS212_Lab5$ dig @a.root-servers.net com NS
; <<>> DiG 9.18.1-lubuntu1.2-Ubuntu <<>> @a.root-servers.net com NS
; (2 servers found)
; global options: +cmd
; Got answer:
; ->>HEADER<- opcode: QUERY, status: NOERROR, id: 22407
; flags: qr rd, QUERY: 1, ANSWER: 0, AUTHORITY: 13, ADDITIONAL: 27
; WARNING: recursion requested but not available

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 4096
;; QUESTION SECTION:
;com.                                IN      NS

;; AUTHORITY SECTION:
com.      172800  IN      NS      e.gtld-servers.net.
com.      172800  IN      NS      b.gtld-servers.net.
com.      172800  IN      NS      j.gtld-servers.net.
com.      172800  IN      NS      m.gtld-servers.net.
com.      172800  IN      NS      i.gtld-servers.net.
com.      172800  IN      NS      f.gtld-servers.net.
com.      172800  IN      NS      a.gtld-servers.net.
com.      172800  IN      NS      g.gtld-servers.net.
com.      172800  IN      NS      h.gtld-servers.net.
com.      172800  IN      NS      l.gtld-servers.net.
com.      172800  IN      NS      k.gtld-servers.net.
com.      172800  IN      NS      c.gtld-servers.net.
com.      172800  IN      NS      d.gtld-servers.net.

;; ADDITIONAL SECTION:
e.gtld-servers.net. 172800  IN      A       192.12.94.30
e.gtld-servers.net. 172800  IN      AAAA    2001:502:1cal::30
b.gtld-servers.net. 172800  IN      A       192.33.14.30
b.gtld-servers.net. 172800  IN      AAAA    2001:503:231d::2:30
j.gtld-servers.net. 172800  IN      A       192.48.79.30
j.gtld-servers.net. 172800  IN      AAAA    2001:502:7094::30
m.gtld-servers.net. 172800  IN      A       192.55.83.30
m.gtld-servers.net. 172800  IN      AAAA    2001:501:b1f9::30
i.gtld-servers.net. 172800  IN      A       192.43.172.30
i.gtld-servers.net. 172800  IN      AAAA    2001:503:39c1::30
f.gtld-servers.net. 172800  IN      A       192.35.51.30
f.gtld-servers.net. 172800  IN      AAAA    2001:503:d414::30
a.gtld-servers.net. 172800  IN      A       192.5.6.30
a.gtld-servers.net. 172800  IN      AAAA    2001:503:a83e::2:30
g.gtld-servers.net. 172800  IN      A       192.42.93.30
g.gtld-servers.net. 172800  IN      AAAA    2001:503:eea3::30
h.gtld-servers.net. 172800  IN      A       192.54.112.30
h.gtld-servers.net. 172800  IN      AAAA    2001:502:8cc::30
l.gtld-servers.net. 172800  IN      A       192.41.162.30
l.gtld-servers.net. 172800  IN      AAAA    2001:500:d937::30
k.gtld-servers.net. 172800  IN      A       192.52.178.30
k.gtld-servers.net. 172800  IN      AAAA    2001:503:d2d::30
c.gtld-servers.net. 172800  IN      A       192.26.92.30
c.gtld-servers.net. 172800  IN      AAAA    2001:503:83eb::30
d.gtld-servers.net. 172800  IN      A       192.31.80.30
d.gtld-servers.net. 172800  IN      AAAA    2001:500:856e::30

;; Query time: 690 msec
;; SERVER: 198.41.0.4#53(a.root-servers.net) (UDP)
;; WHEN: Thu Apr 06 16:20:17 IST 2023
;; MSG SIZE rcvd: 828

```

b) output of command: \$dig +trace @8.8.8.8 stackoverflow.com

```

rajkanwar@kanwarraj:/mnt/c/Users/Student/Desktop/CS212_Lab5$ dig +trace @0.0.0.0 stackoverflow.com
<<> Dig 0.18.1-ubuntu1.2-Ubuntu <<> +trace @0.0.0.0 stackoverflow.com
(1 server found)
;; global options: +cmd
52297 IN NS a.root-servers.net.
52297 IN NS b.root-servers.net.
52297 IN NS c.root-servers.net.
52297 IN NS d.root-servers.net.
52297 IN NS e.root-servers.net.
52297 IN NS f.root-servers.net.
52297 IN NS g.root-servers.net.
52297 IN NS h.root-servers.net.
52297 IN NS i.root-servers.net.
52297 IN NS j.root-servers.net.
52297 IN NS k.root-servers.net.
52297 IN NS l.root-servers.net.
52297 IN NS m.root-servers.net.
52297 IN RRSIG NS 8 0 518400 20230418200000 20230405190000 68955 . r10QRj4cuX1+f7++ksmdupv1TWMLo1MgT64bJjV1o1LIU2yz2Wyn+KI 5F5Ck3X0VWnFm
ZAsVPQIEQvIs DRVeG90Iugja3f/Ega1sFLVF/c5iq9Y7Umz2C/rPX3trp89AmkrvHMeM Rbo/ED+EcYsrmwDooK83FCSEDMFYVYz4ncc1XmLMC+9IAHSezjldBB sNahOg==
;; Received 525 bytes from 0.0.0.0 (0.0.0.0) in 970 ms

com.
172800 IN NS d.gtld-servers.net.
com.
172800 IN NS a.gtld-servers.net.
com.
172800 IN NS i.gtld-servers.net.
com.
172800 IN NS f.gtld-servers.net.
com.
172800 IN NS j.gtld-servers.net.
com.
172800 IN NS l.gtld-servers.net.
com.
172800 IN NS b.gtld-servers.net.
com.
172800 IN NS e.gtld-servers.net.
com.
172800 IN NS k.gtld-servers.net.
com.
172800 IN NS g.gtld-servers.net.
com.
172800 IN NS m.gtld-servers.net.
com.
172800 IN NS h.gtld-servers.net.
com.
172800 IN NS c.gtld-servers.net.
com.
86400 IN DS 30909 8 2 E2D3C916F6DEAC73294E8268F85085044A833FC5459588F4A9184CF C41A5766
com.
86400 IN RRSIG DS 8 1 86400 20230419050000 20230406040000 68955 . An3Yer08MIvUsY/NAhm+12HL8cP2S11IKaQWQX02HcCvQ00bnxuzGz YhzEe8Hg/g8BFQ
D8m8dRig107m c5Y18ek4mJ0Lm9k4dyce1e113c3062z79757A7U1mQ5j610Vx0s2 mND8VbydEY74EkhQz394r555CH/CH2qULmF3uJTaAOL1Dk23v0eKd1 yury3Q==
;; Received 1285 bytes from 192.112.36.4853(g.root-servers.net) in 840 ms

```

Address of my local DNS server:

```

rajkanwar@kanwarraj:/mnt/c/Users/Student/Desktop/CS212_Lab5$ cat /etc/resolv.conf
# This file was automatically generated by WSL. To stop automatic generation of this file, add the following entry to /etc/wsl.conf:
# [network]
# generateResolvConf = false
nameserver 172.21.240.1

```

3 root level DNS server:

```

rajkanwar@kanwarraj:/mnt/c/Users/Student/Desktop/CS212_Lab5$ dig +short NS
j.root-servers.net.
m.root-servers.net.
a.root-servers.net.
k.root-servers.net.
b.root-servers.net.
i.root-servers.net.
h.root-servers.net.
e.root-servers.net.
d.root-servers.net.
g.root-servers.net.
c.root-servers.net.
f.root-servers.net.

```

DNS in Wireshark:

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help						
[Icons]						
dns						
No.	dns	Source	Destination	Protocol	Length	Info
452	10.250.200.3	10.250.200.3	10.196.11.239	DNS	192	Standard query response 0x344b A auth0.c
492	10.196.11.239	10.250.200.3	10.196.11.239	DNS	239	Standard query response 0xfa82 HTTPS aut
494	10.250.200.3	10.196.11.239	10.250.200.3	DNS	107	Standard query 0xcb8b HTTPS optimization
499	10.196.11.239	10.250.200.3	10.250.200.3	DNS	107	Standard query 0x26f3 A optimizationguid
500	10.250.200.3	10.196.11.239	10.196.11.239	DNS	109	Standard query response 0xcb8b HTTPS opt
532	10.196.11.239	10.250.200.3	10.196.11.239	DNS	365	Standard query response 0x26f3 A optimiz
534	10.196.11.239	10.250.200.3	10.250.200.3	DNS	101	Standard query 0xb9e3 A d27xxe7juh1us6.c
539	10.196.11.239	10.250.200.3	10.196.11.239	DNS	101	Standard query 0x8ce9 HTTPS d27xxe7juh1u
541	10.250.200.3	10.250.200.3	10.196.11.239	DNS	167	Standard query response 0xb9e3 A d27xxe7
624	10.196.11.239	10.250.200.3	10.196.11.239	DNS	103	Standard query response 0x8ce9 HTTPS d27
626	10.196.11.239	10.250.200.3	10.250.200.3	DNS	97	Standard query 0x8e04 A challenges.cloud
643	10.196.11.239	10.250.200.3	10.250.200.3	DNS	97	Standard query 0x68f8 HTTPS challenges.c
643	10.250.200.3	10.250.200.3	10.196.11.239	DNS	178	Standard query response 0x68f8 HTTPS cha
645	10.250.200.3	10.250.200.3	10.196.11.239	DNS	131	Standard query response 0x8e04 A challer

