Comp9331 lab3 answer

Exercise 3: Digging into DNS (marked, include in the lab report)

Question 1. What is the IP address of www.princeton.edu ? What type of DNS query is sent to get this answer?

```
z5319476@vx09:~/Desktop/9331lab3$ dig www.princeton.edu

; <<>> DiG 9.18.24-1-Debian <<>> www.princeton.edu
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 27495
;; flags: qr rd ra; QUERY: 1, ANSWER: 3, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
; COOKIE: 18e3037a32d122330100000065ef3da72c85bd2e059107ee (good)
;; QUESTION SECTION:
;www.princeton.edu.              IN      A

;; ANSWER SECTION:
www.princeton.edu.      2345    IN      CNAME   www.princeton.edu.cdn.cloudflare.net.
www.princeton.edu.cdn.cloudflare.net. 193 IN A  104.18.4.101
www.princeton.edu.cdn.cloudflare.net. 193 IN A  104.18.5.101

;; Query time: 0 msec
;; SERVER: 129.94.242.2#53(129.94.242.2) (UDP)
;; WHEN: Tue Mar 12 04:21:43 AEDT 2024
;; MSG SIZE  rcvd: 156
```

According to the information, The IP addresses are **104.18.4.101** and **104.18.5.101**.

The type of DNS query is **A**.

Question 2. What is the canonical name for the Princeton webserver (i.e., www.princeton.edu)? Suggest a reason for having an alias for this server.

the canonical name for the Princeton webserver is www.princeton.edu.cdn.cloudflare.net.

using an alias for a server provides flexibility, scalability, and make it easier to remember.

Question 3. What can you make of the rest of the response/what is it used for (i.e., the details available in the DNS response (cookies and other fields))?

Based on the other parts of the dig query results, we can obtain information about EDNS. This section contains information about DNS extensions, such as version number, flags, and UDP packet size. In the query results, version is 0, no special flags are set, and the size of the UDP packet is 1232 bytes.
Moreover, COOKIE is typically used to maintain session state or for other purposes, so that the server can recognize and track a user's session. The query result shows that the value of COOKIE is "18e3037a32d122330100000065ef3da72c85bd2e059107ee" and is marked as "good", indicating that COOKIE is valid.

Question 4. What is the IP address of the local nameserver for your machine?

```
;; Query time: 0 msec
;; SERVER: 129.94.242.2#53(129.94.242.2) (UDP)
;; WHEN: Tue Mar 12 04:47:52 AEDT 2024
;; MSG SIZE  rcvd: 156
```

The IP address of local nameserver for CSE is 129.94.242.2.

Question 5. What are the DNS nameservers for the " princeton.edu" domain (note: the domain name is princeton.edu **and not** www.princeton.edu **. This is an example of what is referred to as the apex/naked domain)? Find their IP addresses. Which DNS query type is used to obtain this information?**

```
z5319476@vx09:~/Desktop/9331lab3$ dig princeton.edu NS

; <<>> DiG 9.18.24-1-Debian <<>> princeton.edu NS
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 42741
;; flags: qr rd ra; QUERY: 1, ANSWER: 9, AUTHORITY: 0, ADDITIONAL: 19

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
; COOKIE: 34af9675e343880e0100000065ef46b8711dbbde4c6bfc73 (good)
;; QUESTION SECTION:
;princeton.edu.                 IN      NS

;; ANSWER SECTION:
princeton.edu.          4854    IN      NS      a3-67.akam.net.
princeton.edu.          4854    IN      NS      ns7.dnsmadeeasy.com.
princeton.edu.          4854    IN      NS      ns5.dnsmadeeasy.com.
princeton.edu.          4854    IN      NS      a1-158.akam.net.
princeton.edu.          4854    IN      NS      a6-64.akam.net.
princeton.edu.          4854    IN      NS      ns6.dnsmadeeasy.com.
princeton.edu.          4854    IN      NS      a7-65.akam.net.
princeton.edu.          4854    IN      NS      a24-66.akam.net.
princeton.edu.          4854    IN      NS      a20-65.akam.net.

;; ADDITIONAL SECTION:
ns5.dnsmadeeasy.com.    49478   IN      A       208.94.148.13
ns6.dnsmadeeasy.com.    44740   IN      A       208.80.124.13
ns7.dnsmadeeasy.com.    15130   IN      A       208.80.126.13
a3-67.akam.net.         55504   IN      A       96.7.49.67
a6-64.akam.net.         25979   IN      A       23.211.133.64
a7-65.akam.net.         53549   IN      A       23.61.199.65
a1-158.akam.net.        6225    IN      A       193.108.91.158
a20-65.akam.net.        24411   IN      A       95.100.175.65
a24-66.akam.net         68914   IN      A       2.16.130.66
```

the DNS nameservers (answer section):

a3-67.akam.net.

ns7.dnsmadeeasy.com.

ns5.dnsmadeeasy.com.

a1-158.akam.net.

a6-64.akam.net.

ns6.dnsmadeeasy.com.

a7-65.akam.net.

a24-66.akam.net.

a20-65.akam.net.

IP addresses (additional section):

```
;; ADDITIONAL SECTION:
ns5.dnsmadeeasy.com.      49478   IN      A       208.94.148.13
ns6.dnsmadeeasy.com.      44740   IN      A       208.80.124.13
ns7.dnsmadeeasy.com.      15130   IN      A       208.80.126.13
a3-67.akam.net.           55504   IN      A       96.7.49.67
a6-64.akam.net.           25979   IN      A       23.211.133.64
a7-65.akam.net.           53549   IN      A       23.61.199.65
a1-158.akam.net.          6225    IN      A       193.108.91.158
a20-65.akam.net.          24411   IN      A       95.100.175.65
a24-66.akam.net.          68914   IN      A       2.16.130.66
ns5.dnsmadeeasy.com.      49478   IN      AAAA    2600:1800:5::1
ns6.dnsmadeeasy.com.      29121   IN      AAAA    2600:1801:6::1
ns7.dnsmadeeasy.com.      15130   IN      AAAA    2600:1802:7::1
a3-67.akam.net.           11298   IN      AAAA    2600:1408:1c::43
a6-64.akam.net.           72011   IN      AAAA    2600:1401:1::40
a7-65.akam.net.           80577   IN      AAAA    2600:1406:32::41
a1-158.akam.net.          32954   IN      AAAA    2600:1401:2::9e
a20-65.akam.net.          24411   IN      AAAA    2a02:26f0:67::41
a24-66.akam.net.          68914   IN      AAAA    2600:1480:9800::42
```

DNS query type is **NS.**

Question 6. What is the DNS name associated with the IP address 198.54.223.213? Which DNS query type is used to obtain this information?

```
z5319476@vx07:~/Desktop$ dig -x 198.54.223.213

; <<>> DiG 9.18.24-1-Debian <<>> -x 198.54.223.213
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 36599
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
; COOKIE: 729d686023458c020100000065ef5ddbfc482f423180513c (good)
;; QUESTION SECTION:
;213.223.54.198.in-addr.arpa.    IN      PTR

;; ANSWER SECTION:
213.223.54.198.in-addr.arpa. 44933 IN   PTR     cput.ac.za.

;; Query time: 0 msec
;; SERVER: 129.94.242.2#53(129.94.242.2) (UDP)
;; WHEN: Tue Mar 12 06:39:07 AEDT 2024
;; MSG SIZE  rcvd: 108
```

the DNS name is **cput.ac.za.**

DNS query type is **PTR**.

Question 7. Run, dig and query the CSE nameserver (129.94.242.2) for the mail servers for google.com (again, the domain name is google.com, not www.google.com). Did you get an authoritative answer? Why? (HINT: Just because a response contains information in the authoritative part of the DNS response message does not mean it came from an authoritative name server. You should examine the flags in the response message to determine the answer)

```
z5319476@vx09:~/Desktop/9331lab3$ dig @129.94.242.2 google.com MX

; <<>> DiG 9.18.24-1-Debian <<>> @129.94.242.2 google.com MX
; (1 server found)
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 12985
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 10

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
; COOKIE: fd642642496c7d6a0100000065ef49e961e57c4cc7cc5949 (good)
;; QUESTION SECTION:
;google.com.                    IN      MX

;; ANSWER SECTION:
google.com.            252     IN      MX      10 smtp.google.com.

;; ADDITIONAL SECTION:
smtp.google.com.       109     IN      A       74.125.200.26
smtp.google.com.       109     IN      A       172.217.194.26
smtp.google.com.       109     IN      A       172.217.194.27
smtp.google.com.       109     IN      A       172.253.118.26
smtp.google.com.       109     IN      A       172.253.118.27
smtp.google.com.       109     IN      AAAA    2404:6800:4003:c04::1a
smtp.google.com.       109     IN      AAAA    2404:6800:4003:c04::1b
smtp.google.com.       109     IN      AAAA    2404:6800:4003:c05::1a
smtp.google.com.       109     IN      AAAA    2404:6800:4003:c05::1b

;; Query time: 0 msec
;; SERVER: 129.94.242.2#53(129.94.242.2) (UDP)
;; WHEN: Tue Mar 12 05:14:01 AEDT 2024
;; MSG SIZE  rcvd: 280
```

We did not get an authoritative answer. In the dig output, if the flags field in the response contains the AA (Authoritative Answer) flag, it indicates that the response is an authoritative answer from an authoritative domain name server. However, I did not see the AA flag in the output. Therefore, the answer is no.

Question 8. Repeat the above (i.e. Question 7), but use one of the nameservers obtained in Question 5. What is the result?

```
z5319476@vx09:~/Desktop/9331lab3$ dig @a3-67.akam.net google.com MX

; <<>> DiG 9.18.24-1-Debian <<>> @a3-67.akam.net google.com MX
; (2 servers found)
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 9008
;; flags: qr aa rd; QUERY: 1, ANSWER: 0, AUTHORITY: 1, ADDITIONAL: 1
;; WARNING: recursion requested but not available

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

;; AUTHORITY SECTION:
google.com.            7200     IN      SOA     a18-66.akam.net. hostmaster.akamai.com. 1473132463 43200 72
00 604800 7200

;; Query time: 91 msec
;; SERVER: 96.7.49.67#53(a3-67.akam.net) (UDP)
;; WHEN: Tue Mar 12 05:22:28 AEDT 2024
;; MSG SIZE  rcvd: 108
```

I did not get a respond when I try the nameserver **a3-67.akam.net** (no answer section).

Question 9. Obtain the authoritative answer for the mail servers for google.com. What type of DNS query is sent to obtain this information?

```
z5319476@vx09:~/Desktop/9331lab3$ dig google.com MX

; <<>> DiG 9.18.24-1-Debian <<>> google.com MX
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 61828
;; flags: qr rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 0, ADDITIONAL: 1

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
; COOKIE: 51b5f336dec5ed6b0100000065ef4d3851d7151a16e348be (good)
;; QUESTION SECTION:
;google.com.                    IN      MX

;; ANSWER SECTION:
google.com.             92      IN      MX      10 smtp.google.com.

;; Query time: 0 msec
;; SERVER: 129.94.242.2#53(129.94.242.2) (UDP)
;; WHEN: Tue Mar 12 05:28:08 AEDT 2024
;; MSG SIZE  rcvd: 88
```

We can use "dig google.com MX" to obtain the authoritative answer for the mail servers for google.com.

We can also use "dig google.com MX +norecurse" to obtain more information, such as IP address.

```
z5319476@vx09:~/Desktop/9331lab3$ dig google.com MX +norecurse

; <<>> DiG 9.18.24-1-Debian <<>> google.com MX +norecurse
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 40332
;; flags: qr ra; QUERY: 1, ANSWER: 0, AUTHORITY: 4, ADDITIONAL: 9

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
; COOKIE: 301cda020ab2a8ac0100000065ef4dcba2c98e15bee1f8ea (good)
;; QUESTION SECTION:
;google.com.                    IN      MX

;; AUTHORITY SECTION:
google.com.             103380  IN      NS      ns1.google.com.
google.com.             103380  IN      NS      ns4.google.com.
google.com.             103380  IN      NS      ns3.google.com.
google.com.             103380  IN      NS      ns2.google.com.

;; ADDITIONAL SECTION:
ns1.google.com.         279979  IN      A       216.239.32.10
ns2.google.com.         181318  IN      A       216.239.34.10
ns3.google.com.         281147  IN      A       216.239.36.10
ns4.google.com.         9393    IN      A       216.239.38.10
ns1.google.com.         279959  IN      AAAA    2001:4860:4802:32::a
ns2.google.com.         181318  IN      AAAA    2001:4860:4802:34::a
ns3.google.com.         280055  IN      AAAA    2001:4860:4802:36::a
ns4.google.com.         7205    IN      AAAA    2001:4860:4802:38::a

;; Query time: 3 msec
;; SERVER: 129.94.242.2#53(129.94.242.2) (UDP)
;; WHEN: Tue Mar 12 05:30:35 AEDT 2024
;; MSG SIZE  rcvd: 315
```

Question 10. find the IP address lyre00.cse.unsw.edu.au

1. Firstly, type "dig . NS" query

```
z5319476@vx09:~/Desktop/9331lab3$ dig . NS

; <<>> DiG 9.18.24-1-Debian <<>> . NS
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 10611
;; flags: qr rd ra ad; QUERY: 1, ANSWER: 13, AUTHORITY: 0, ADDITIONAL: 27

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
; COOKIE: 4c662da7b36f7f420100000065ef5785e3a053f5a4bf4fd9 (good)
;; QUESTION SECTION:
;.                              IN      NS

;; ANSWER SECTION:
.                       105089  IN      NS      f.root-servers.net.
.                       105089  IN      NS      i.root-servers.net.
.                       105089  IN      NS      g.root-servers.net.
.                       105089  IN      NS      c.root-servers.net.
.                       105089  IN      NS      a.root-servers.net.
.                       105089  IN      NS      b.root-servers.net.
.                       105089  IN      NS      k.root-servers.net.
.                       105089  IN      NS      e.root-servers.net.
.                       105089  IN      NS      l.root-servers.net.
.                       105089  IN      NS      m.root-servers.net.
.                       105089  IN      NS      h.root-servers.net.
.                       105089  IN      NS      j.root-servers.net.
.                       105089  IN      NS      d.root-servers.net.

;; ADDITIONAL SECTION:
a.root-servers.net.     21677   IN      A       198.41.0.4
b.root-servers.net.     405548  IN      A       170.247.170.2
c.root-servers.net.     405548  IN      A       192.33.4.12
d.root-servers.net.     405548  IN      A       199.7.91.13
e.root-servers.net.     405548  IN      A       192.203.230.10
f.root-servers.net.     133536  IN      A       192.5.5.241
g.root-servers.net.     402087  IN      A       192.112.36.4
```

2. Then, use one of the nameservers to query,

```
z5319476@vx09:~/Desktop/9331lab3$ dig @198.41.0.4 lyre00.cse.unsw.edu.au NS

; <<>> DiG 9.18.24-1-Debian <<>> @198.41.0.4 lyre00.cse.unsw.edu.au NS
; (1 server found)
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 41392
;; flags: qr rd; QUERY: 1, ANSWER: 0, AUTHORITY: 4, ADDITIONAL: 9
;; WARNING: recursion requested but not available

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 4096
;; QUESTION SECTION:
;lyre00.cse.unsw.edu.au.                IN      NS

;; AUTHORITY SECTION:
au.                     172800  IN      NS      q.au.
au.                     172800  IN      NS      t.au.
au.                     172800  IN      NS      s.au.
au.                     172800  IN      NS      r.au.

;; ADDITIONAL SECTION:
q.au.                   172800  IN      A       65.22.196.1
q.au.                   172800  IN      AAAA    2a01:8840:be::1
t.au.                   172800  IN      A       65.22.199.1
t.au.                   172800  IN      AAAA    2a01:8840:c1::1
s.au.                   172800  IN      A       65.22.198.1
s.au.                   172800  IN      AAAA    2a01:8840:c0::1
r.au.                   172800  IN      A       65.22.197.1
r.au.                   172800  IN      AAAA    2a01:8840:bf::1

;; Query time: 91 msec
;; SERVER: 198.41.0.4#53(198.41.0.4) (UDP)
;; WHEN: Tue Mar 12 06:16:19 AEDT 2024
;; MSG SIZE  rcvd: 291
```

3. Use q.au nameserver to query,

```
z5319476@vx09:~/Desktop/9331lab3$ dig @65.22.196.1 lyre00.cse.unsw.edu.au NS

; <<>> DiG 9.18.24-1-Debian <<>> @65.22.196.1 lyre00.cse.unsw.edu.au NS
; (1 server found)
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 39114
;; flags: qr rd; QUERY: 1, ANSWER: 0, AUTHORITY: 3, ADDITIONAL: 6
;; WARNING: recursion requested but not available

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1232
;; QUESTION SECTION:
;lyre00.cse.unsw.edu.au.                 IN      NS

;; AUTHORITY SECTION:
unsw.edu.au.            900     IN      NS      ns3.unsw.edu.au.
unsw.edu.au.            900     IN      NS      ns2.unsw.edu.au.
unsw.edu.au.            900     IN      NS      ns1.unsw.edu.au.

;; ADDITIONAL SECTION:
ns1.unsw.edu.au.        900     IN      A       129.94.0.192
ns2.unsw.edu.au.        900     IN      A       129.94.0.193
ns3.unsw.edu.au.        900     IN      A       192.155.82.178
ns1.unsw.edu.au.        900     IN      AAAA    2001:388:c:35::1
ns2.unsw.edu.au.        900     IN      AAAA    2001:388:c:35::2

;; Query time: 19 msec
;; SERVER: 65.22.196.1#53(65.22.196.1) (UDP)
;; WHEN: Tue Mar 12 06:27:47 AEDT 2024
;; MSG SIZE  rcvd: 209

z5319476@vx09:~/Desktop/9331lab3$
```

4. Use 129.94.0.192 to query,

```
z5319476@vx09:~/Desktop/9331lab3$ dig @129.94.0.192 lyre00.cse.unsw.edu.au NS

; <<>> DiG 9.18.24-1-Debian <<>> @129.94.0.192 lyre00.cse.unsw.edu.au NS
; (1 server found)
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 8531
;; flags: qr rd; QUERY: 1, ANSWER: 0, AUTHORITY: 2, ADDITIONAL: 5
;; WARNING: recursion requested but not available

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 4096
;; QUESTION SECTION:
;lyre00.cse.unsw.edu.au.                 IN      NS

;; AUTHORITY SECTION:
cse.unsw.edu.au.        300     IN      NS      maestro.orchestra.cse.unsw.edu.au.
cse.unsw.edu.au.        300     IN      NS      beethoven.orchestra.cse.unsw.edu.au.

;; ADDITIONAL SECTION:
beethoven.orchestra.cse.unsw.edu.au. 300 IN A   129.94.172.11
beethoven.orchestra.cse.unsw.edu.au. 300 IN A   129.94.208.3
beethoven.orchestra.cse.unsw.edu.au. 300 IN A   129.94.242.2
maestro.orchestra.cse.unsw.edu.au. 300 IN A     129.94.242.33

;; Query time: 11 msec
;; SERVER: 129.94.0.192#53(129.94.0.192) (UDP)
;; WHEN: Tue Mar 12 06:29:51 AEDT 2024
;; MSG SIZE  rcvd: 171
```

5. Use 129.94.172.11 to get the final answer,

the IP address for lyre00.cse.unsw.edu.au is **129.94.210.20**. I used 5 DNS servers to obtain an authoritative answer

Question 11. Can one physical machine have several names and/or IP addresses associated with it?

Yes, a physical machine can have several names and/or IP addresses associated with it. This is often implemented through aliasing, each IP address can have multiple "aliases", which are host names. A single machine can have multiple network interfaces and IP addresses. This allows the machine to be accessed through multiple IP addresses, each of which may serve different purposes or network segments.

Exercise 4: A Simple Web Server (Marked, submit your code, 5 Marks)
**Environment: python3.10**
Browser: google

Result:

1. http://127.0.0.1:65535/index.html

```
z5319476@vx09:~/Desktop/9331lab3$  python3 WebServer.py 65535
we have a new message from  ('127.0.0.1', 38738)
Received request: GET /index.html HTTP/1.1
Host: 127.0.0.1:65535
Connection: keep-alive
sec-ch-ua: "Not(A:Brand";v="24", "Chromium";v="122"
sec-ch-ua-mobile: ?0
sec-ch-ua-platform: "Linux"
Upgrade-Insecure-Requests: 1
User-Agent: Mozilla/5.0 (X11; Linux x86_64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/122.0.0.0 Safari/537.36
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,image/apng,*/*;q=0.8,application/signed-exchange;v=b3;q=0.7
Sec-Fetch-Site: none
Sec-Fetch-Mode: navigate
Sec-Fetch-User: ?1
Sec-Fetch-Dest: document
Accept-Encoding: gzip, deflate, br
Accept-Language: en-US,en;q=0.9


the request wants to visit the file: index.html
resource exists
```

2.   http://127.0.0.1:port/index.html

```
we have a new message from  ('127.0.0.1', 49470)
Received request: GET /myimage.png HTTP/1.1
Host: 127.0.0.1:65535
Connection: keep-alive
sec-ch-ua: "Not(A:Brand";v="24", "Chromium";v="122"
sec-ch-ua-mobile: ?0
sec-ch-ua-platform: "Linux"
Upgrade-Insecure-Requests: 1
User-Agent: Mozilla/5.0 (X11; Linux x86_64) AppleWebKit/537.36 (KHTML, like Geck
o) Chrome/122.0.0.0 Safari/537.36
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/w
ebp,image/apng,*/*;q=0.8,application/signed-exchange;v=b3;q=0.7
Sec-Fetch-Site: none
Sec-Fetch-Mode: navigate
Sec-Fetch-User: ?1
Sec-Fetch-Dest: document
Accept-Encoding: gzip, deflate, br
Accept-Language: en-US,en;q=0.9


the request wants to visit the file: myimage.png
resource exists
```

3.   http://127.0.0.1:port/index.html
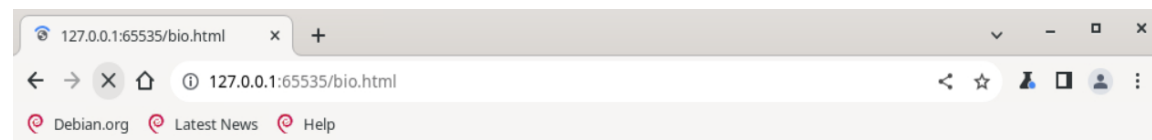
404 Not Found

```
we have a new message from  ('127.0.0.1', 41950)
Received request: GET /bio.html HTTP/1.1
Host: 127.0.0.1:65535
Connection: keep-alive
sec-ch-ua: "Not(A:Brand";v="24", "Chromium";v="122"
sec-ch-ua-mobile: ?0
sec-ch-ua-platform: "Linux"
Upgrade-Insecure-Requests: 1
User-Agent: Mozilla/5.0 (X11; Linux x86_64) AppleWebKit/537.36 (KHTML, like Geck
o) Chrome/122.0.0.0 Safari/537.36
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/w
ebp,image/apng,*/*;q=0.8,application/signed-exchange;v=b3;q=0.7
Sec-Fetch-Site: none
Sec-Fetch-Mode: navigate
Sec-Fetch-User: ?1
Sec-Fetch-Dest: document
Accept-Encoding: gzip, deflate, br
Accept-Language: en-US,en;q=0.9


the request wants to visit the file: bio.html
resource does not exist
```