COMP3331 LAB_3 Report

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Exercise 3: Digging into DNS

1. What is the IP address of www.cecs.anu.edu.au. What type of DNS query is sent to get this answer?

```
z5219960@tabla05:~$ dig www.cecs.anu.edu.au

; <<>> DiG 9.9.5-9+deb8u18-Debian <<>> www.cecs.anu.edu.au
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 15719
;; flags: qr rd ra; QUERY: 1, ANSWER: 2, AUTHORITY: 3, ADDITIONAL: 7

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 4096
;; QUESTION SECTION:
;www.cecs.anu.edu.au.           IN      A

;; ANSWER SECTION:
www.cecs.anu.edu.au.    2186    IN      CNAME   rproxy.cecs.anu.edu.au.
rproxy.cecs.anu.edu.au. 2151    IN      A       150.203.161.98

;; AUTHORITY SECTION:
cecs.anu.edu.au.        153     IN      NS      ns4.cecs.anu.edu.au.
cecs.anu.edu.au.        153     IN      NS      ns3.cecs.anu.edu.au.
cecs.anu.edu.au.        153     IN      NS      ns2.cecs.anu.edu.au.

;; ADDITIONAL SECTION:
ns2.cecs.anu.edu.au.    1947    IN      A       150.203.161.36
ns2.cecs.anu.edu.au.    1482    IN      AAAA    2001:388:1034:2905::24
ns3.cecs.anu.edu.au.    1530    IN      A       150.203.161.50
ns3.cecs.anu.edu.au.    1482    IN      AAAA    2001:388:1034:2905::32
ns4.cecs.anu.edu.au.    1482    IN      A       150.203.161.38
ns4.cecs.anu.edu.au.    1482    IN      AAAA    2001:388:1034:2905::26

;; Query time: 0 msec
;; SERVER: 129.94.208.3#53(129.94.208.3)
;; WHEN: Tue Oct 08 15:07:54 AEDT 2019
;; MSG SIZE  rcvd: 271
```

   Ans:
   IP address of www.cecs.anu.edu.au is 150.203.161.98 (from answer section) and the type of DNS query is type A (from question section).

2. What is the canonical name for the CECS ANU web server? Suggest a reason for having an alias for this server.

   Ans:
   Canonical name for the CECS ANU web server is rproxy.cecs.anu.edu.au (from answer section – CNAME).
   Alias of the server always could be memorized easier than the canonical name. A server could have more than one alias.

3. What can you make of the rest of the response (i.e. the details available in the Authority and Additional sections)?

   Ans:
   Authority section provides the record of authoritative servers
   Additional section provides other useful record.
   For CECS ANU web server, Authority section provides other NS type record of name servers. Besides, the Additional section provides the Type A record of each name servers with their own IP address.

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

   Ans:
   Use dig command then scroll down to bottom would get the IP address of the local nameserver. It is 129.94.208.3

```
;; SERVER: 129.94.208.3#53(129.94.208.3)
```

5. What are the DNS nameservers for the "cecs.anu.edu.au" domain (note: the domain name is cecs.anu.edu.au and not www.cecs.anu.edu.au)? Find out their IP addresses? What type of DNS query is sent to obtain this information?

```
wagner % dig cecs.anu.edu.au NS

; <<>> DiG 9.9.5-9+deb8u18-Debian <<>> cecs.anu.edu.au NS
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 10522
;; flags: qr rd ra; QUERY: 1, ANSWER: 3, AUTHORITY: 0, ADDITIONAL: 7

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 4096
;; QUESTION SECTION:
;cecs.anu.edu.au.               IN      NS

;; ANSWER SECTION:
cecs.anu.edu.au.        22      IN      NS      ns2.cecs.anu.edu.au.
cecs.anu.edu.au.        22      IN      NS      ns4.cecs.anu.edu.au.
cecs.anu.edu.au.        22      IN      NS      ns3.cecs.anu.edu.au.

;; ADDITIONAL SECTION:
ns2.cecs.anu.edu.au.    22      IN      A       150.203.161.36
ns2.cecs.anu.edu.au.    2724    IN      AAAA    2001:388:1034:2905::24
ns3.cecs.anu.edu.au.    22      IN      A       150.203.161.50
ns3.cecs.anu.edu.au.    2724    IN      AAAA    2001:388:1034:2905::32
ns4.cecs.anu.edu.au.    22      IN      A       150.203.161.38
ns4.cecs.anu.edu.au.    2724    IN      AAAA    2001:388:1034:2905::26

;; Query time: 7 msec
;; SERVER: 129.94.242.2#53(129.94.242.2)
;; WHEN: Fri Oct 11 01:04:45 AEDT 2019
;; MSG SIZE  rcvd: 230
```

   Ans:
   By mapping each NS record in answer section with A record in Additional Section. We can obtain

NameServer	ns2.cecs.anu.edu.au	ns3.cecs.anu.edu.au	ns4.cecs.anu.edu.au
IP Address	150.203.161.36	150.203.161.50	150.203.161.38

The type of DNS query is Type NS (obtained from the question section)

6. What is the DNS name associated with the IP address 111.68.101.54? What type of DNS query is sent to obtain this information?

```
wagner % dig 111.68.101.54 NS

; <<>> DiG 9.9.5-9+deb8u18-Debian <<>> 111.68.101.54 NS
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NXDOMAIN, id: 25620
;; flags: qr rd ra; QUERY: 1, ANSWER: 0, AUTHORITY: 1, ADDITIONAL: 1

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

;; AUTHORITY SECTION:
.                       4874    IN      SOA     a.root-servers.net. nstld.verisign-grs.com. 2019101000 1800 900 604800 86400

;; Query time: 0 msec
;; SERVER: 129.94.242.2#53(129.94.242.2)
;; WHEN: Fri Oct 11 01:08:21 AEDT 2019
;; MSG SIZE  rcvd: 117
```

Ans:
There's no DNS name associated with this IP address.
We can check the status said NXDOMAIN which means Non-existent Internet Domain Names. The type of DNS query is type NS.

7. Run dig and query the CSE nameserver (129.94.242.33) for the mail servers for Yahoo! Mail (again the domain name is yahoo.com, not www.yahoo.com). Did you get an authoritative answer? Why?

```
weill % dig @129.94.242.33 yahoo.com MX

; <<>> DiG 9.9.5-9+deb8u18-Debian <<>> @129.94.242.33 yahoo.com MX
; (1 server found)
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 56500
;; flags: qr rd ra; QUERY: 1, ANSWER: 3, AUTHORITY: 5, ADDITIONAL: 9

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

;; ANSWER SECTION:
yahoo.com.              1800    IN      MX      1 mta7.am0.yahoodns.net.
yahoo.com.              1800    IN      MX      1 mta5.am0.yahoodns.net.
yahoo.com.              1800    IN      MX      1 mta6.am0.yahoodns.net.

;; AUTHORITY SECTION:
yahoo.com.              123850  IN      NS      ns2.yahoo.com.
yahoo.com.              123850  IN      NS      ns3.yahoo.com.
yahoo.com.              123850  IN      NS      ns1.yahoo.com.
yahoo.com.              123850  IN      NS      ns5.yahoo.com.
yahoo.com.              123850  IN      NS      ns4.yahoo.com.

;; ADDITIONAL SECTION:
ns1.yahoo.com.          152866  IN      A       68.180.131.16
ns1.yahoo.com.          46878   IN      AAAA    2001:4998:130::1001
ns2.yahoo.com.          324274  IN      A       68.142.255.16
ns2.yahoo.com.          49596   IN      AAAA    2001:4998:140::1002
ns3.yahoo.com.          1138    IN      A       27.123.42.42
ns3.yahoo.com.          1138    IN      AAAA    2406:8600:f03f:1f8::1003
ns4.yahoo.com.          383715  IN      A       98.138.11.157
ns5.yahoo.com.          386913  IN      A       119.160.253.83

;; Query time: 148 msec
;; SERVER: 129.94.242.33#53(129.94.242.33)
;; WHEN: Thu Oct 10 23:41:42 AEDT 2019
;; MSG SIZE  rcvd: 371
```

Ans:
Did not get an authoritative answer. According to the flags on the 6th line, there's no aa flag. aa flag stands for Authoritative Answer.

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

```
wagner % dig @129.94.242.33 cecs.anu.edu.au NS

; <<>> DiG 9.9.5-9+deb8u18-Debian <<>> @129.94.242.33 cecs.anu.edu.au NS
; (1 server found)
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 1170
;; flags: qr rd ra; QUERY: 1, ANSWER: 3, AUTHORITY: 0, ADDITIONAL: 7

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 4096
;; QUESTION SECTION:
;cecs.anu.edu.au.               IN      NS

;; ANSWER SECTION:
cecs.anu.edu.au.        56      IN      NS      ns2.cecs.anu.edu.au.
cecs.anu.edu.au.        56      IN      NS      ns3.cecs.anu.edu.au.
cecs.anu.edu.au.        56      IN      NS      ns4.cecs.anu.edu.au.

;; ADDITIONAL SECTION:
ns2.cecs.anu.edu.au.    3356    IN      A       150.203.161.36
ns2.cecs.anu.edu.au.    2150    IN      AAAA    2001:388:1034:2905::24
ns3.cecs.anu.edu.au.    3379    IN      A       150.203.161.50
ns3.cecs.anu.edu.au.    2150    IN      AAAA    2001:388:1034:2905::32
ns4.cecs.anu.edu.au.    3379    IN      A       150.203.161.38
ns4.cecs.anu.edu.au.    2150    IN      AAAA    2001:388:1034:2905::26

;; Query time: 7 msec
;; SERVER: 129.94.242.33#53(129.94.242.33)
;; WHEN: Fri Oct 11 01:14:19 AEDT 2019
;; MSG SIZE  rcvd: 230
```

Ans:
Still not get any authoritative answer (no aa flag).
To get the authoritative answer, we need IP address provided by the Type A record from the additional section or nameserver provided by the Type NS record from the authority section to dig the server.

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

```
weill % dig @68.180.131.16 yahoo.com MX

; <<>> DiG 9.9.5-9+deb8u18-Debian <<>> @68.180.131.16 yahoo.com MX
; (1 server found)
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 29165
;; flags: qr aa rd; QUERY: 1, ANSWER: 3, AUTHORITY: 5, ADDITIONAL: 9
;; WARNING: recursion requested but not available

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1272
;; QUESTION SECTION:
;yahoo.com.                     IN      MX

;; ANSWER SECTION:
yahoo.com.              1800    IN      MX      1 mta7.am0.yahoodns.net.
yahoo.com.              1800    IN      MX      1 mta6.am0.yahoodns.net.
yahoo.com.              1800    IN      MX      1 mta5.am0.yahoodns.net.

;; AUTHORITY SECTION:
yahoo.com.              172800  IN      NS      ns4.yahoo.com.
yahoo.com.              172800  IN      NS      ns2.yahoo.com.
yahoo.com.              172800  IN      NS      ns3.yahoo.com.
yahoo.com.              172800  IN      NS      ns1.yahoo.com.
yahoo.com.              172800  IN      NS      ns5.yahoo.com.

;; ADDITIONAL SECTION:
ns1.yahoo.com.          1209600 IN      A       68.180.131.16
ns2.yahoo.com.          1209600 IN      A       68.142.255.16
ns3.yahoo.com.          1800    IN      A       27.123.42.42
ns4.yahoo.com.          1209600 IN      A       98.138.11.157
ns5.yahoo.com.          1209600 IN      A       119.160.253.83
ns1.yahoo.com.          86400   IN      AAAA    2001:4998:130::1001
ns2.yahoo.com.          86400   IN      AAAA    2001:4998:140::1002
ns3.yahoo.com.          1800    IN      AAAA    2406:8600:f03f:1f8::1003

;; Query time: 145 msec
;; SERVER: 68.180.131.16#53(68.180.131.16)
;; WHEN: Thu Oct 10 23:57:50 AEDT 2019
;; MSG SIZE  rcvd: 371
```

Ans:
By using the IP or nameserver from one of the nameservers in yahoo.com domain, I got an authority answer. The type of DNS query is type MX.

10. In this exercise you simulate the iterative DNS query process to find the IP address of your machine (e.g. lyre00.cse.unsw.edu.au). First, find the name server (query type NS) of the "." domain (root domain). Query this nameserver to find the authoritative name server for the "au." domain. Query this second server to find the authoritative nameserver for the "edu.au." domain. Now query this nameserver to find the authoritative nameserver for "unsw.edu.au". Next query the nameserver of unsw.edu.au to find the authoritative name server of cse.unsw.edu.au. Now query the nameserver of cse.unsw.edu.au to find the IP address of your host. How many DNS servers do you have to query to get the authoritative answer?

Ans:
1st dig: use dig . NS to get the nameservers of root.

```
weill % dig . NS

; <<>> DiG 9.9.5-9+deb8u18-Debian <<>> . NS
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 31061
;; flags: qr rd ra; QUERY: 1, ANSWER: 13, AUTHORITY: 0, ADDITIONAL: 27

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

;; ANSWER SECTION:
.                       65722   IN      NS      a.root-servers.net.
.                       65722   IN      NS      e.root-servers.net.
.                       65722   IN      NS      k.root-servers.net.
.                       65722   IN      NS      d.root-servers.net.
.                       65722   IN      NS      i.root-servers.net.
.                       65722   IN      NS      c.root-servers.net.
.                       65722   IN      NS      h.root-servers.net.
.                       65722   IN      NS      m.root-servers.net.
.                       65722   IN      NS      g.root-servers.net.
.                       65722   IN      NS      j.root-servers.net.
.                       65722   IN      NS      b.root-servers.net.
.                       65722   IN      NS      f.root-servers.net.
.                       65722   IN      NS      l.root-servers.net.
```

2nd dig: use one of the nameserver from root to dig au. NS

```
weill % dig @a.root-servers.net. au. NS

; <<>> DiG 9.9.5-9+deb8u18-Debian <<>> @a.root-servers.net. au. NS
; (1 server found)
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 22648
;; flags: qr rd; QUERY: 1, ANSWER: 0, AUTHORITY: 9, ADDITIONAL: 18
;; WARNING: recursion requested but not available

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 1472
;; QUESTION SECTION:
;au.                            IN      NS

;; AUTHORITY SECTION:
au.                     172800  IN      NS      a.au.
au.                     172800  IN      NS      c.au.
au.                     172800  IN      NS      d.au.
au.                     172800  IN      NS      q.au.
au.                     172800  IN      NS      r.au.
au.                     172800  IN      NS      s.au.
au.                     172800  IN      NS      t.au.
au.                     172800  IN      NS      u.au.
au.                     172800  IN      NS      v.au.

;; ADDITIONAL SECTION:
a.au.                   172800  IN      A       58.65.254.73
c.au.                   172800  IN      A       162.159.24.179
d.au.                   172800  IN      A       162.159.25.38
q.au.                   172800  IN      A       65.22.196.1
r.au.                   172800  IN      A       65.22.197.1
s.au.                   172800  IN      A       65.22.198.1
t.au.                   172800  IN      A       65.22.199.1
u.au.                   172800  IN      A       211.29.133.32
v.au.                   172800  IN      A       202.12.31.53
a.au.                   172800  IN      AAAA    2407:6e00:254:306::73
c.au.                   172800  IN      AAAA    2400:cb00:2049:1::a29f:18b3
d.au.                   172800  IN      AAAA    2400:cb00:2049:1::a29f:1926
q.au.                   172800  IN      AAAA    2a01:8840:be::1
r.au.                   172800  IN      AAAA    2a01:8840:bf::1
s.au.                   172800  IN      AAAA    2a01:8840:c0::1
t.au.                   172800  IN      AAAA    2a01:8840:c1::1
v.au.                   172800  IN      AAAA    2001:dd8:12::53

;; Query time: 177 msec
;; SERVER: 198.41.0.4#53(198.41.0.4)
;; WHEN: Fri Oct 11 00:12:26 AEDT 2019
;; MSG SIZE  rcvd: 543
```

3rd dig: use one of the nameserver from au. to dig edu.au. NS

```
weill % dig @a.au. edu.au. NS

; <<>> DiG 9.9.5-9+deb8u18-Debian <<>> @a.au. edu.au. NS
; (1 server found)
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 14651
;; 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:
;edu.au.                                IN      NS

;; AUTHORITY SECTION:
edu.au.                 86400   IN      NS      s.au.
edu.au.                 86400   IN      NS      r.au.
edu.au.                 86400   IN      NS      t.au.
edu.au.                 86400   IN      NS      q.au.

;; ADDITIONAL SECTION:
q.au.                   86400   IN      A       65.22.196.1
r.au.                   86400   IN      A       65.22.197.1
s.au.                   86400   IN      A       65.22.198.1
t.au.                   86400   IN      A       65.22.199.1
q.au.                   86400   IN      AAAA    2a01:8840:be::1
r.au.                   86400   IN      AAAA    2a01:8840:bf::1
s.au.                   86400   IN      AAAA    2a01:8840:c0::1
t.au.                   86400   IN      AAAA    2a01:8840:c1::1

;; Query time: 14 msec
;; SERVER: 58.65.254.73#53(58.65.254.73)
;; WHEN: Fri Oct 11 00:15:50 AEDT 2019
;; MSG SIZE  rcvd: 275
```

4th dig: use one of the nameserver from edu.au. to dig unsw.edu.au. NS

```
weill % dig @q.au. unsw.edu.au. NS

; <<>> DiG 9.9.5-9+deb8u18-Debian <<>> @q.au. unsw.edu.au. NS
; (1 server found)
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 32557
;; flags: qr rd; QUERY: 1, ANSWER: 0, AUTHORITY: 3, ADDITIONAL: 6
;; WARNING: recursion requested but not available

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

;; AUTHORITY SECTION:
unsw.edu.au.            900     IN      NS      ns1.unsw.edu.au.
unsw.edu.au.            900     IN      NS      ns2.unsw.edu.au.
unsw.edu.au.            900     IN      NS      ns3.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: 7 msec
;; SERVER: 65.22.196.1#53(65.22.196.1)
;; WHEN: Fri Oct 11 00:18:59 AEDT 2019
;; MSG SIZE  rcvd: 198
```

5th dig: use one of the nameserver from unsw.edu.au. to dig cse.unsw.edu.au. NS

```
weill % dig @ns1.unsw.edu.au. cse.unsw.edu.au NS

; <<>> DiG 9.9.5-9+deb8u18-Debian <<>> @ns1.unsw.edu.au. cse.unsw.edu.au NS
; (1 server found)
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 65464
;; 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:
;cse.unsw.edu.au.               IN      NS

;; AUTHORITY SECTION:
cse.unsw.edu.au.        10800   IN      NS      beethoven.orchestra.cse.unsw.edu.au.
cse.unsw.edu.au.        10800   IN      NS      maestro.orchestra.cse.unsw.edu.au.

;; ADDITIONAL SECTION:
beethoven.orchestra.cse.unsw.edu.au. 10800 IN A 129.94.242.2
beethoven.orchestra.cse.unsw.edu.au. 10800 IN A 129.94.172.11
beethoven.orchestra.cse.unsw.edu.au. 10800 IN A 129.94.208.3
maestro.orchestra.cse.unsw.edu.au. 10800 IN A   129.94.242.33

;; Query time: 3 msec
;; SERVER: 129.94.0.192#53(129.94.0.192)
;; WHEN: Fri Oct 11 00:24:40 AEDT 2019
;; MSG SIZE  rcvd: 164
```

6th dig: use one of the nameserver from cse.unsw.edu.au. to dig vx1.cse.unsw.edu.au (default type A to get the IP address)

```
z5219960@vx1:/tmp_amd/reed/export/reed/3/z5219960$ dig @maestro.orchestra.cse.unsw.edu.au. vx1.cse.unsw.edu.au

; <<>> DiG 9.9.5-9+deb8u18-Debian <<>> @maestro.orchestra.cse.unsw.edu.au. vx1.cse.unsw.edu.au
; (1 server found)
;; global options: +cmd
;; Got answer:
;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 37931
;; flags: qr aa rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 2, ADDITIONAL: 3

;; OPT PSEUDOSECTION:
; EDNS: version: 0, flags:; udp: 4096
;; QUESTION SECTION:
;vx1.cse.unsw.edu.au.           IN      A

;; ANSWER SECTION:
vx1.cse.unsw.edu.au.    3600    IN      A       129.94.242.114

;; AUTHORITY SECTION:
cse.unsw.edu.au.        3600    IN      NS      maestro.orchestra.cse.unsw.edu.au.
cse.unsw.edu.au.        3600    IN      NS      beethoven.orchestra.cse.unsw.edu.au.

;; ADDITIONAL SECTION:
maestro.orchestra.cse.unsw.edu.au. 3600 IN A    129.94.242.33
beethoven.orchestra.cse.unsw.edu.au. 3600 IN A  129.94.242.2

;; Query time: 0 msec
;; SERVER: 129.94.242.33#53(129.94.242.33)
;; WHEN: Fri Oct 11 00:40:11 AEDT 2019
;; MSG SIZE  rcvd: 152
```

To sum up, it took 6 steps to get an authoritative answer (aa flag).

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

Ans:

Yes, one physical machine could have several names or IP addresses.

IP address is associated with Lan port and not the computer itself.

For example, normal laptop could have an ethernet port and a WIFI port.

Thus, it could have 2 IP addresses.

As long as the names are registered to DNS server, a physical machine could have several names by just adding an additional type A record into the DNS server.