

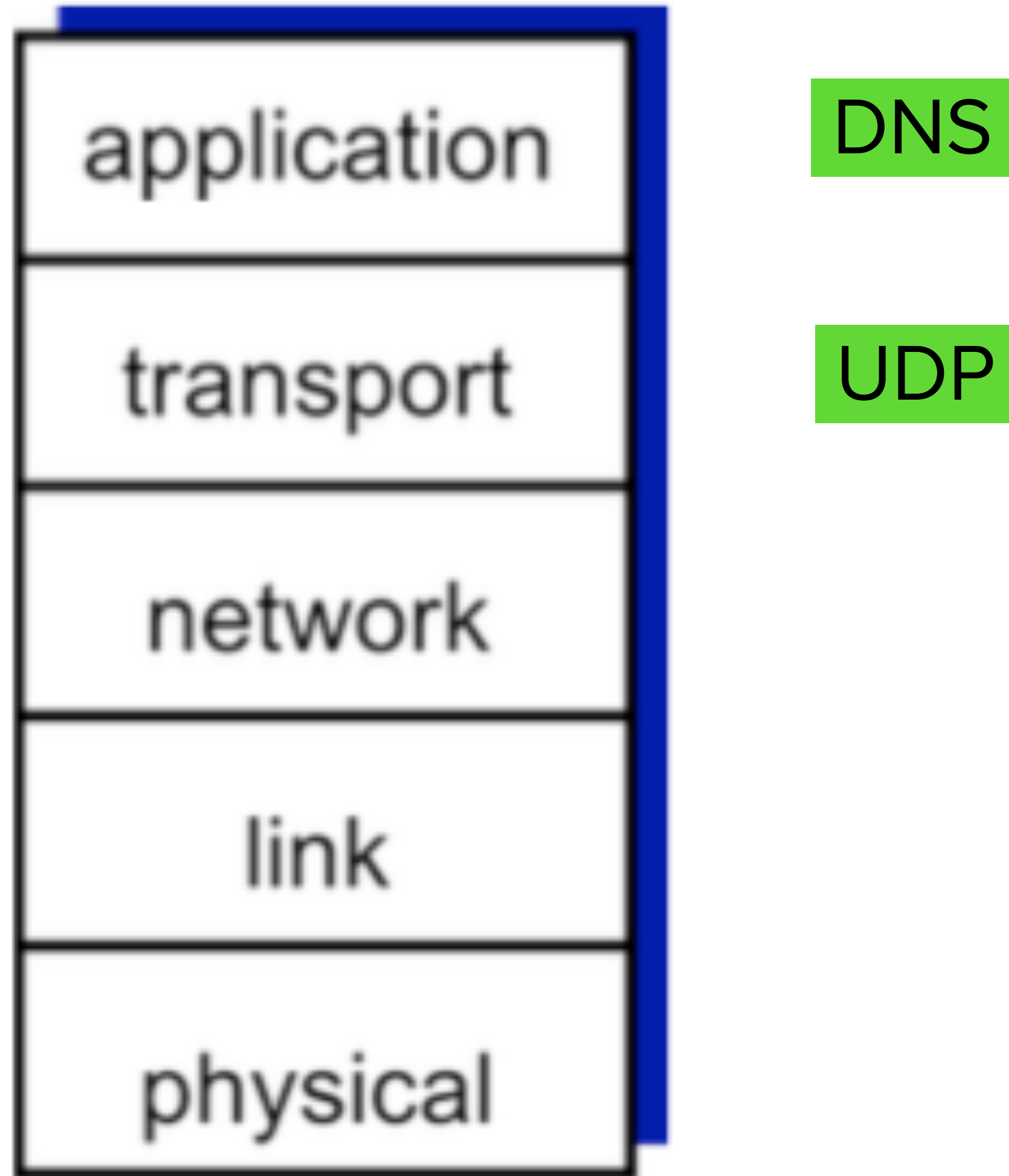
Networks

Lab4 - DNS protocol

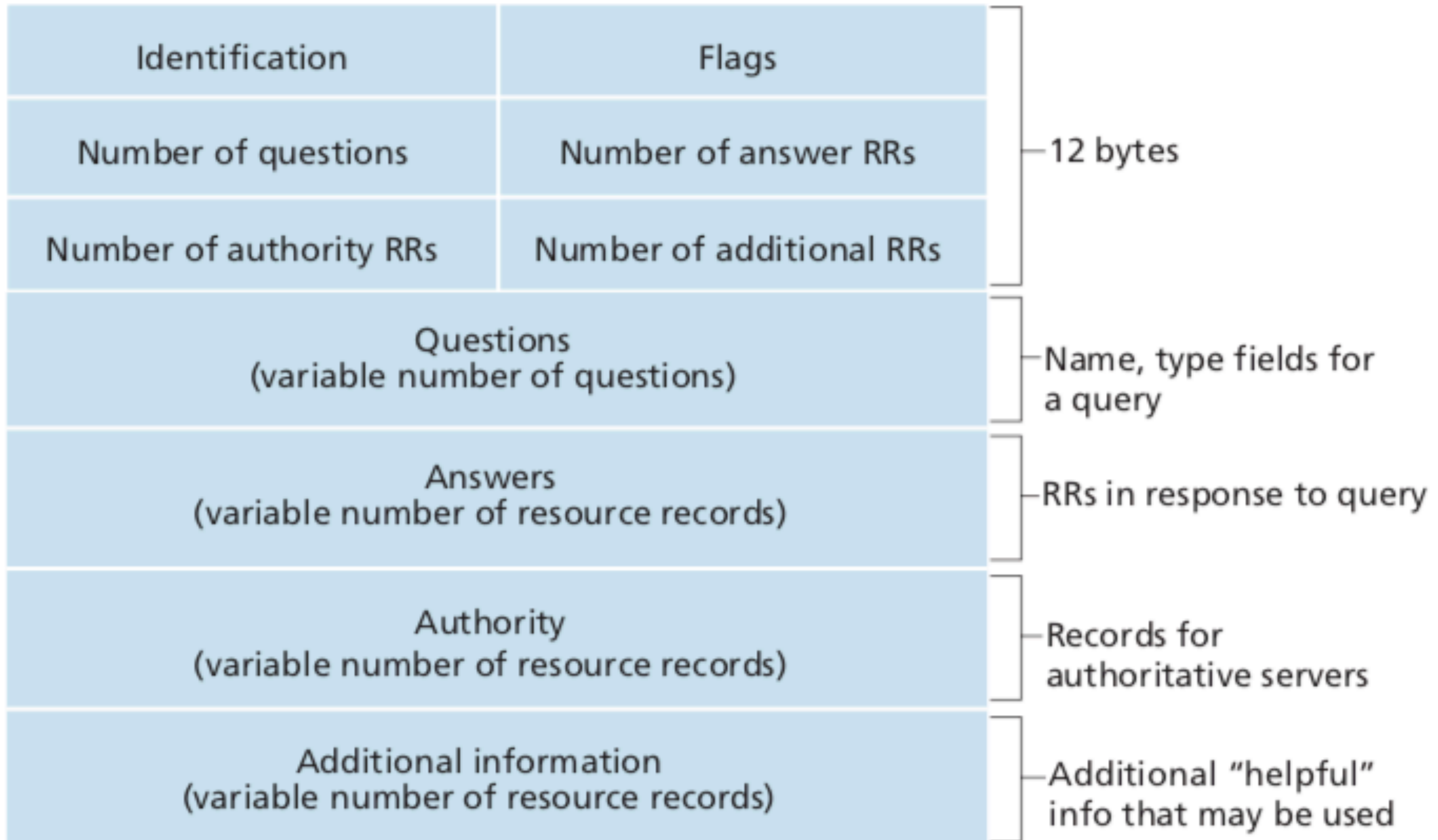
Lab goal:

- 1 - Explore DNS protocol
- 2 - Compare DNS recursive and iterative approaches

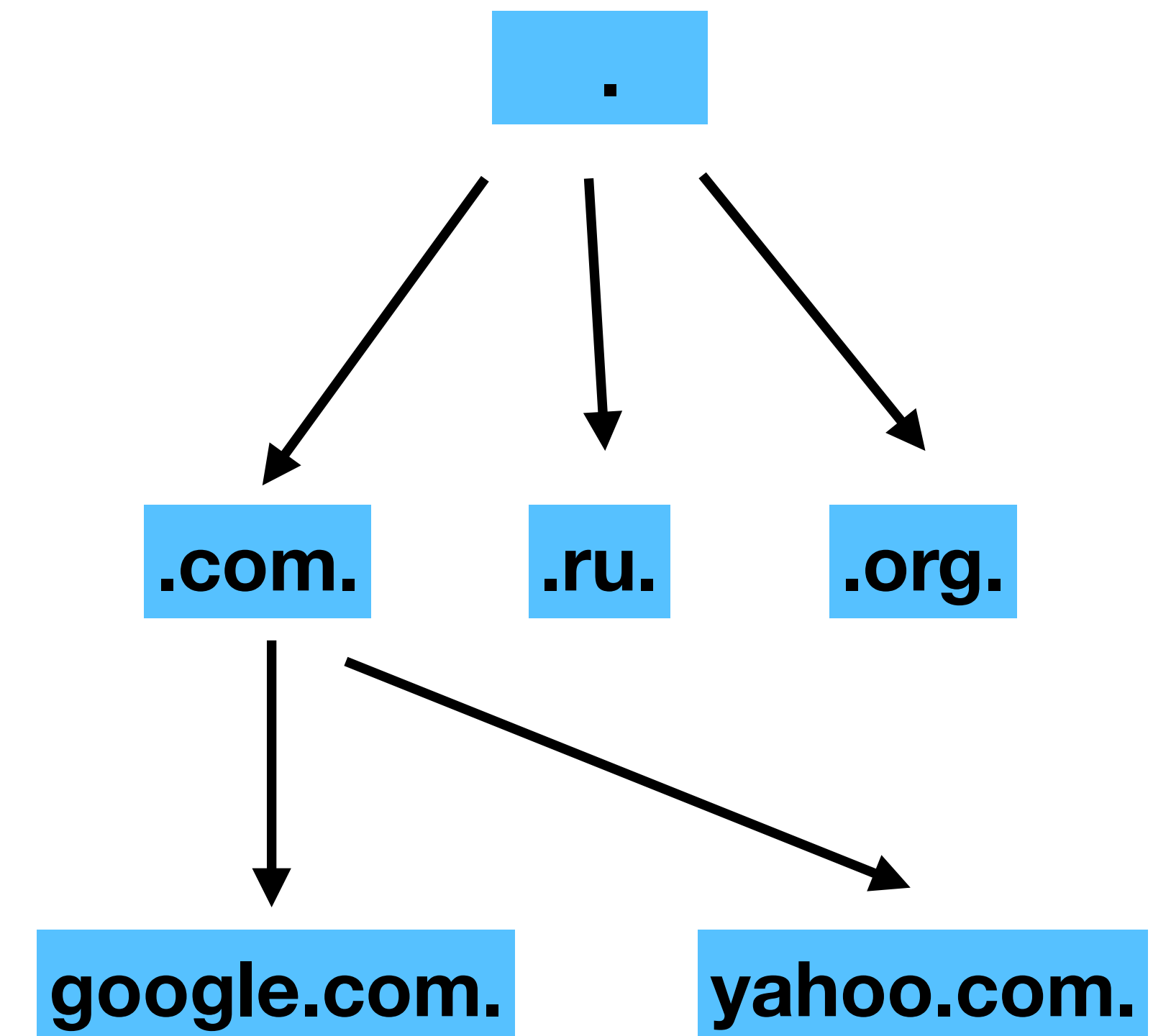
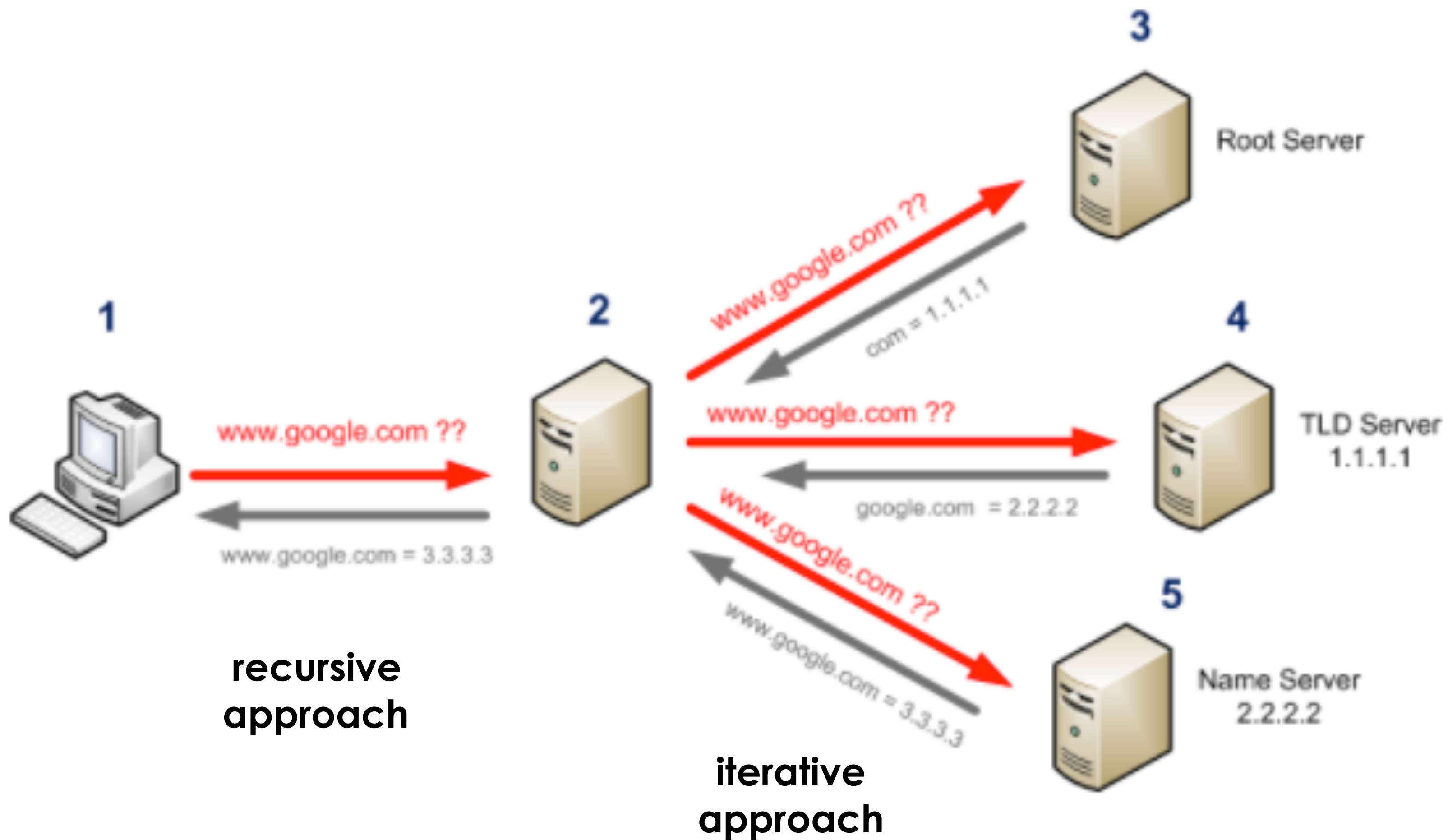
TCP/IP stack



DNS message format

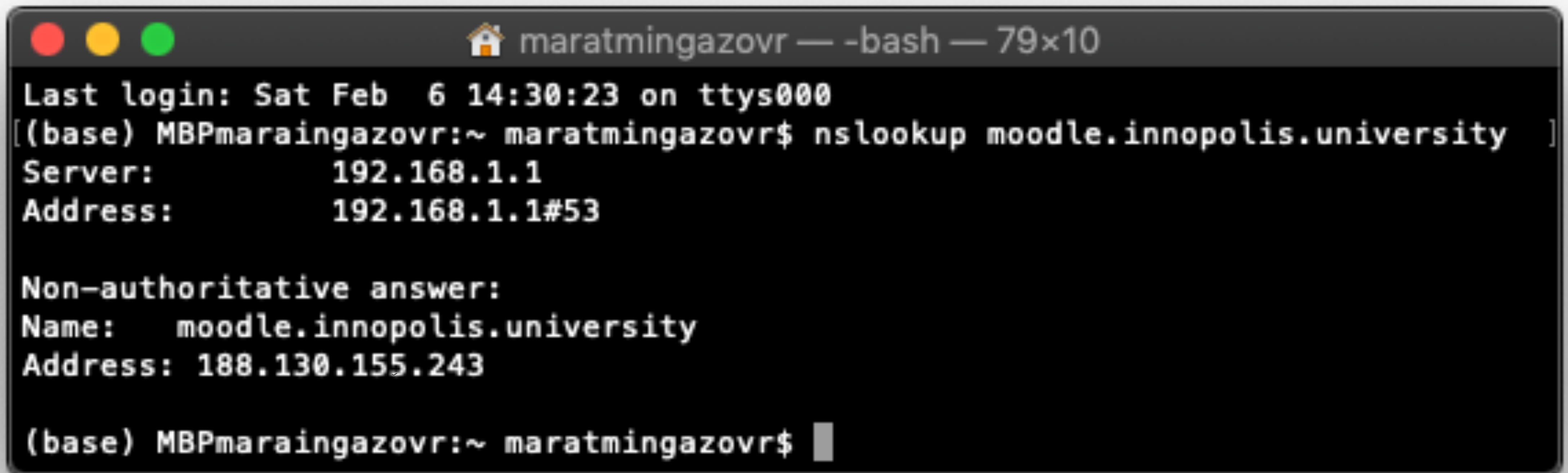


DNS - Domain Name System



NSLOOKUP

nslookup (from *name server lookup*) is a [network administration command-line](#) tool for querying the [Domain Name System](#) (DNS) to obtain [domain name](#) or [IP address](#) mapping, or other [DNS records](#).

A terminal window with a dark background and light gray text. The window title bar shows a home icon, the username 'maratmingazovr', and the shell '-bash' with window dimensions '79x10'. The terminal content shows the last login time, the command 'nslookup moodle.innopolis.university' being executed, and the resulting output: 'Server: 192.168.1.1', 'Address: 192.168.1.1#53', and a 'Non-authoritative answer:' section with 'Name: moodle.innopolis.university' and 'Address: 188.130.155.243'. The prompt '(base) MBPmaraingazovr:~ maratmingazovr\$' is visible at the bottom.

```
maratmingazovr — -bash — 79x10
Last login: Sat Feb  6 14:30:23 on ttys000
(base) MBPmaraingazovr:~ maratmingazovr$ nslookup moodle.innopolis.university
Server:          192.168.1.1
Address:         192.168.1.1#53

Non-authoritative answer:
Name:   moodle.innopolis.university
Address: 188.130.155.243

(base) MBPmaraingazovr:~ maratmingazovr$
```


Task. Find moodle.innopolis.university ip address using dns iterative approach

- 1) Find the root DNS servers
- 2) Find the ip address of root DNS server
- 3) Ask root DNS server to provide us ip address of moodle.innopolis.university
- 4) Find the ip address of .university DNS server
- 5) Ask .university DNS server to provide us ip address of moodle.innopolis.university
- 6) Find the ip address of innopolis.university DNS server
- 7) Ask innopolis.university DNS server to provide us ip address of moodle.innopolis.university

Links:

<https://www.cloudns.net/blog/10-most-used-nslookup-commands/>

<https://www.fir3net.com/Networking/Protocols/dns-nslookup-how-to-find-the-root-servers.html>