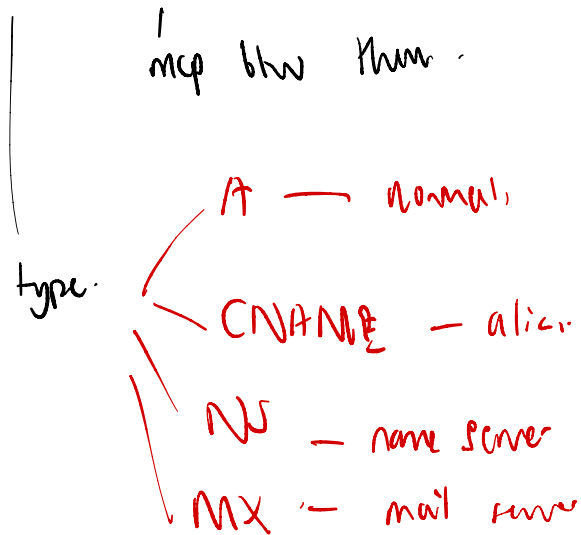


Lecture 3.

DNS - Domain Name System



Store in Reverse Record RR -



group of DNS servers - a lot of RRs.

3 layers

↳ root

↳ TLD - top level domain

↳ authoritative servers.

DNS server of company/institution

Standard:
(trace)

Client → Root → TLD → authoritative → answer

|
choose |
to contact

|
choose |

|
choose |

"Time consuming"



Shortcut?

Local DNS server. ⇒ get answer very fast.

eg. ISP, NW.

DNS caching



store mapping in local DB.

have expiry date (TTL).

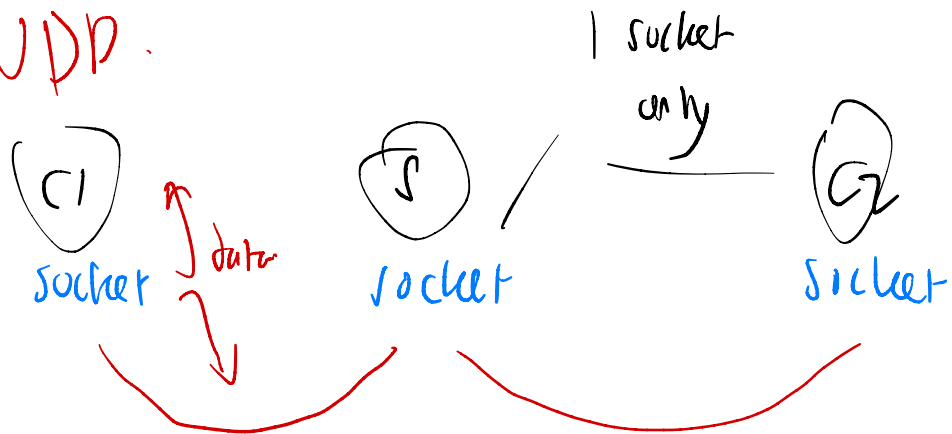
Local caching.

eg. Chrome Browser. ⇒ faster.

Socket Programming.

- send & receive messages b/w application & transport
- TCP socket → TCP Protocol. reliable (auto-recover lost data).
- UDP socket → UDP protocol. unreliable.

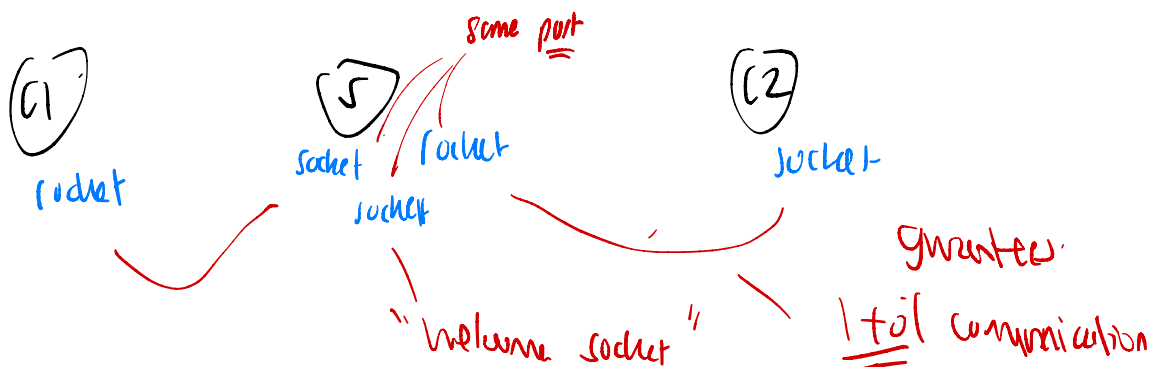
UDP.



→ socket as API. (hidden underlying details).

TCP.

↳ each connection will create new socket at server side.



TCP ensures data integrity = reliable comm
= 1 to 1 comm.

- = Count packets / trace packets that are lost
- = ability to retransmit lost packets.

python API

sock_DGRAM \Rightarrow UDP.

.recvfrom().

sock_STREAM.

.recv(), .accept().

.send().

Similar

but different

new 1-to-1 connection

Starting across languages

persistent \rightarrow one TCP is reused.

non-persistent \rightarrow multiple TCP connection.

\rightarrow will be closed.

\rightarrow brand new TCP will be created.

1 HTML 3IMG

60 x HTTP 1.0

→ 4 objects.

↓
240 sockets.

60 x HTTP 1.1

→ 1 TCP connection.

↓
60 sockets.

300

+

1

welcome racket.