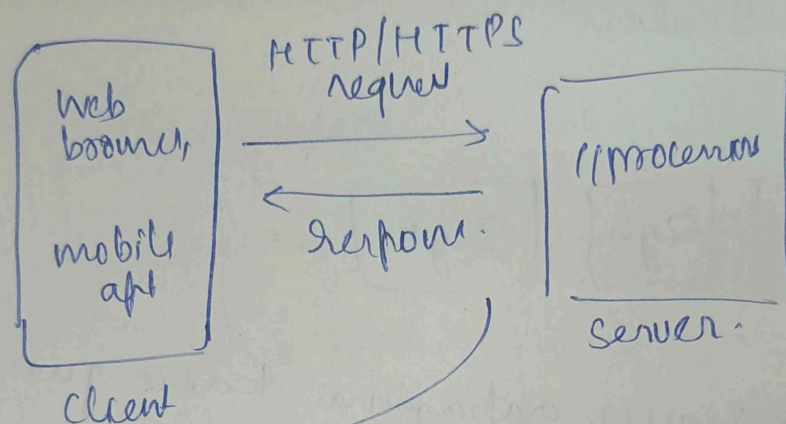


Introduction to HLD

Application Architecture

- ↳ Tech Stack (MERN, Springboot, Django etc)
- ↳ Cost Optimization.
- ↳ Database (SQL, NoSQL, GraphQL, Column etc)
- ↳ Scalability (thousand to millions of users)



"request-response model"

"client-server model"

→ Iska RAM, Processing Power kabhi na kabhi to max out hojayege.

To jab aag server ko sath mai use krte h use distributed server krte h.

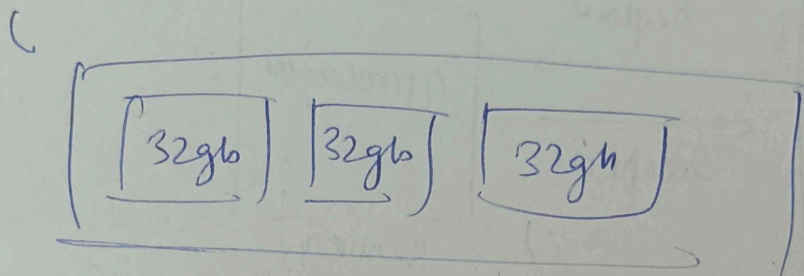
Horizontal Scaling v/s Vertical Scaling

Cons Server ki RAM enough ni h.

32gb \rightarrow 64gb \rightarrow ↑

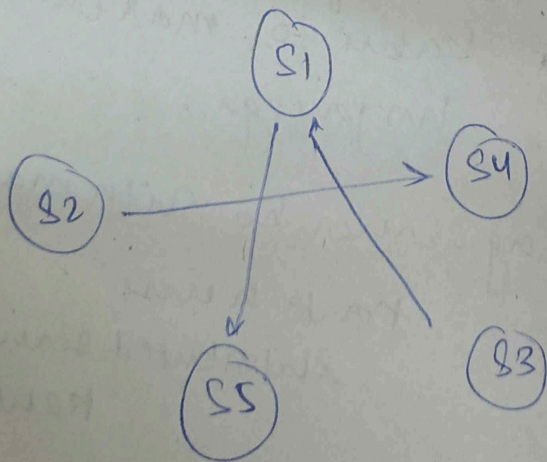
Ye hota h Vertical Scaling.

Horizontal Scaling



lekin ye server apas mai kaise jure honge?

NOOPS



"Data Integrity"

Distributed system
se scaling to aacha
h, lekin use
system complex
hojata h.

Network Communication

→ Rules that Client and Server follow for communication.

NW Protocols (RULES)

OSI model (7 layer) → Yaha humlog 2 pe jayda dhyan deng.

Application → (HTTP, HTTPS, FTP, SFTP, SMTP, WebRTC, WebSockets)

presentation

Session

Transport → (TCP, UDP)

Network

A

Application Layer

HTTP + Security = HTTPS

FTP → File Transfer Protocol

SFTP → Secured FTP

SMTP → Simple Mail Transfer Protocol

POP3/IMAP → for mail receiving

TCP → for reliable communication