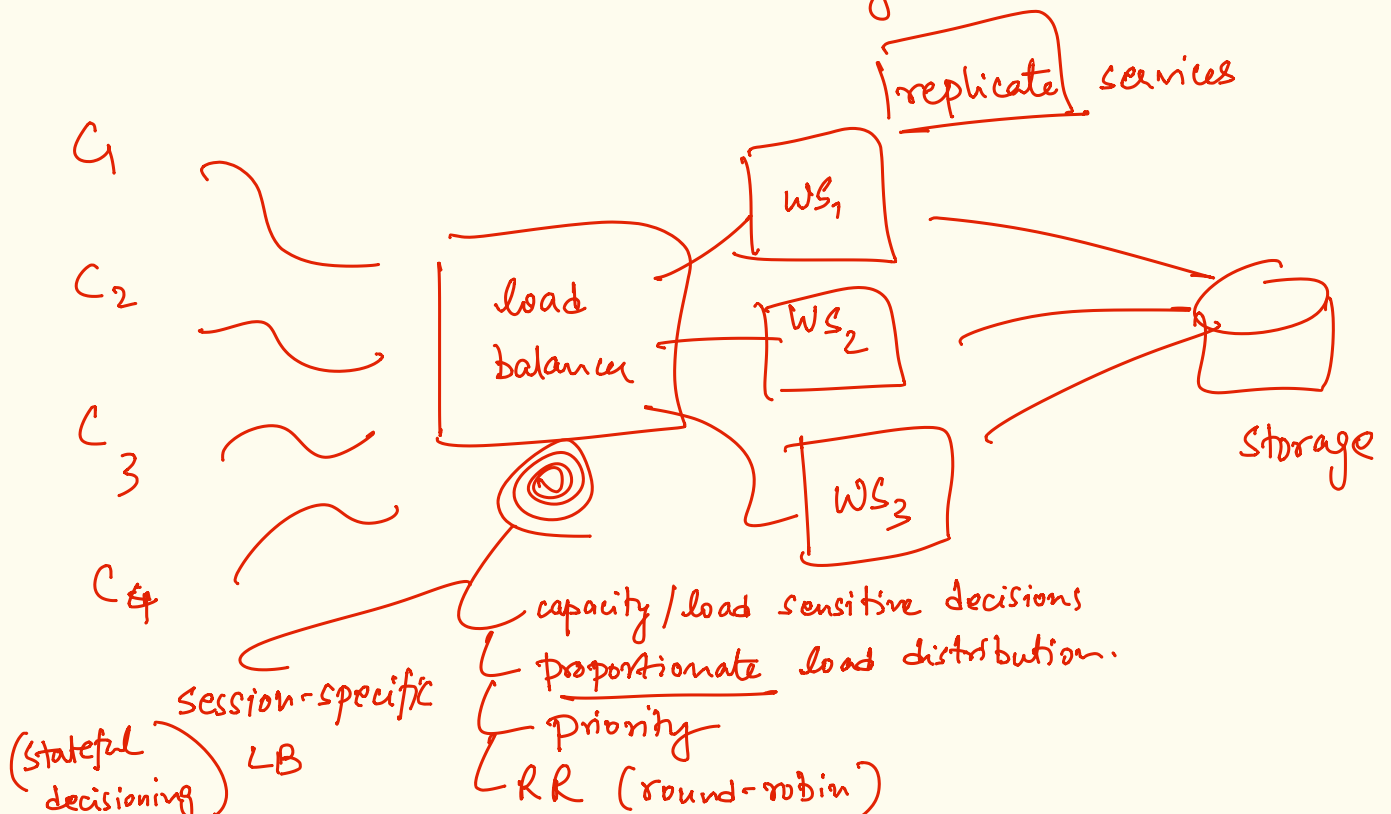
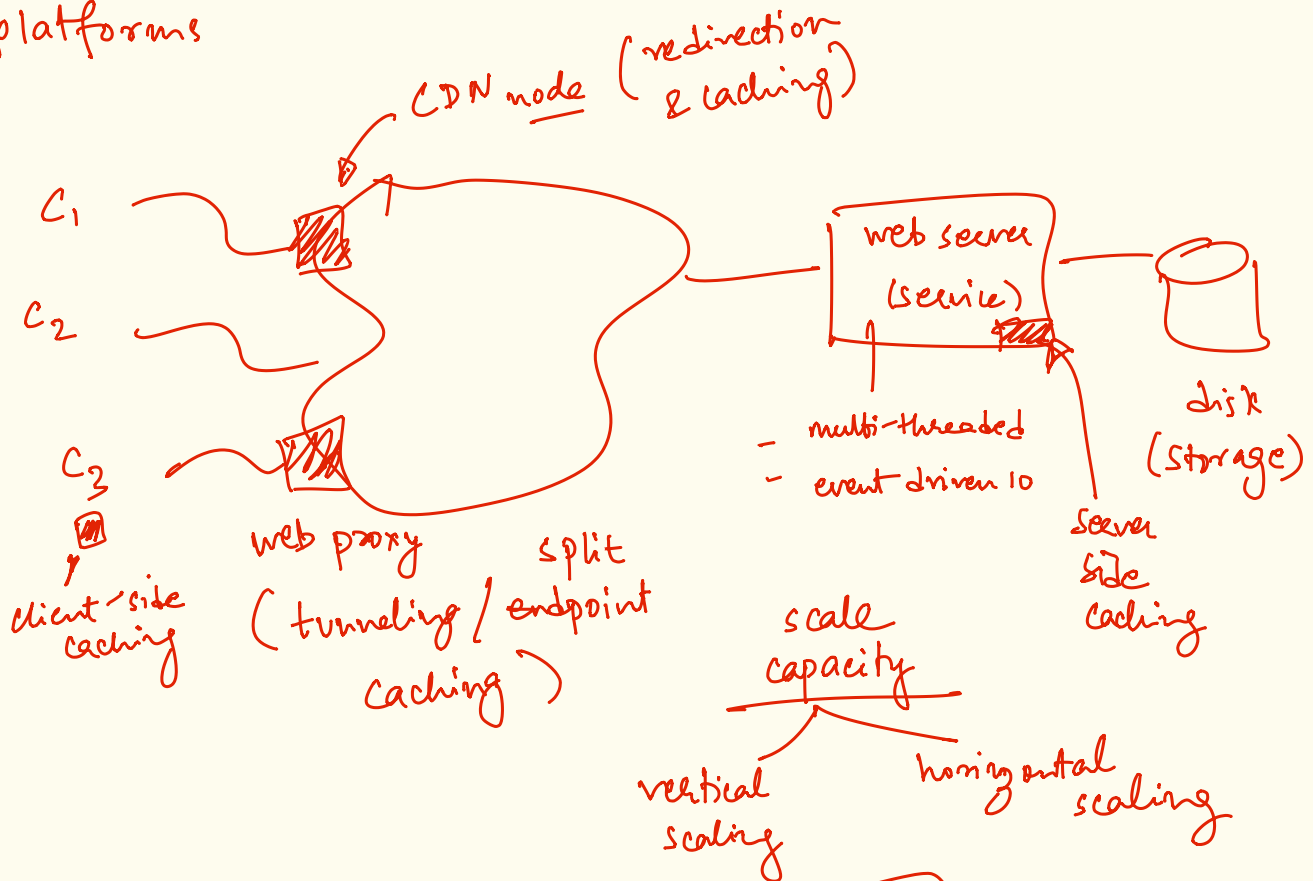


principles/examples of distributed systems.

examples of distributed

- web services
- OS abstractions
- platforms

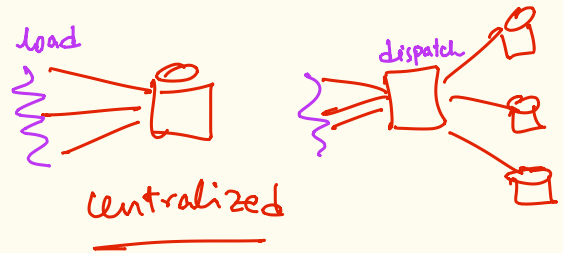


storage — performance — correctness.
 — reliability

④ W/w & s/w based mechanism

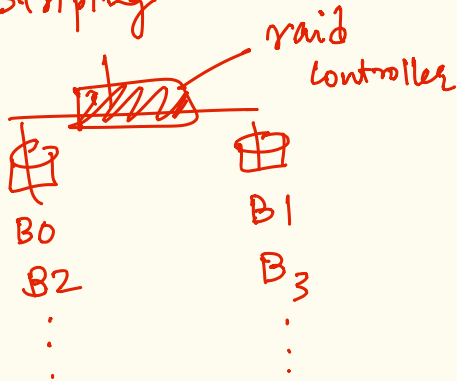
✓ RAID ~

- redundancy
- striping (partitioning)



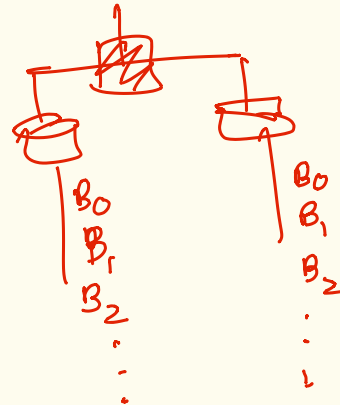
RAID 0 (performance)

striping

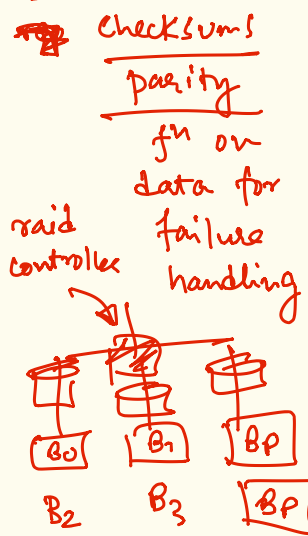


RAID 1

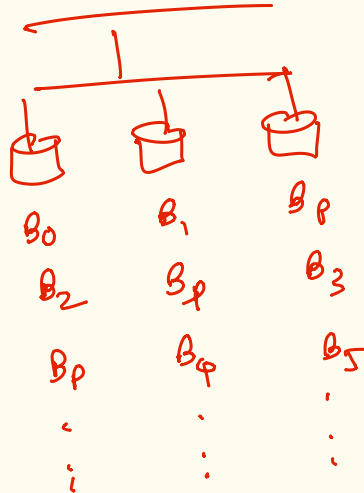
data replication



RAID 4



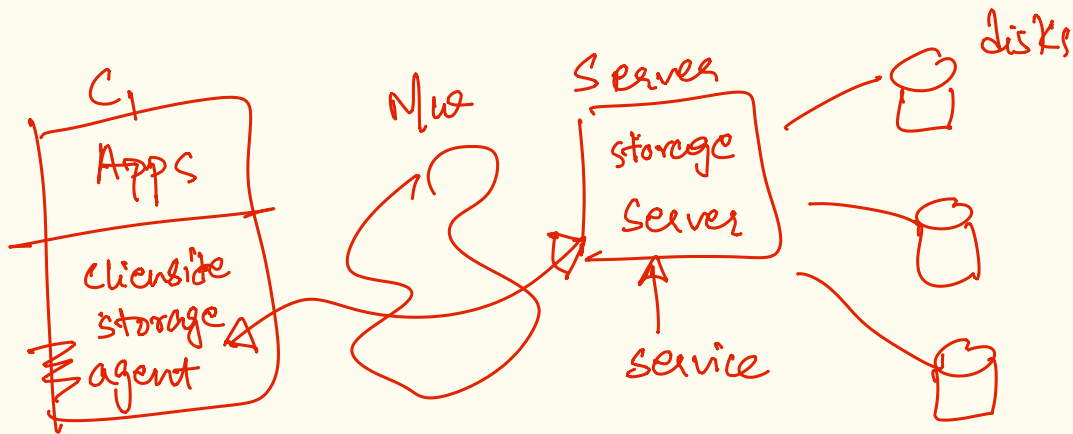
RAID 5



(ii) DFS ~ distributed file system.

└ maintain the file IO interface

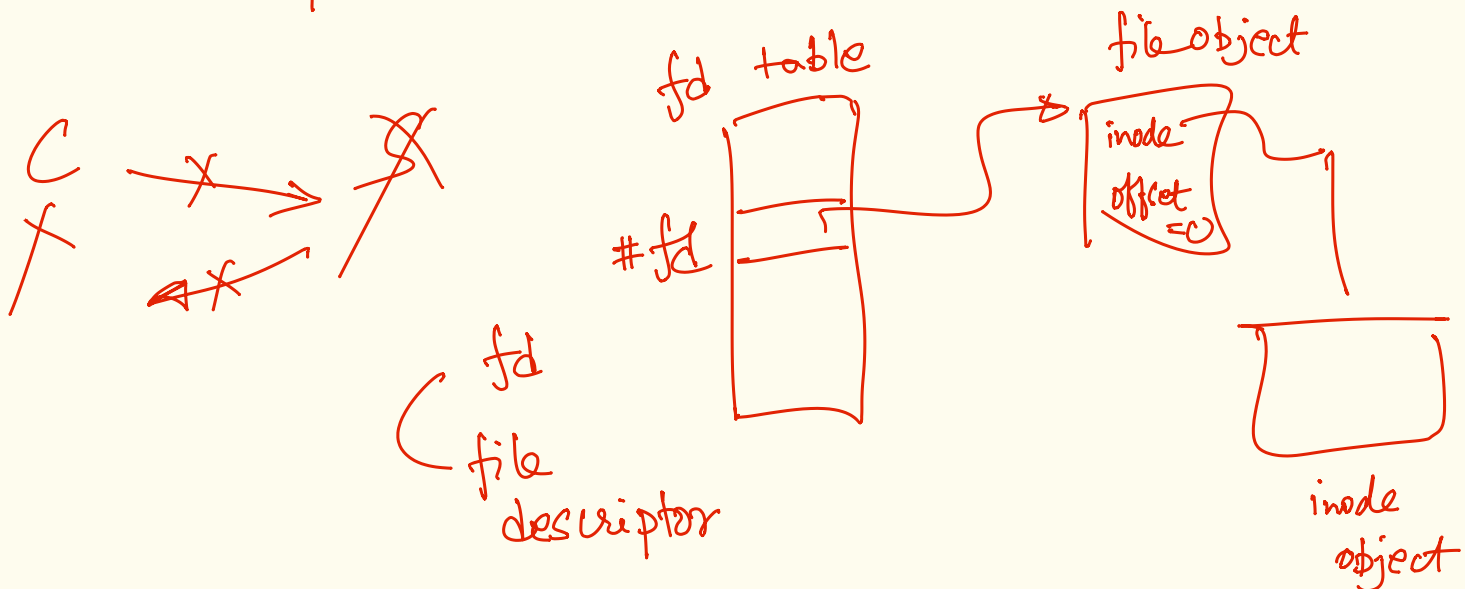
└ & manage files / storage ^{for} ~~on~~ distributed & shared usage



`fd = open(path, flags...)`

`read(fd, buf, size)`

① Dr ~ hijack call at client
~ execute call on server
~ pass response to client.



NFS ~ example of DFS w/ stateless
network file system Server.

① fd = open(path, flags);

↙ nfs primitive
fh = lookup(root FH, path);

- allocate fd
- store filehandle (fh) as part of fd
- set offset = 0
- return fd

} Client

② read(fd, buf, size)

- }
- use fd to find fh

~ READ(fh, offset, size) ~~is~~ nfs
n/w call

~ read response (from n/w)

~ store in buf

~ increment offset

~ return # bytes read/recvd.