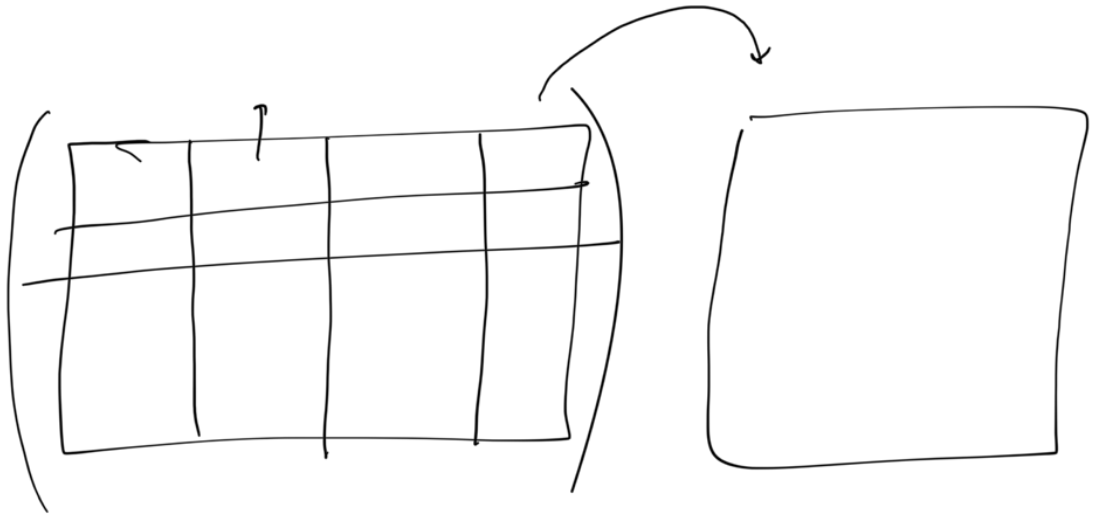


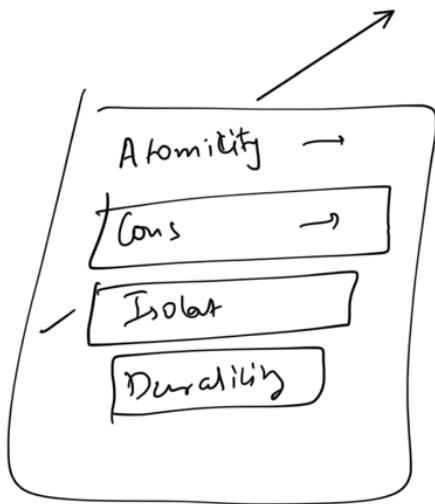
RDBMS

Relational Database

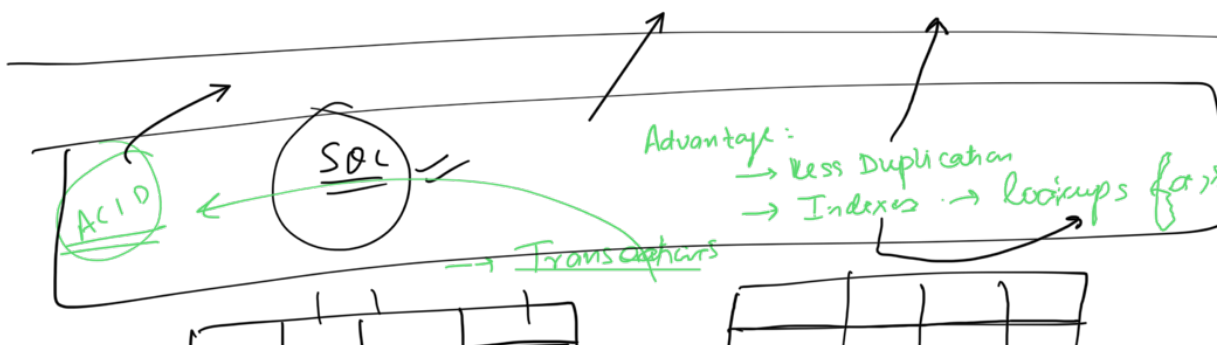
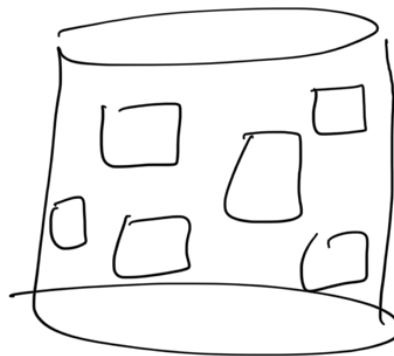


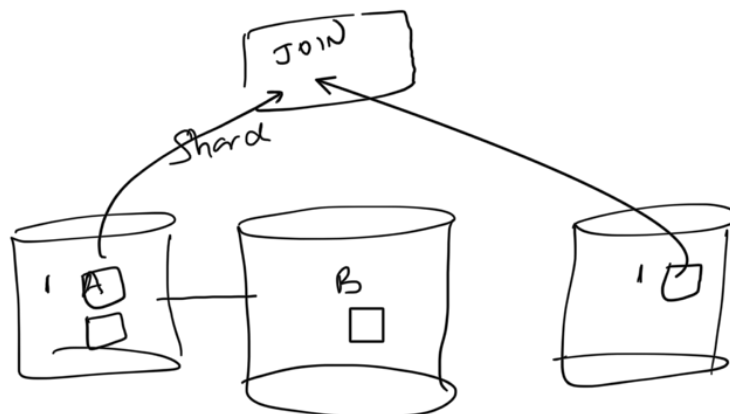
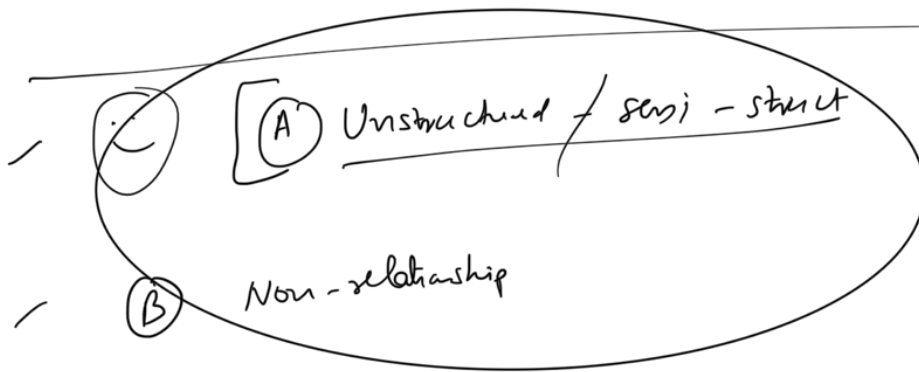
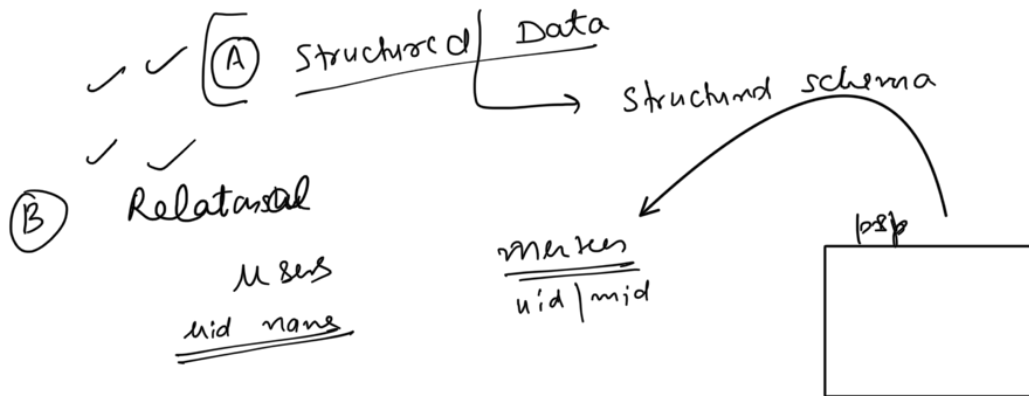
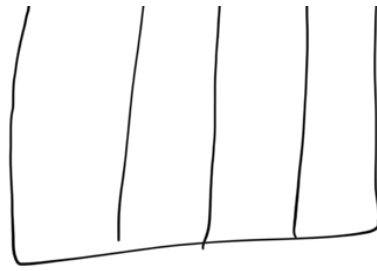
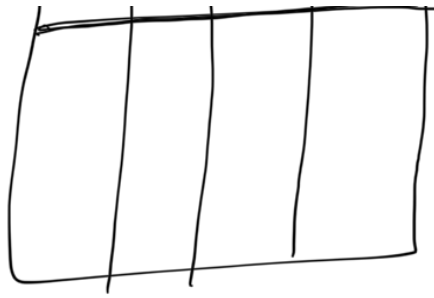
normalization

ACID



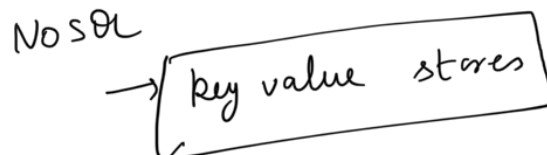
CAP





Facebook

→ Laws of S.D | Tradeoffs

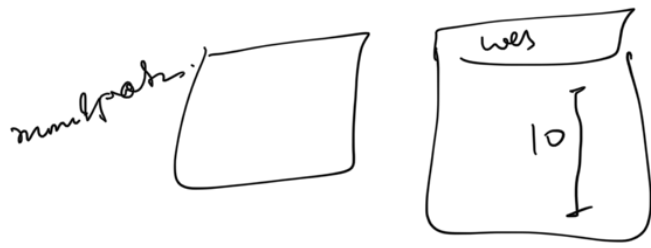
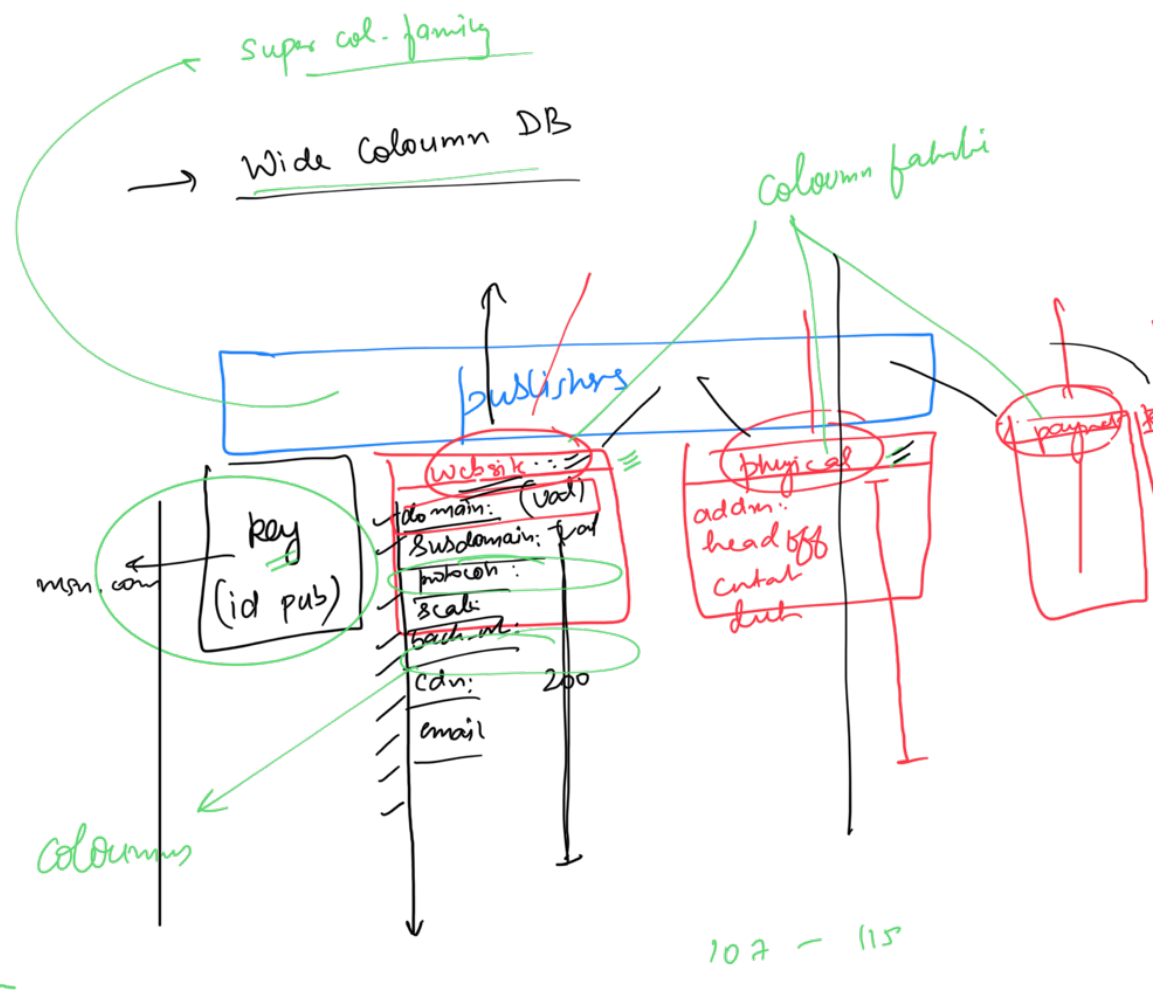
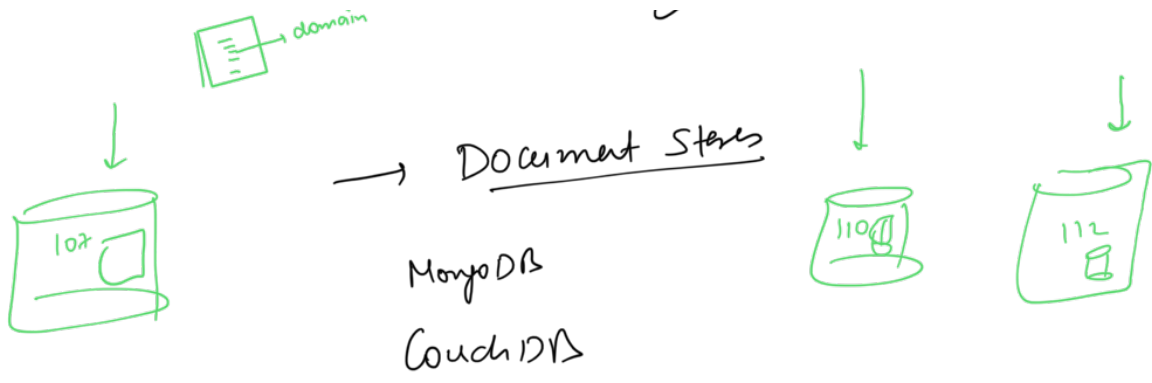


Item cached

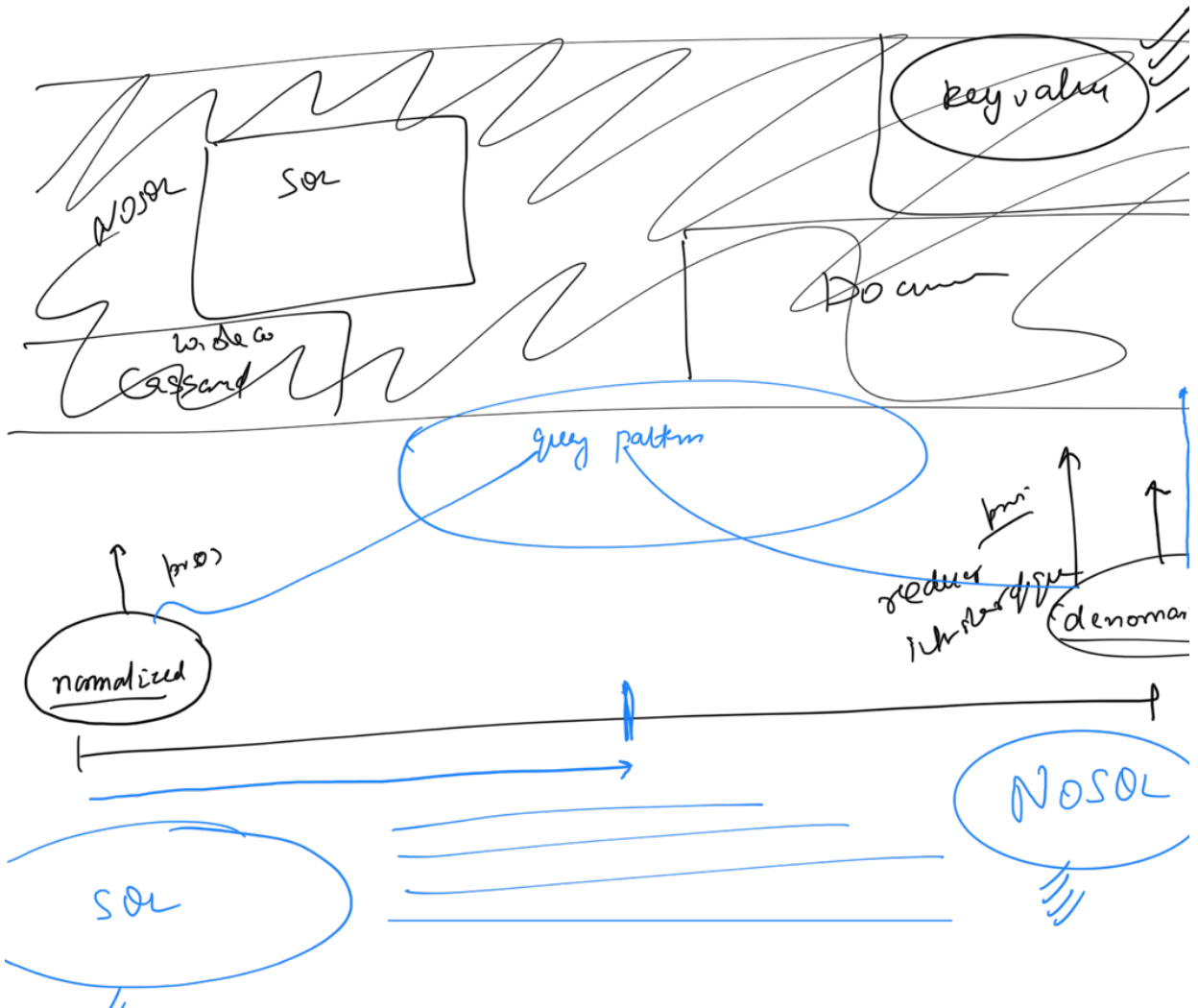
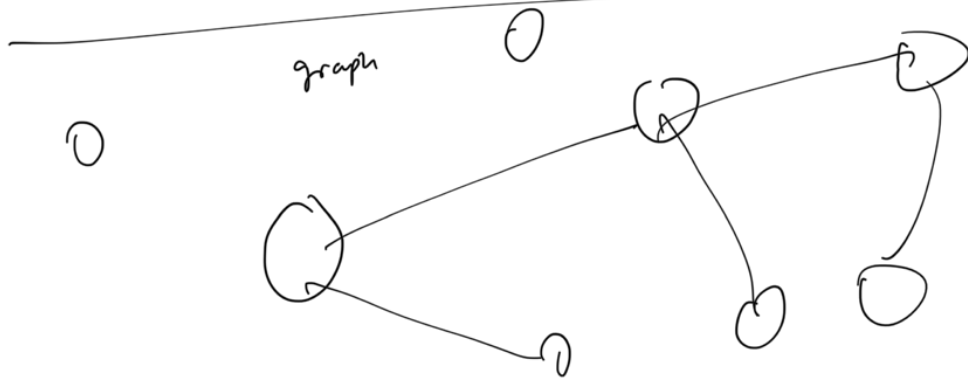
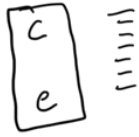
~ Ayushh

user-blankid - 107

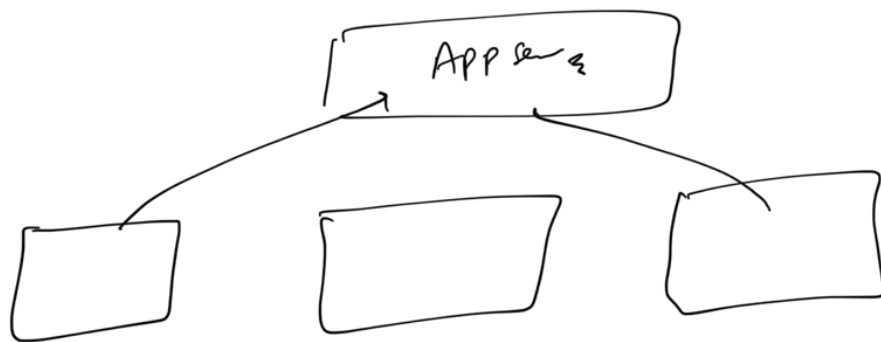
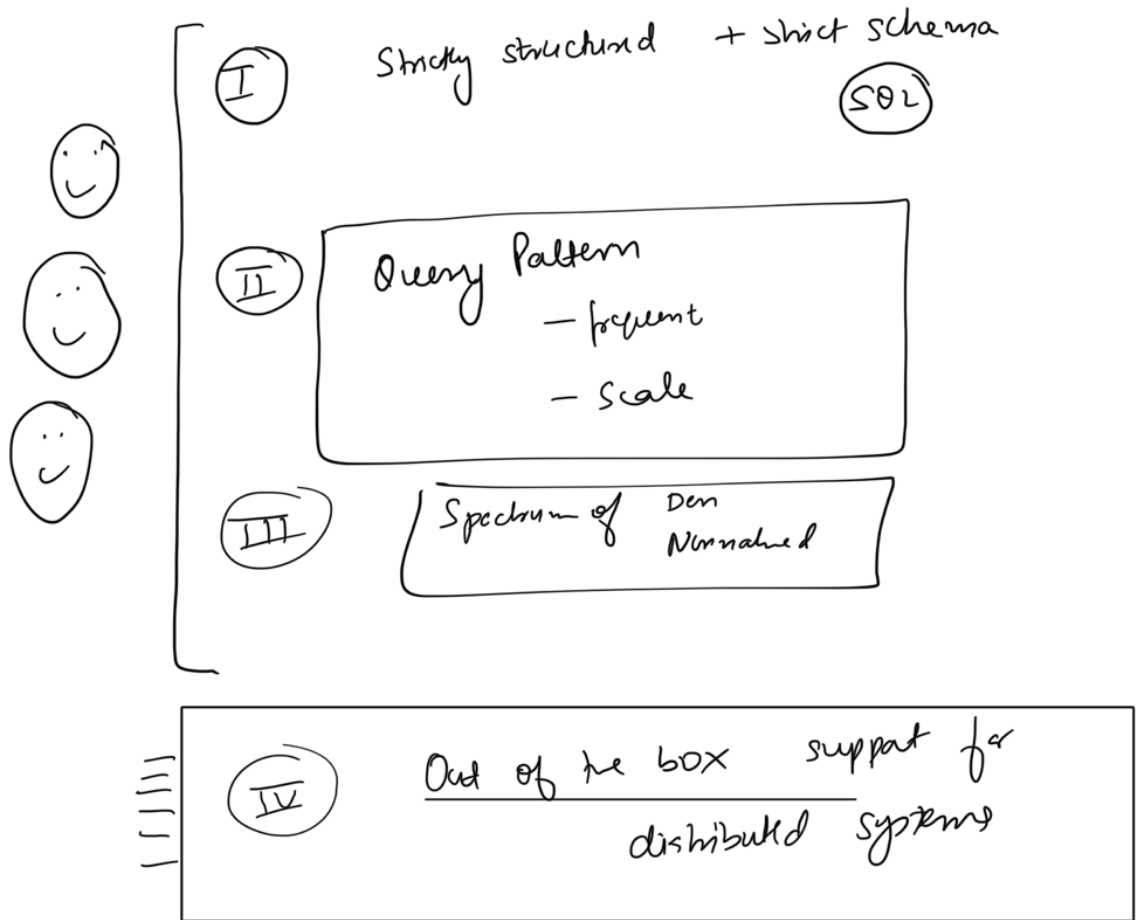
"BITS &"



Cassandra shards data on lexicographic order of key



4





Redis

- cache ✓

- database (NO SQL) = (key-value)

- message broker

in-memory

RAM



secondary storage

key value store

key value

Redis
data structures

pros - cons

ROBMS

pros: ① fast accen
② fast updates

cons: ① durable
② low amount of data
③ ~~??~~

key-value

C

CB

12895

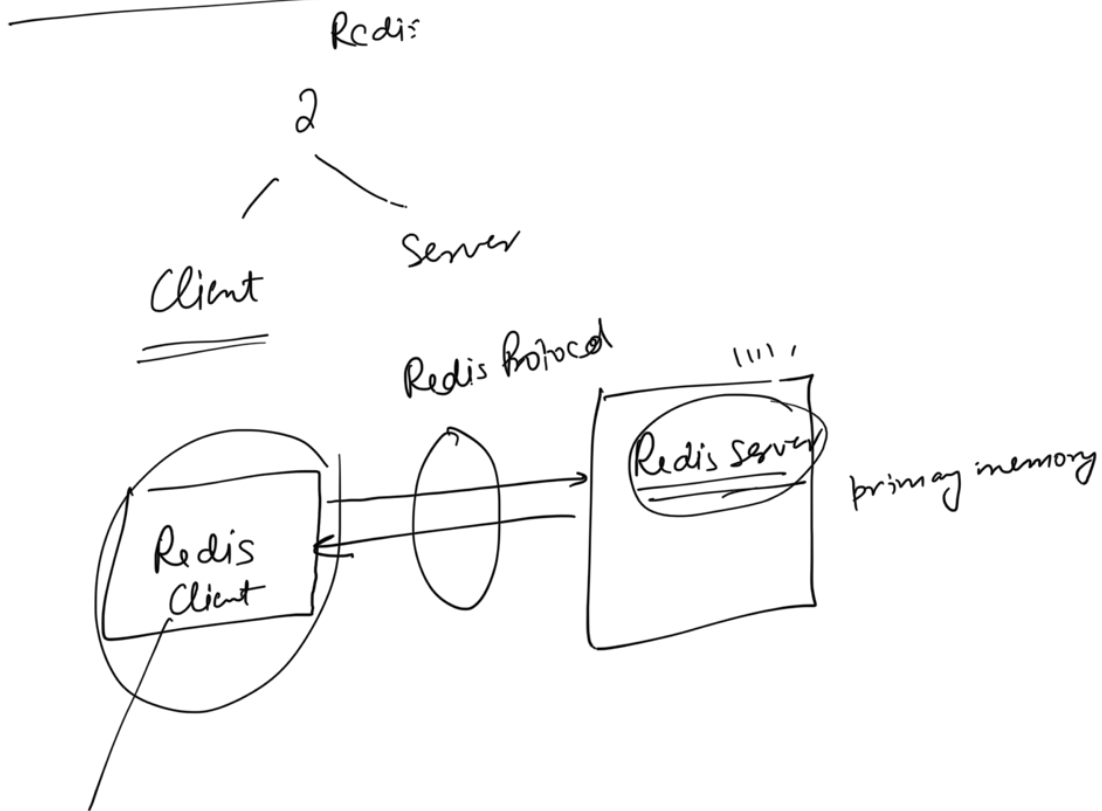
use case

11.11.18

X

→ large file size

text ≡
(modified)



Console ≡

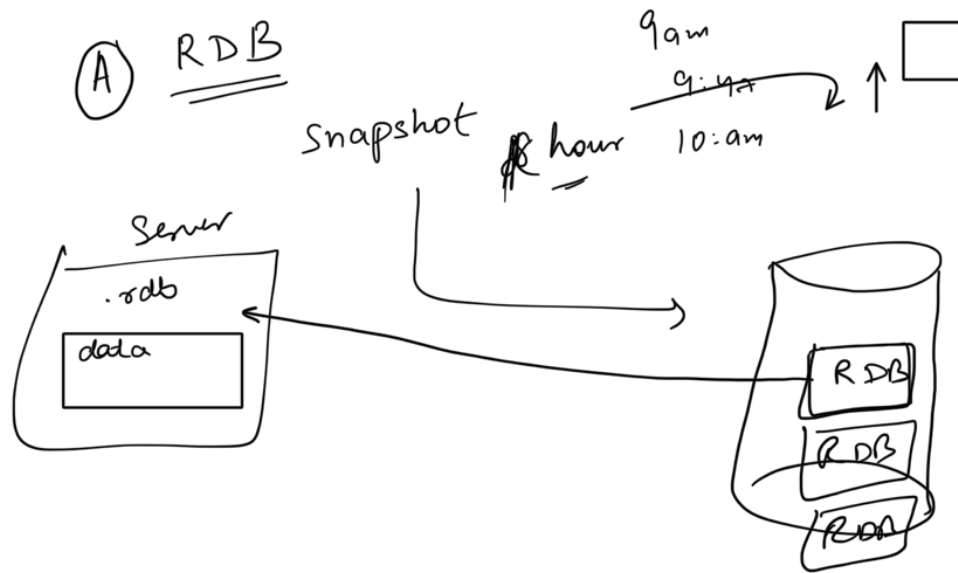
API ≡

Durability ≡ Persistence

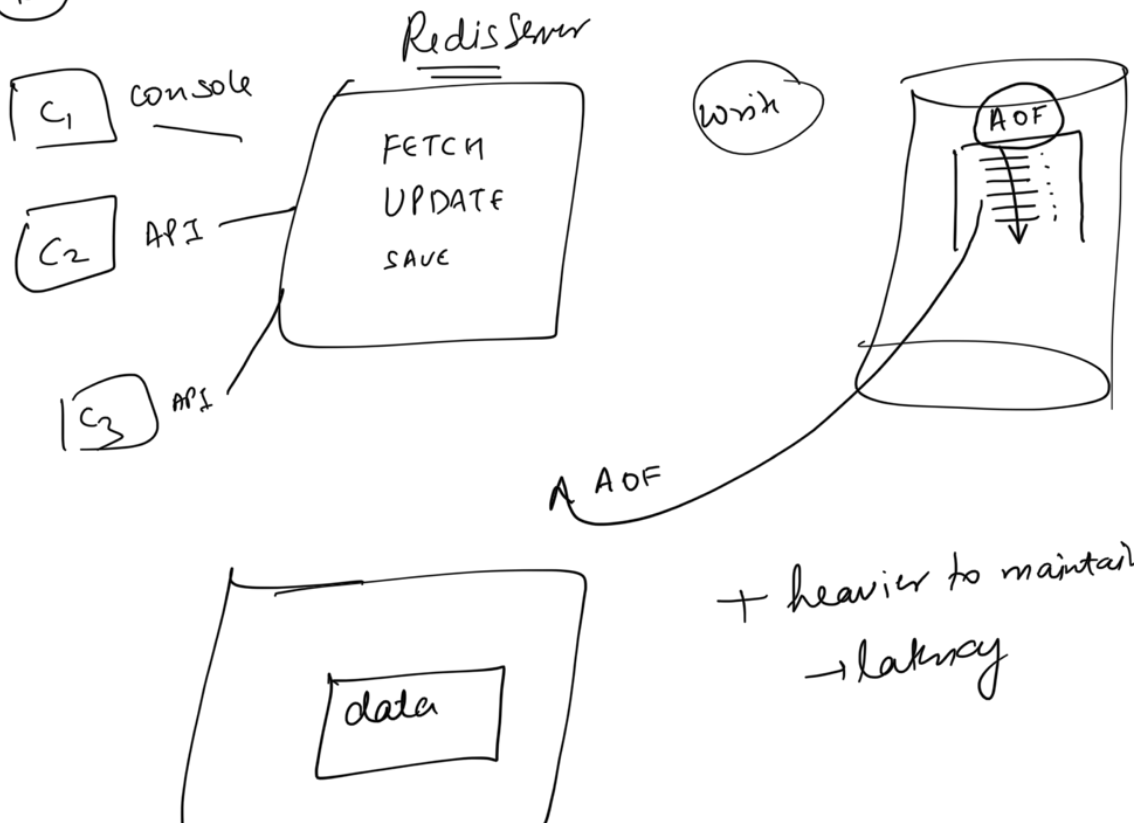
All computations / Live access
live storage

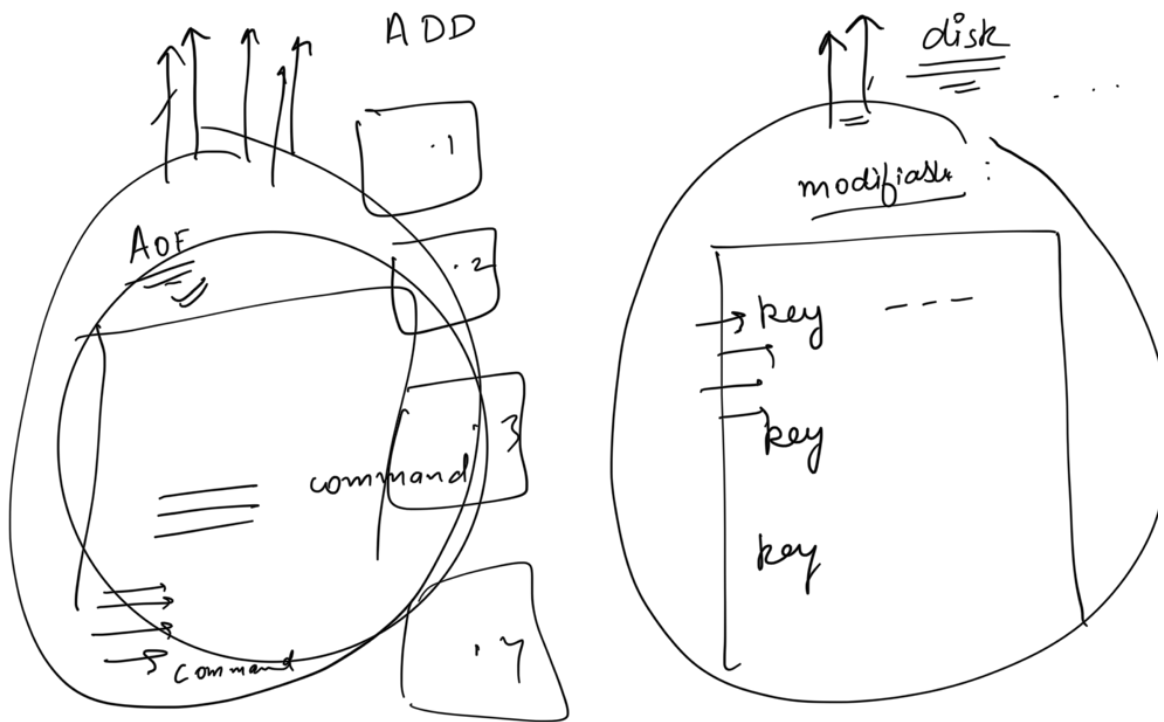
(Redis Server) → in-memory

(A) RDB



(B) AOF (Append only) File





Redis in the background, ~~but~~ re-writes the log file



SET + 700



SET + 700

RDB + AOF

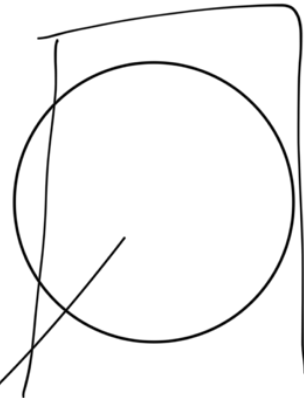
backup ↓

9pm

AOF



10pm



RDB



backups

FORK()



RDB

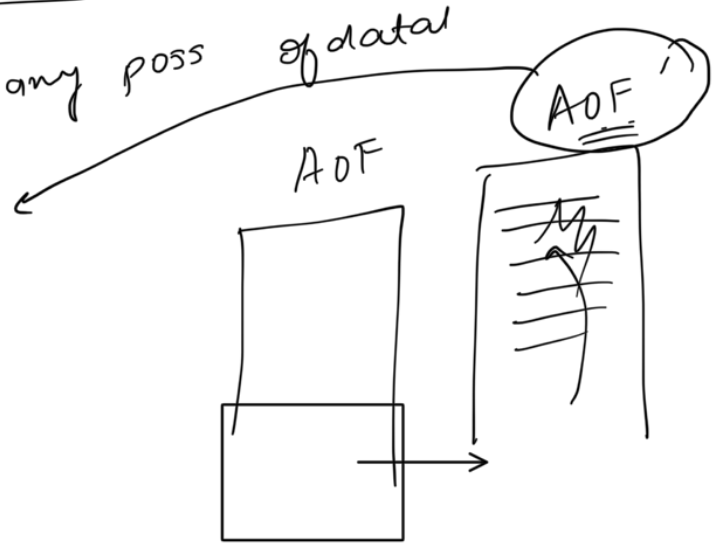
parent Redis process is
NOT doing

↑↑↑↑
I/O
and N/W

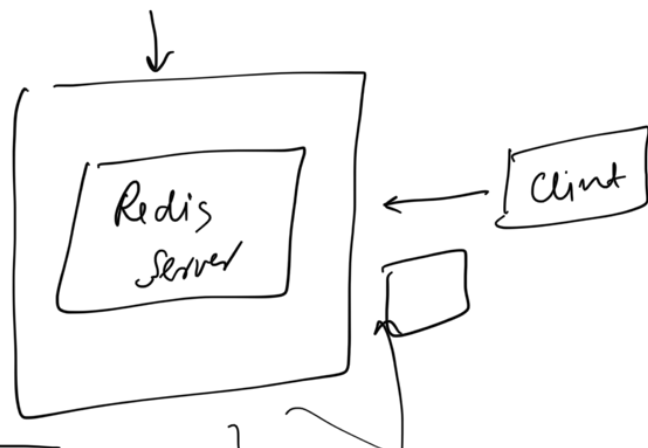
AOF

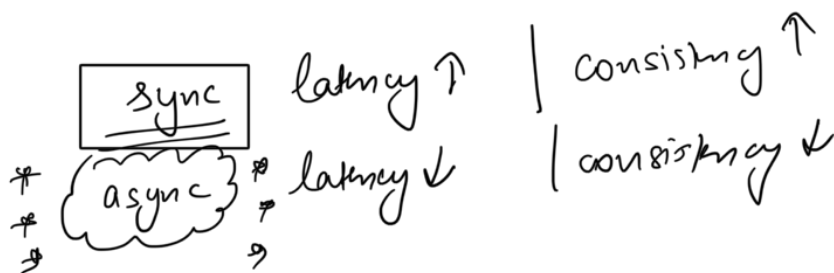
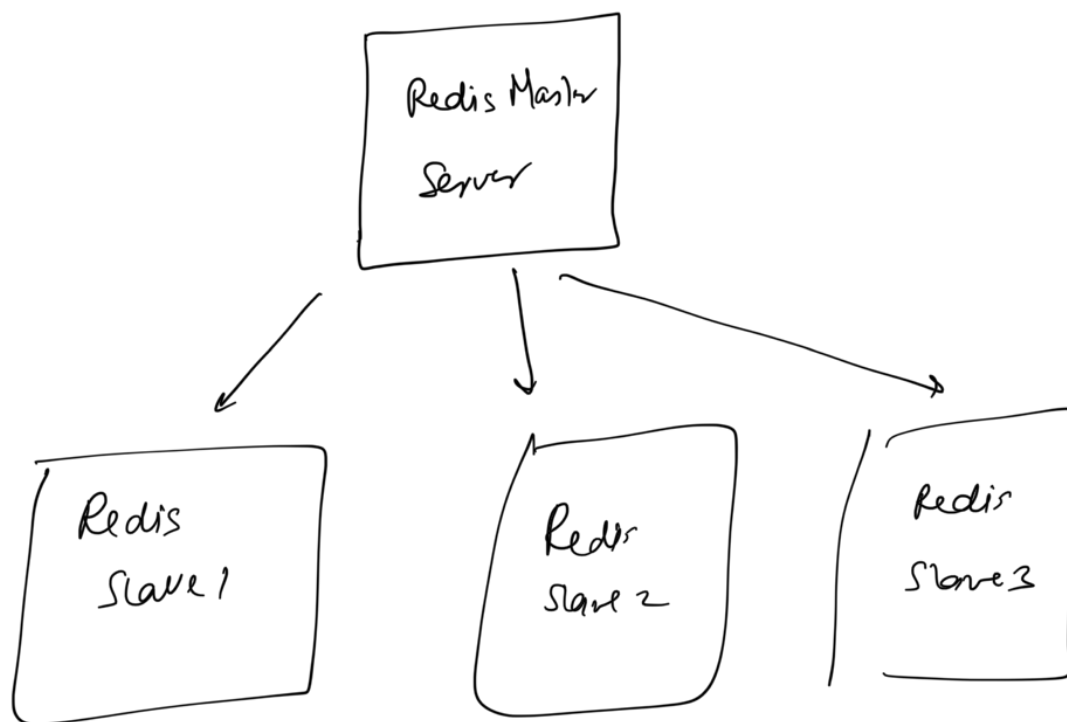
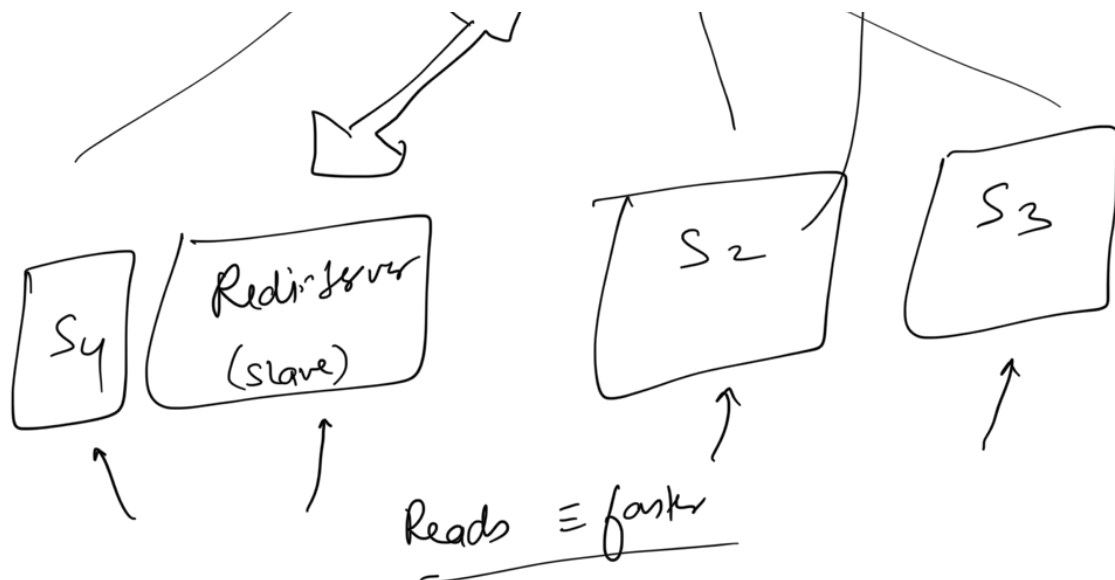
REWRITE

don't have any poss of data



Redis M-S
Replication

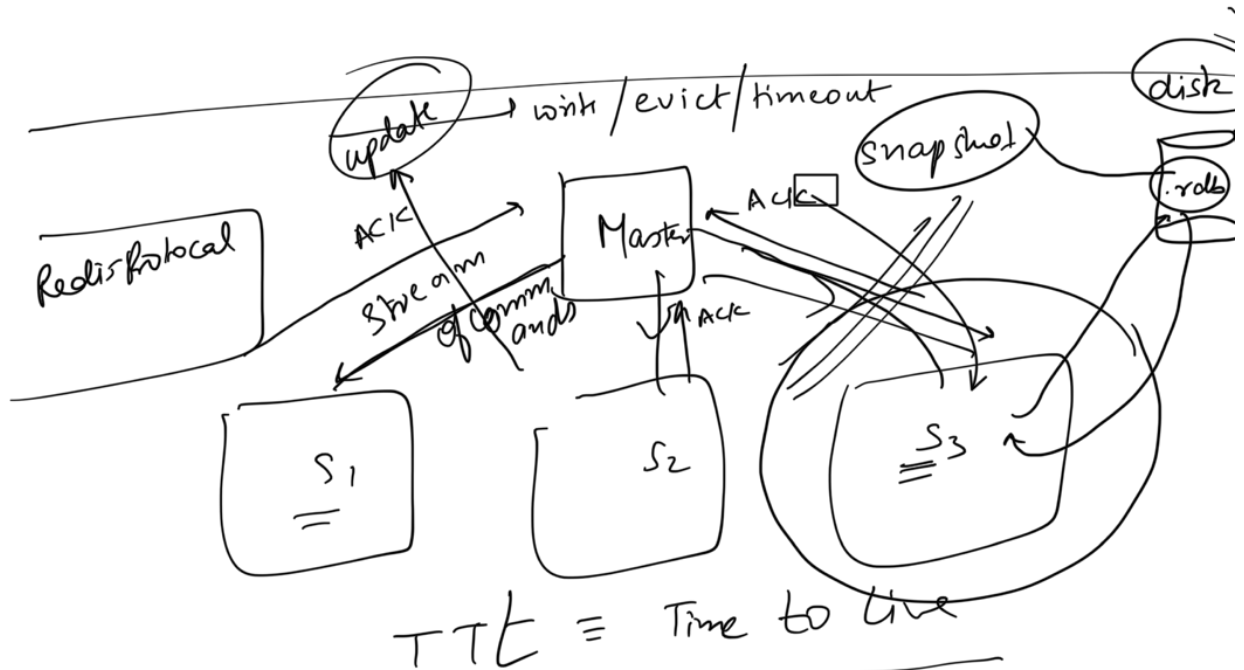




Summary \rightarrow

✓

WAIT (N)



partial resynchronization

Complete synchronization

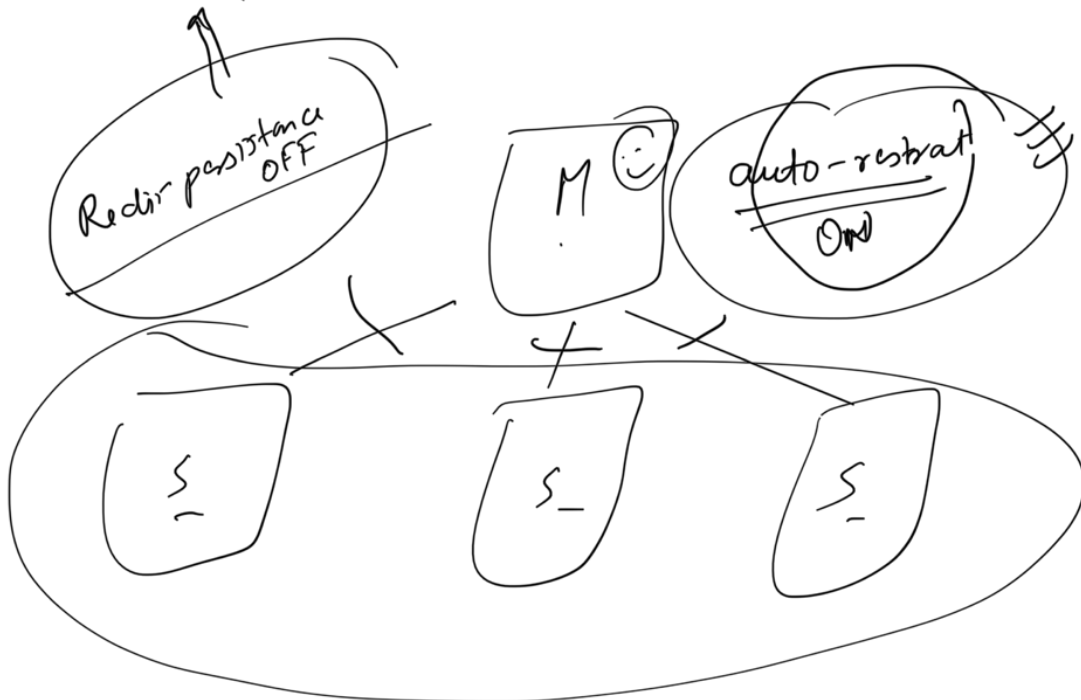
non-blocking at Redis Master

non-blocking at Redis Slave ☺

redis.conf



(noob mistake)



Solution

PERSISTENCE ON ✓✓

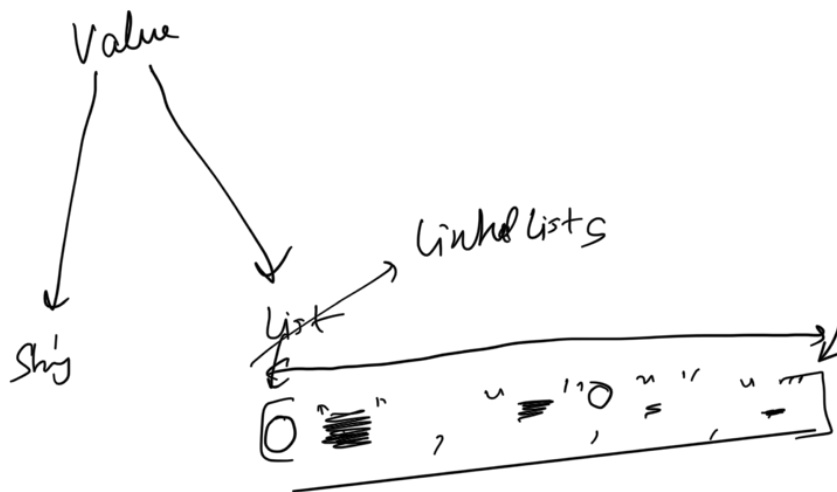
OR
STOP AUTO RESTARTS

Redis \equiv Key-values

NOT a plain k-v
data structure - k-v

key \equiv shij

binary safe shij



Set [_____]

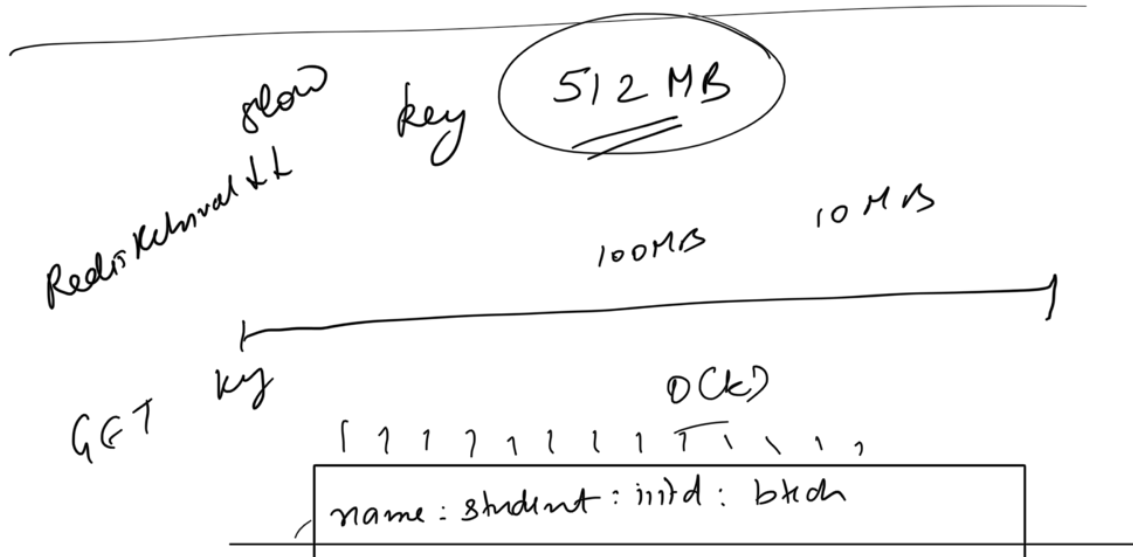
Sorted set [val, val]

top 5 url

bottom 5 url



Stream



x
y

2

iiid: batch: name: collnum

name

iiid: batch: collno: name = Term

NOSQL

Redis — DB, Cache, Msg Broker

Redis — Client + Server

Redis Persistence — AOF, RDB

Redis Replication

— Async

sync WAIT

stream
part.
full