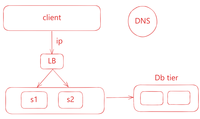
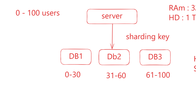
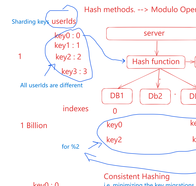
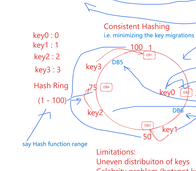
DB Sharding -- Consistent Hashing
Load balancers









Virtual Nodes (Replicas of Original Nodes)

limitations for modulo operator
i.e. celebrity insta ids
in modulo operator there are high chances that all the celebrity keys falls in the same DB hence they have lot of followers and the particular DB is requested vastly
so its necessary to distribute celebrity keys uniformly in different DBs using consistent hashing

Applications of LB: (Smart)

Scalability : Auto scaling
Availibility
Security
Responsiveness (Thread pool)

Security : DOS, DDOS
Firewalls calls
i.e. Distributed Denial of Service Attack
(protection wall)

Algorithms of LB
check your own notes

Static LB
Dynamic LB

Static LB's Algorithms:

1. Round Robin Algorithm

Limitations:
Do not consider load on any server

2. Weighted Round Robin Algorithm

3. IP Hashing

Limitation : Each user will always get same server
2. Proxy (VPN) : IP

Dynamic LB Algorithms

1. Least Connection method

2. Weighted Least connection method

3. Least Response time method

4. Resources Method