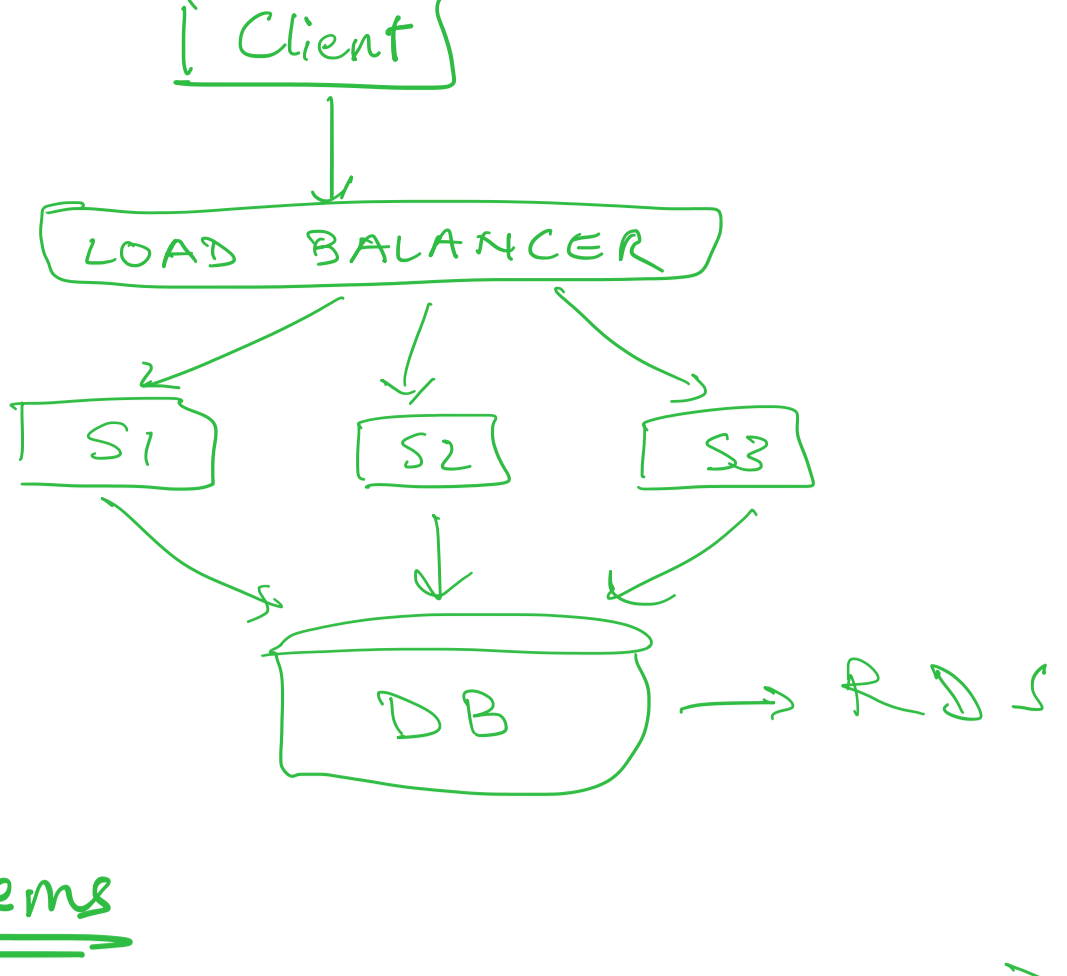


Leaderboard

GET /score? user_id = ?



⊙ Problems

< Data size is 10 GB >

- if I get more requests, there will be bandwidth issue.
- To scale, I will need better resources.

Solution

⊗ Have an in memory cache
- my load balancer must route request to the same machine everytime.

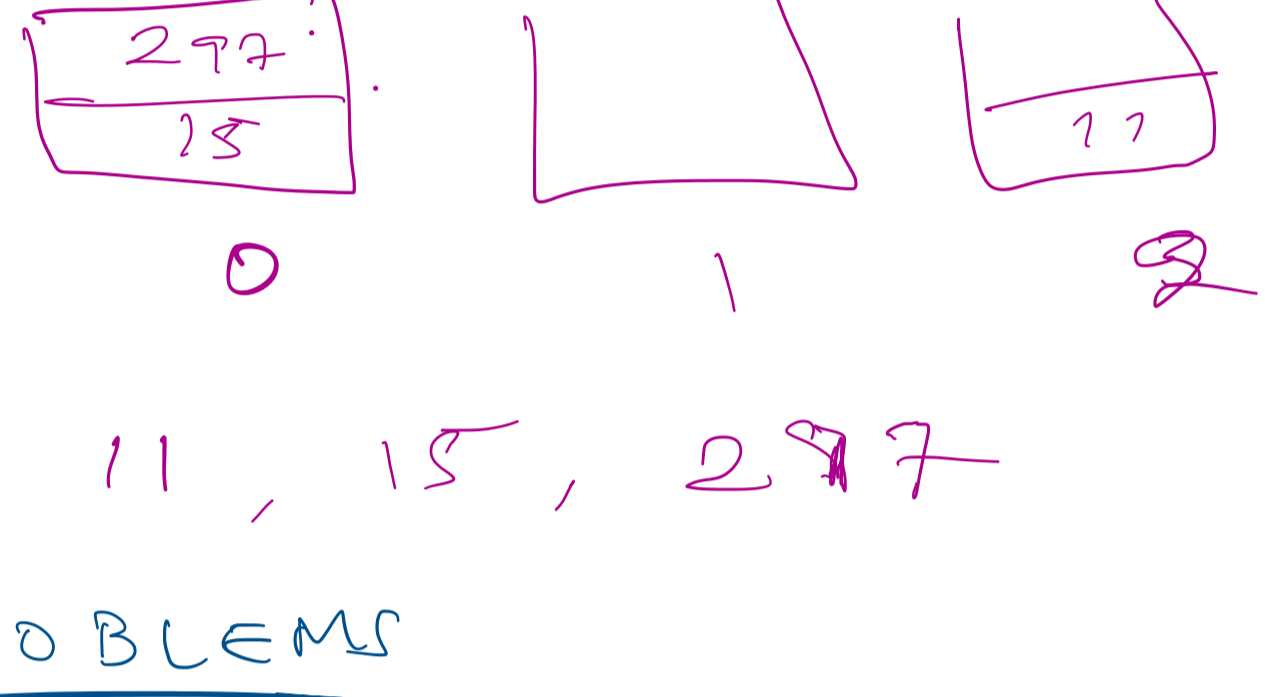
Ways to do that?

GET /score? user_id = 123
 ↓
 hash
 ↓
 some Number (0 - max)

distribute this number on # servers

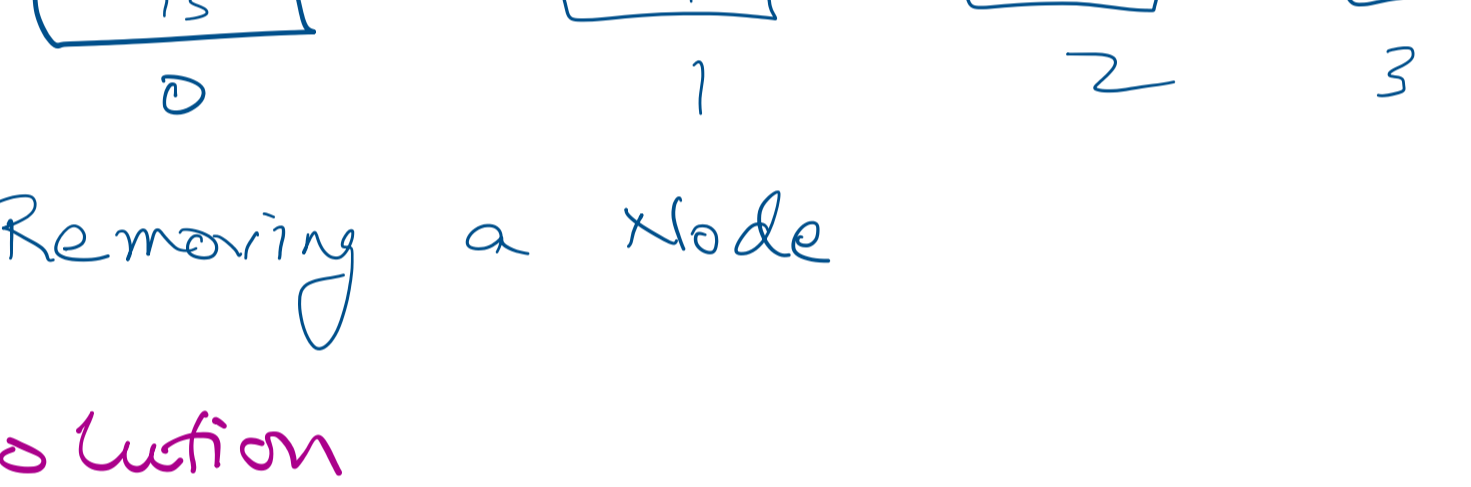
$(\text{some Number}) \% N = \text{server.id}$

$N = 3$



PROBLEMS

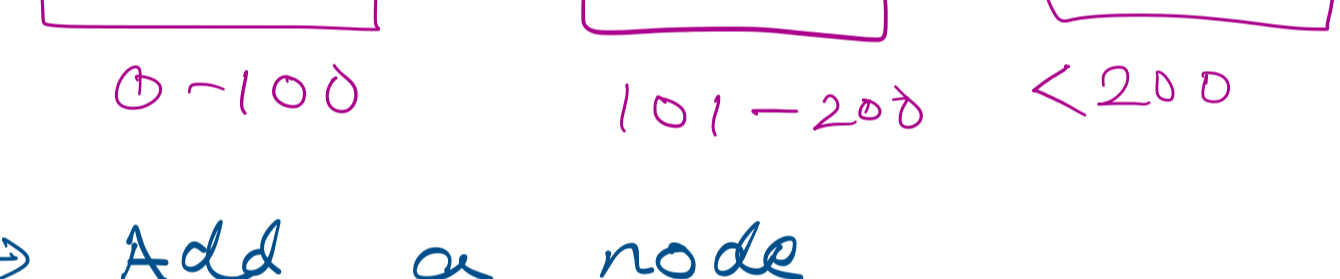
① Add a Node



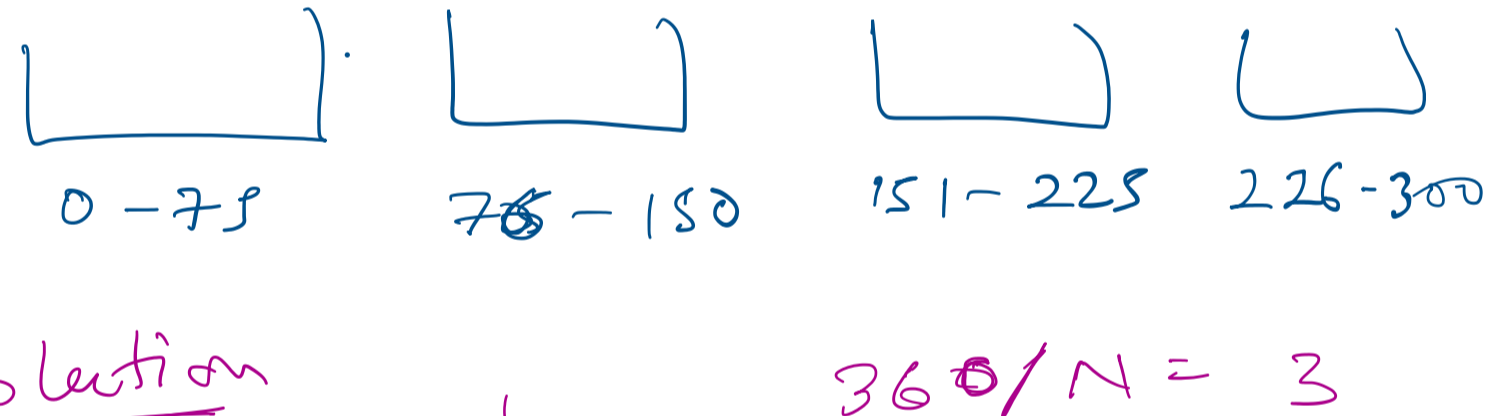
② Removing a Node

Solution

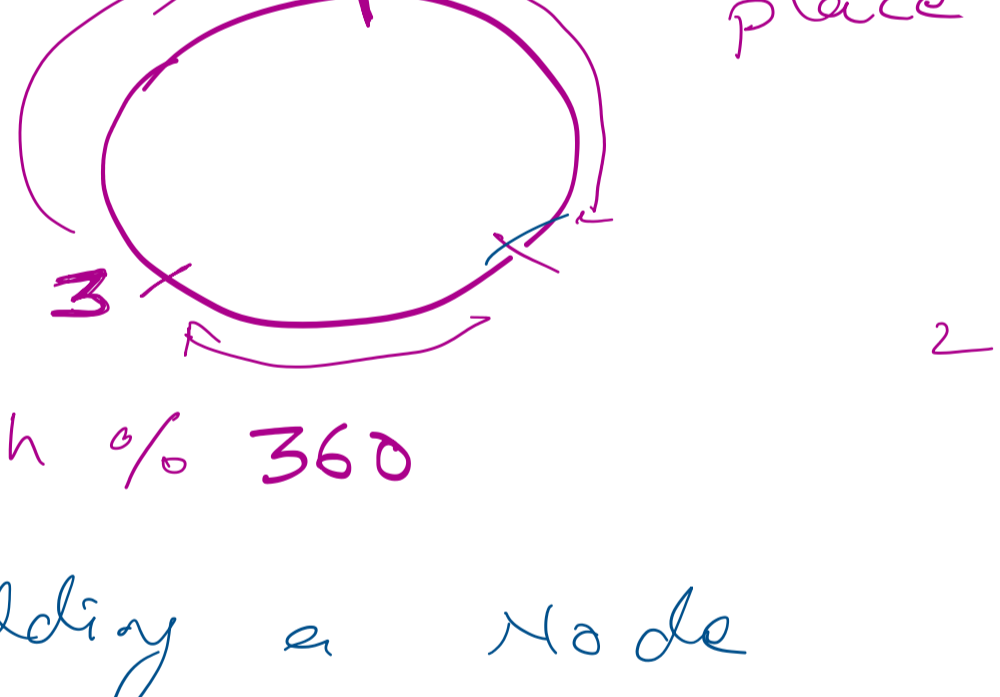
range (hash-max) / N
 300 / 3 = 100



- Add a node
- Remove a node



Solution

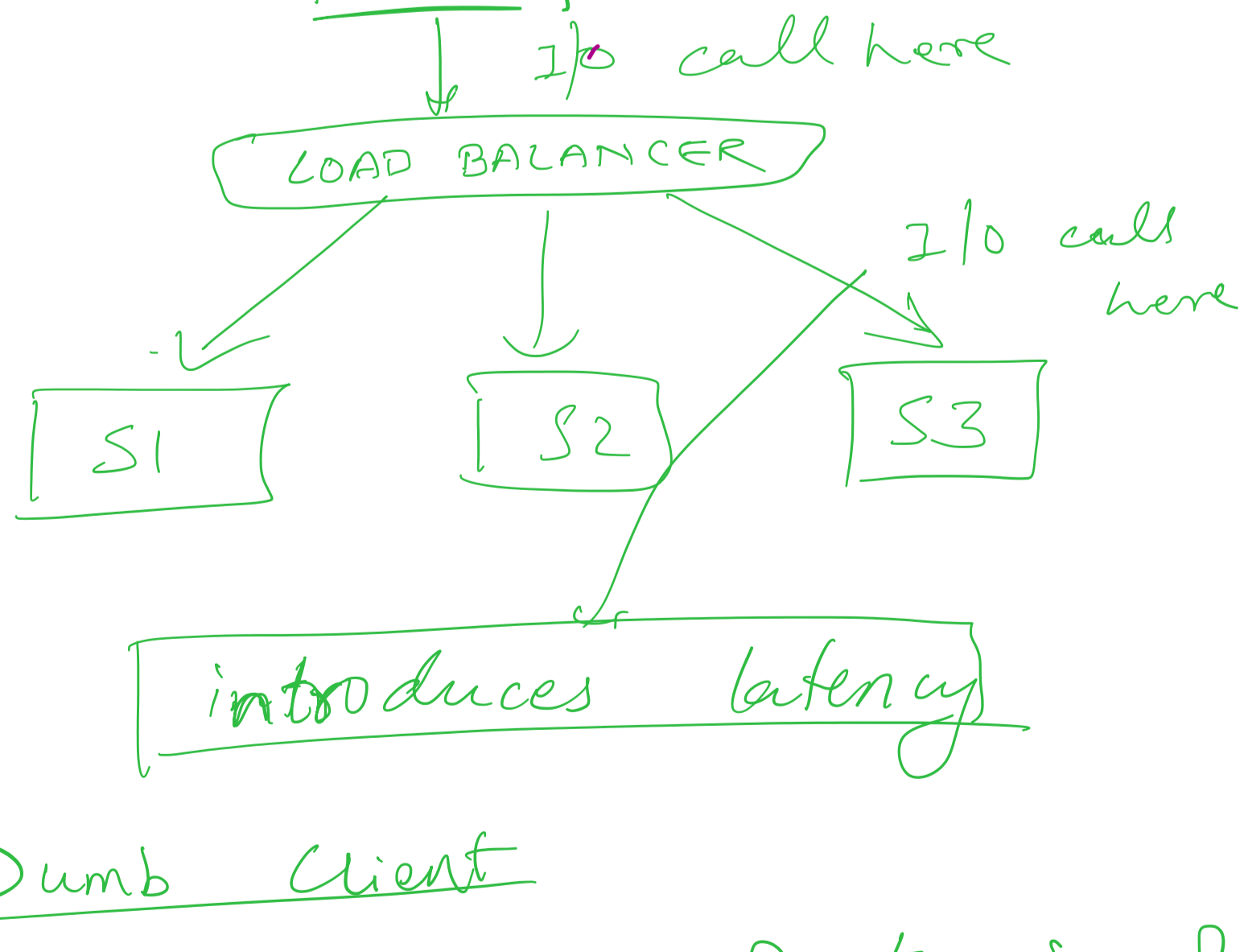
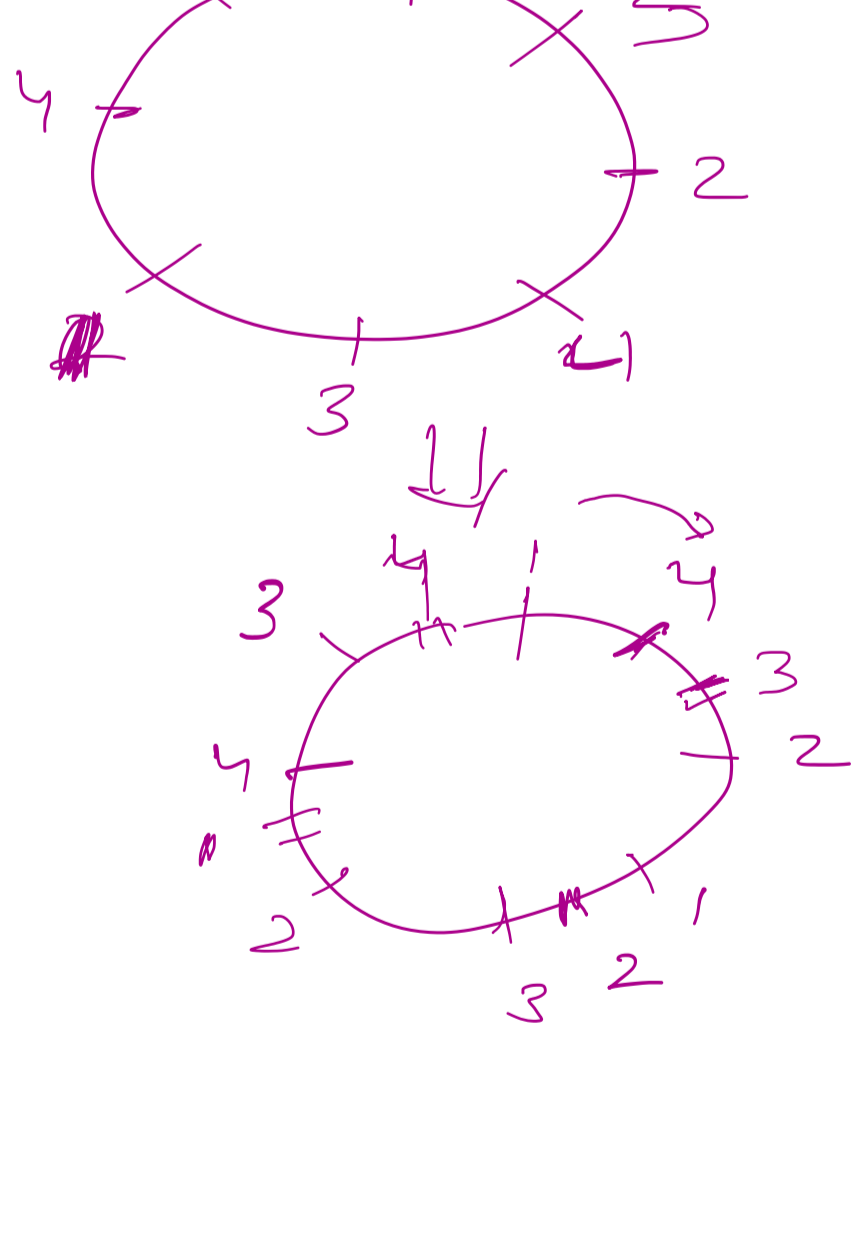


⊙ Adding a Node

⊙ Removing a Node

Next node will have lot of data.

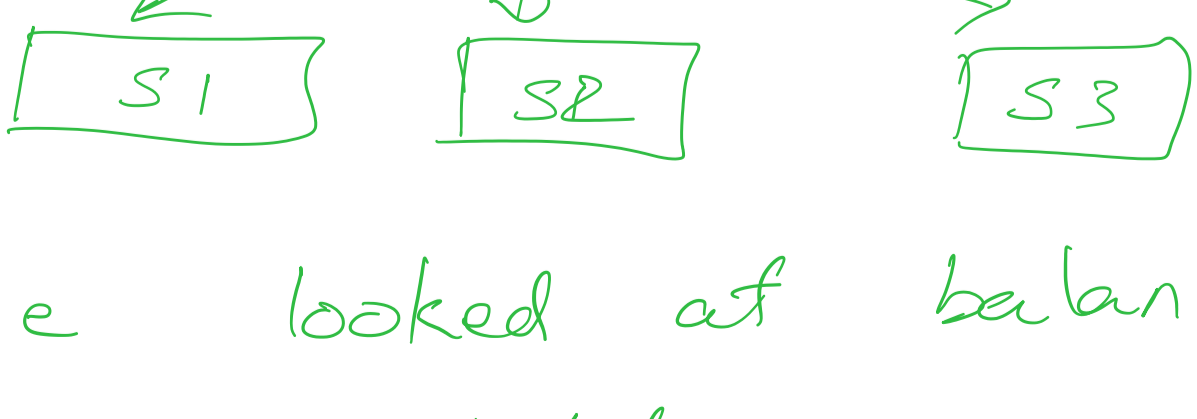
Solution



⊙ Dumb Client

⊙ Is not aware of the ips of the servers

⊙ Intelligent Client



We looked at balancing load in stateless systems.