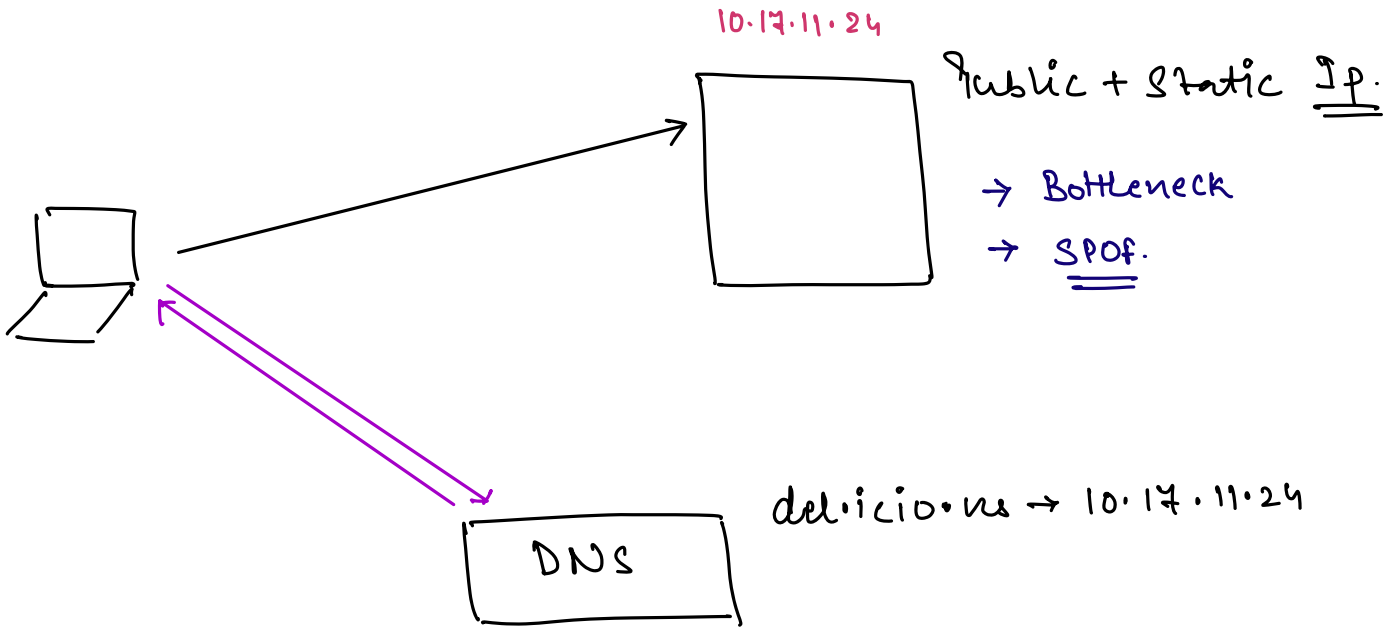
Agenda

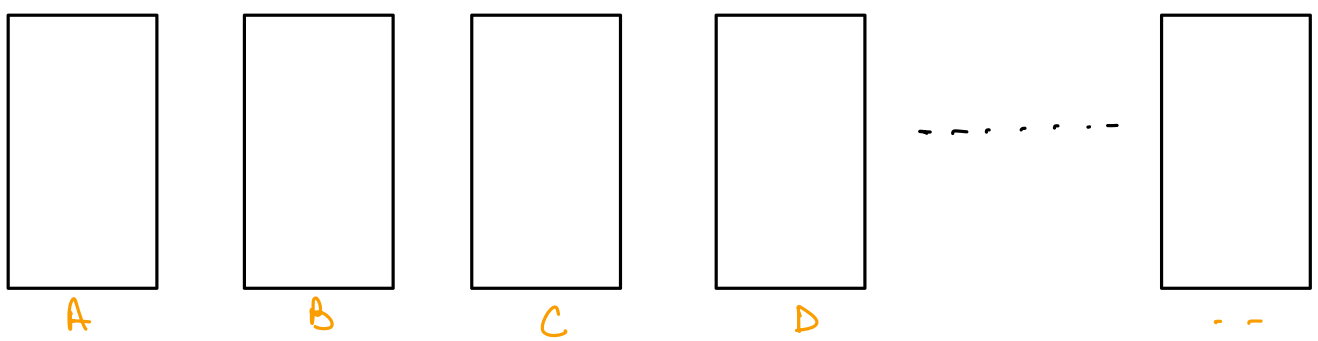
→ Load Balancing.

→ Stateless (vs) Stateful Load Balancing.

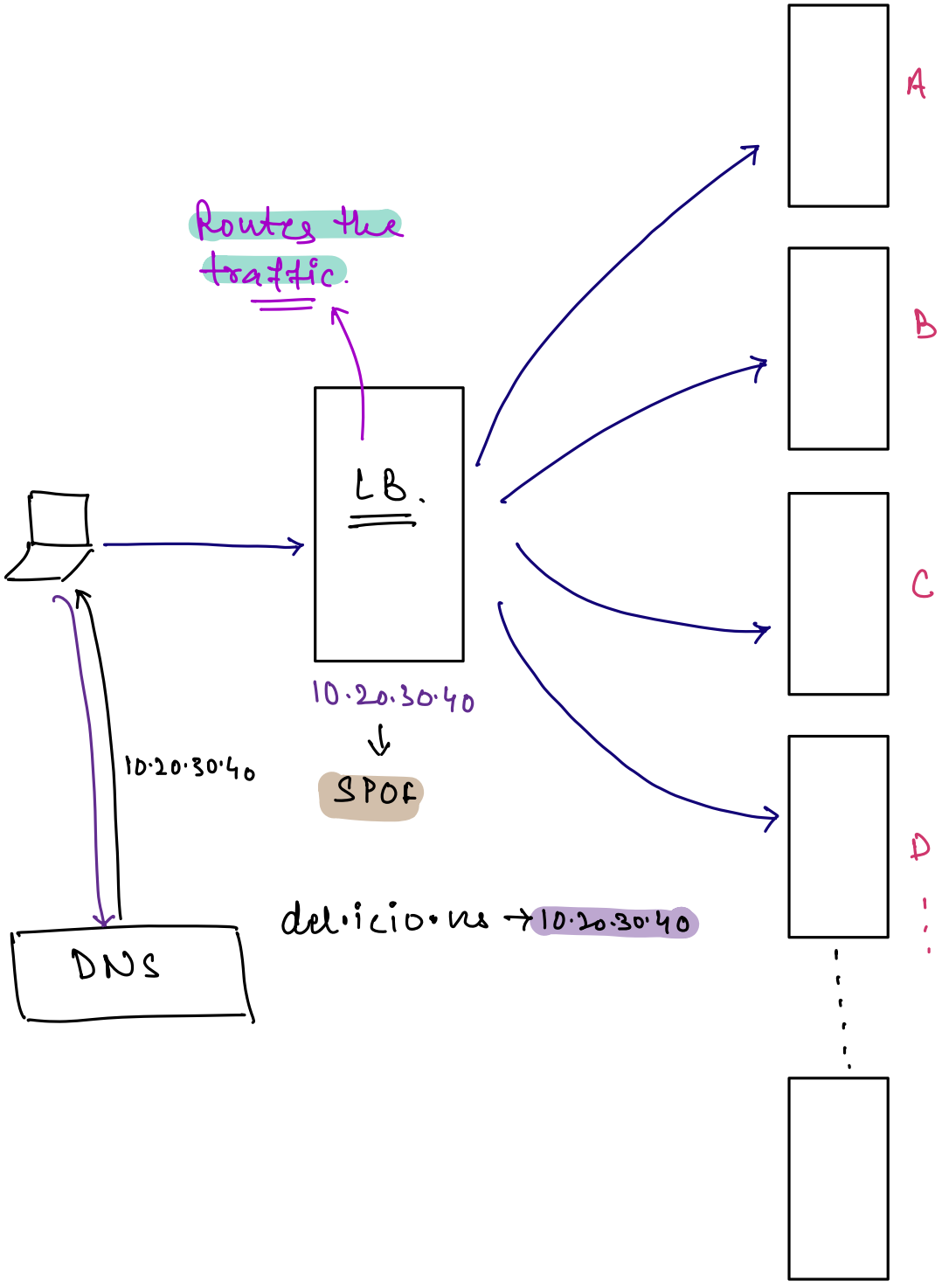
→ LB Algorithms.

#



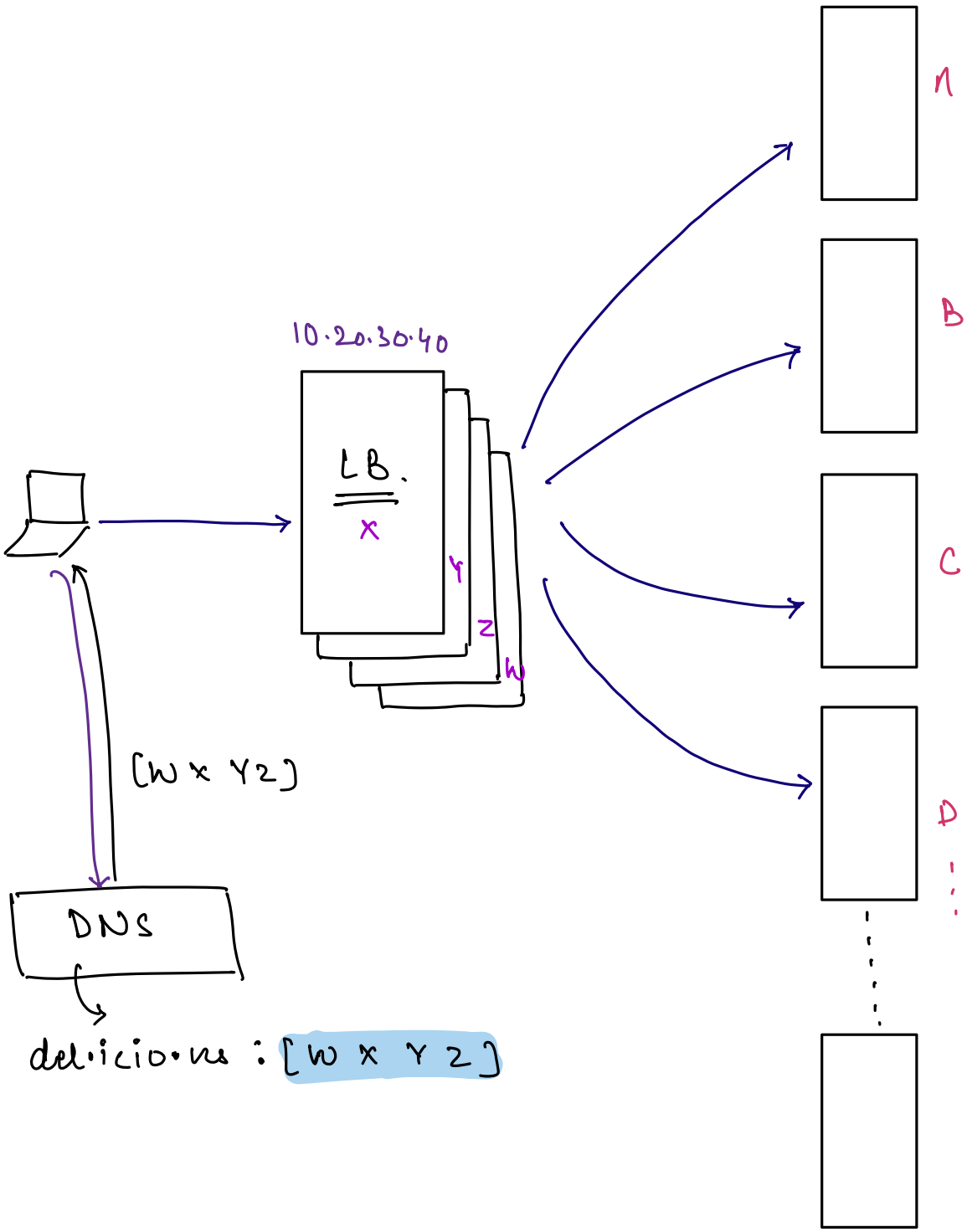


⇒ Which Ip to register in DNS.



Load Balancer.: Distributes the traffic among the servers uniformly.

HeartBeat & HealthCheck.



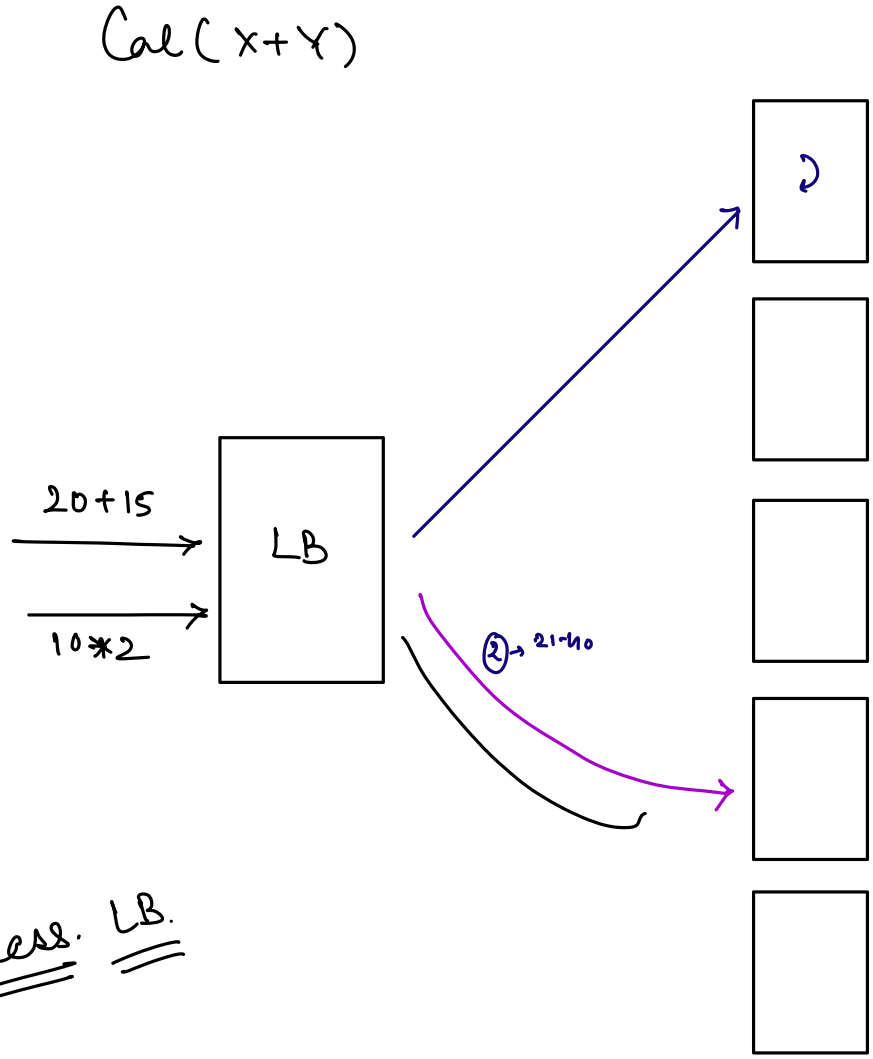
Geo DNS.

google DNS.

↓

8.8.8.8

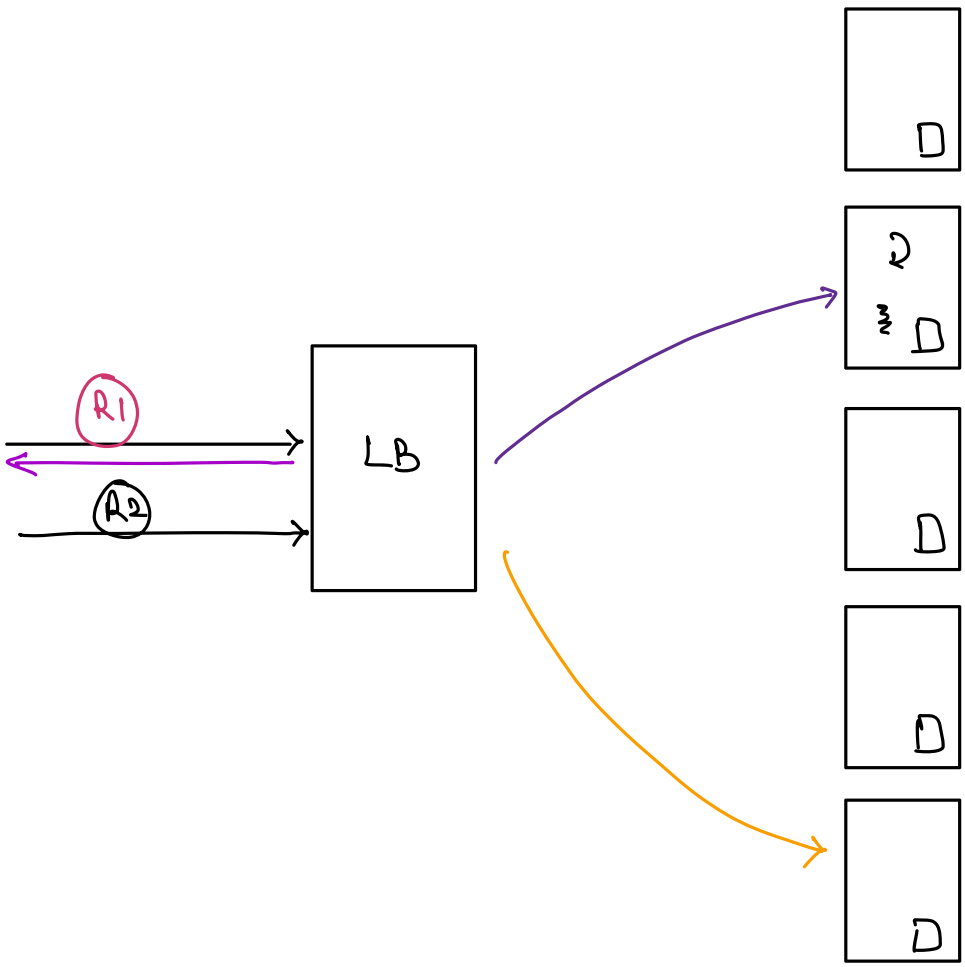
Stateless (vs) Stateful Load Balancing



Stateless LB.

↳ When requests are completely independent of each other.

ChatGPT.



Q1: Who was the captain of Indian Cricket team in 2024 T20 WC?

↳ Rohit Sharma.

Q2: Tell me more about him?

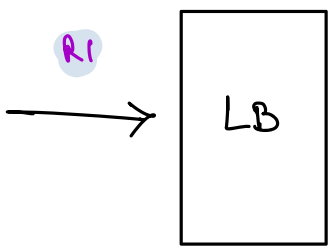
Stateful.

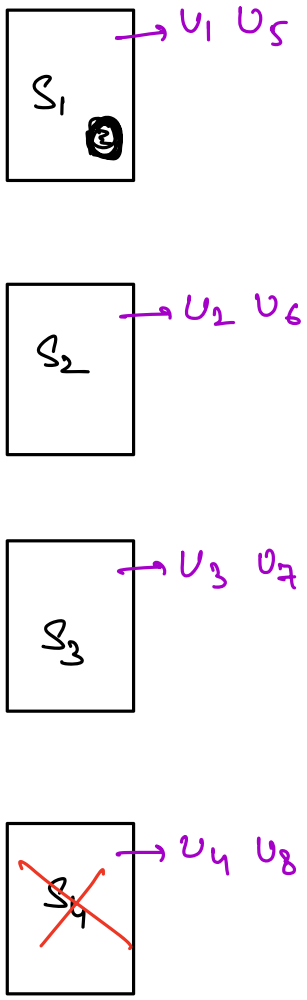
↳ When the current request is dependent on the state of the previous request.

Random LB.

↳ Stateless.

Round Robin.





→ Easy to implement.

→ Equal traffic distribution.

S1 : U1 U5 U9
S2 : U2 U6 U10
S3 : U3 U7 U11
S4 : U4 U8 U12

S4 Crashes →

S1 : U1 U4 U7 U10 –
S2 : U2 U5 U8 – –
S3 : U3 U6 U9 – –

Properties of a Good LB Algorithm.

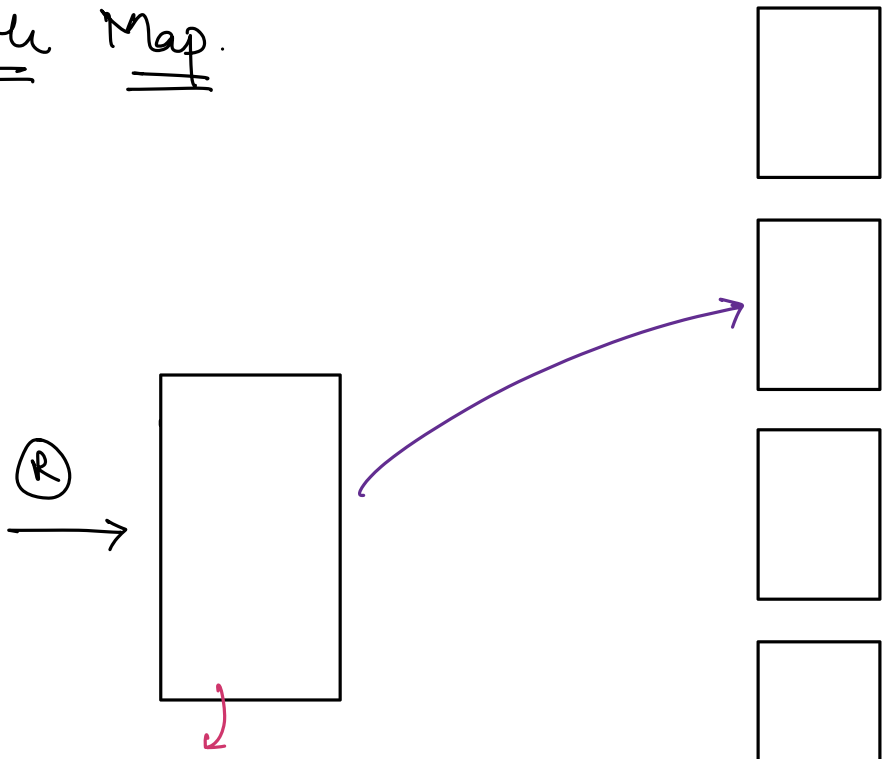
→ Easy to implement.

→ Fast.

→ Equal load distribution

→ Lesser movement in case a m/c is added or removed.

LB with Map.



Map ⇒ userId : Server

101 → S_1

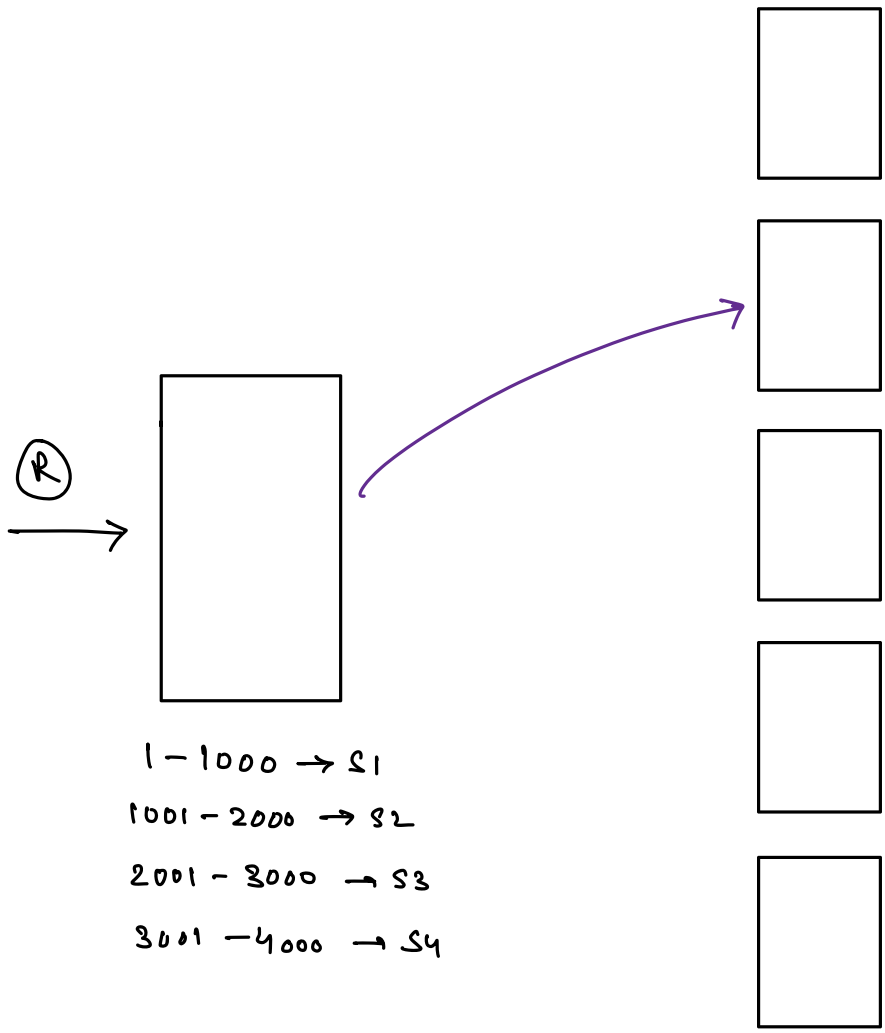
102 → S_{10}

103 → S_2

104 → S_4

Lesser chaos in case a m/c is added or removed.

Range Based LB.



S_3 Crashes.

1 - 1333 → S1

1334 - 2666 → S2

2667 - 4000 → S4

Lot of chaos when a server is added | removed.

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