🧠 1M User Traffic — Load Balancer Flow Diagram

➖ কী কী থাকবে (মনে রাখার rule)

👉 Diagram-এ **৫টা box থাকলেই perfect**:

1. Users
2. Load Balancer
3. App Servers (multiple)
4. Cache (optional but good)
5. Database

🧱 Final Diagram

```
            1,000,000 Users
         (Web / Mobile Clients)
                    |
                    |  HTTP Requests
                    v
            ┌──────────────────┐
            │  Load Balancer   │
            │ (Round Robin /   │
            │  Least Conn.)    │
            └──────────────────┘
              /        |        \
             /         |         \
            v          v          v
       ┌────────┐ ┌────────┐ ┌────────┐
       │ App S1 │ │ App S2 │ │ App S3 │
       └────────┘ └────────┘ └────────┘
            |          |          |
            |          |          |
            v          v          v
       ┌────────┐ ┌────────┐ ┌────────┐
       │ Cache  │ │ Cache  │ │ Cache  │
       └────────┘ └────────┘ └────────┘
             \         |         /
              \        |        /
               v       v       v
               ┌────────────┐
               │  Database  │
               └────────────┘
```
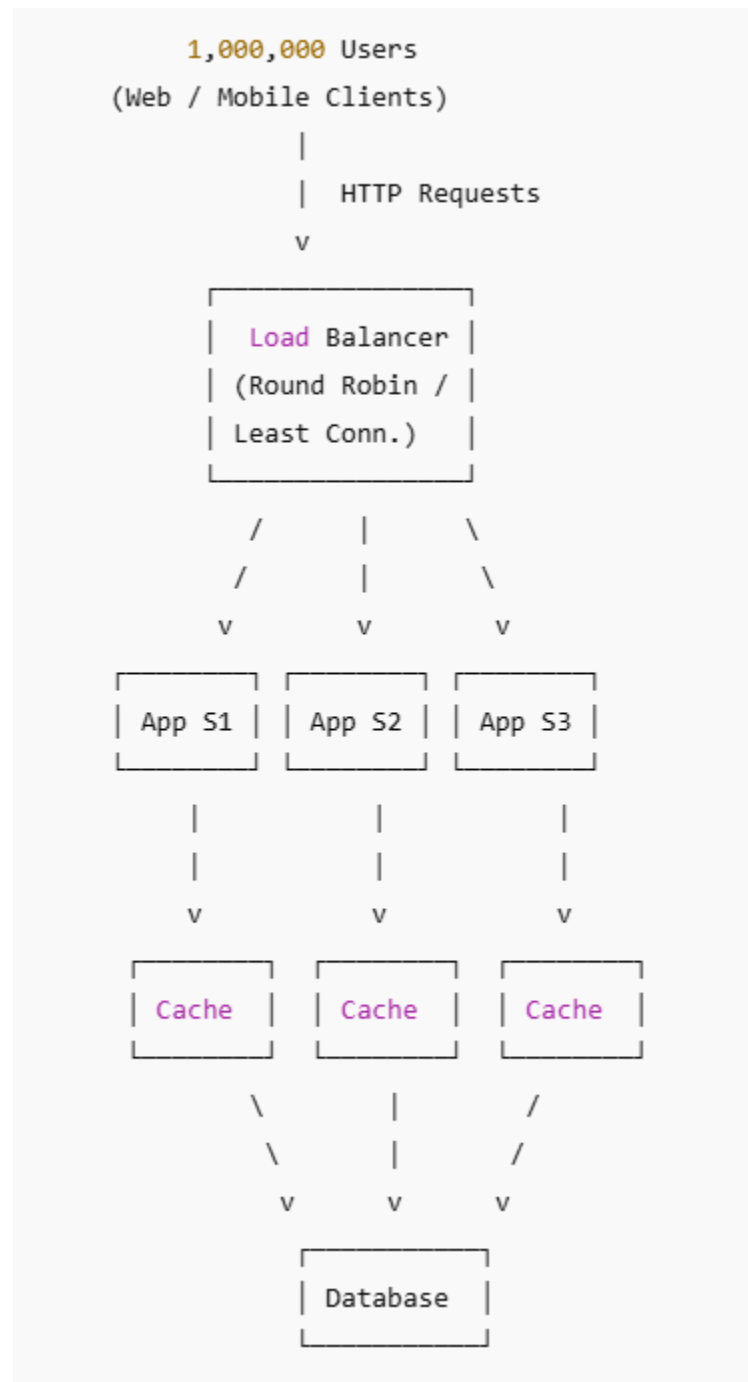
🗣️ Diagram আঁকার সময় কী বলবে (VERY IMPORTANT)

এই exact flow follow করে বলো 👇

1

"1 million users send requests to our system."

2

"All traffic first hits the Load Balancer."

3

"The Load Balancer distributes traffic across multiple stateless app servers."

4

"App servers first check cache to reduce database load."

5

"Database acts as the source of truth."

👉 এই narration দিলে interviewer বুঝবে তুমি **real system** বোঝো।

🎯 কেন Load Balancer এখানে MUST?

Diagram দেখে বলবে:

- ❌ Single server হলে crash
- ✅ Multiple servers + LB → high availability
- ✅ Horizontal scaling possible

📌 FAANG line:

"Load balancer enables horizontal scaling and removes single point of failure."