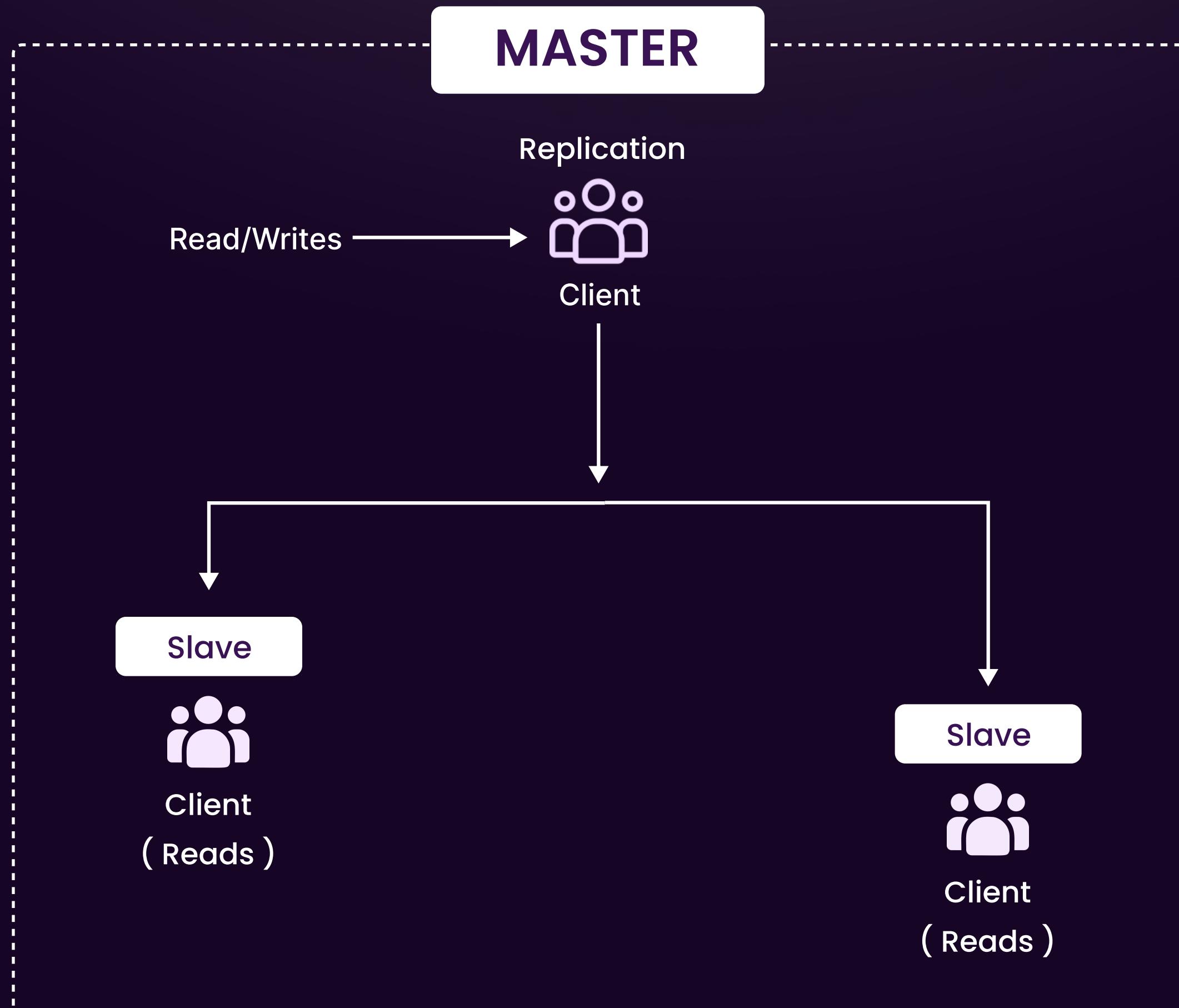


# SYSTEM DESIGN

## MOST ASKED

### INTERVIEW QUESTIONS





## \*Disclaimer\*

System Design is the most asked topic in tech interviews.

So, make sure you prepare it thoroughly.

**Take the help of this doc and ace your System Design Interviews.**

## QUESTION-1

# What is sharding in system design? EASY

Sharding is a technique to **horizontally scale a database** by splitting it into **multiple, independent servers** called **shards**.

### Benefits:

- **Improved performance:** Each shard handles less data, leading to faster queries and processing.
- **Increased scalability:** Adding more shards easily expands the database capacity.



### Example:

Imagine a social media app with millions of users. Storing all data in one server would be overwhelming. We can shard based on user ID ranges:

- Shard 1: Users with IDs 1-1 million
- Shard 2: Users with IDs 1 million-2 million

### Now:

- User queries are directed to the specific shard holding their data.
- Individual shards handle smaller workloads, improving performance.