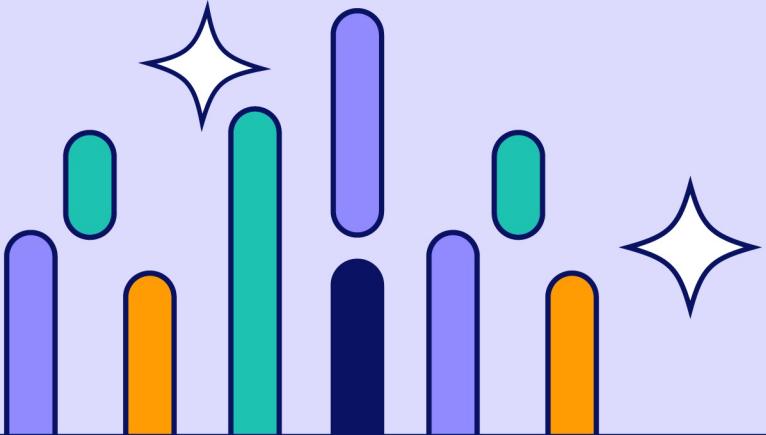
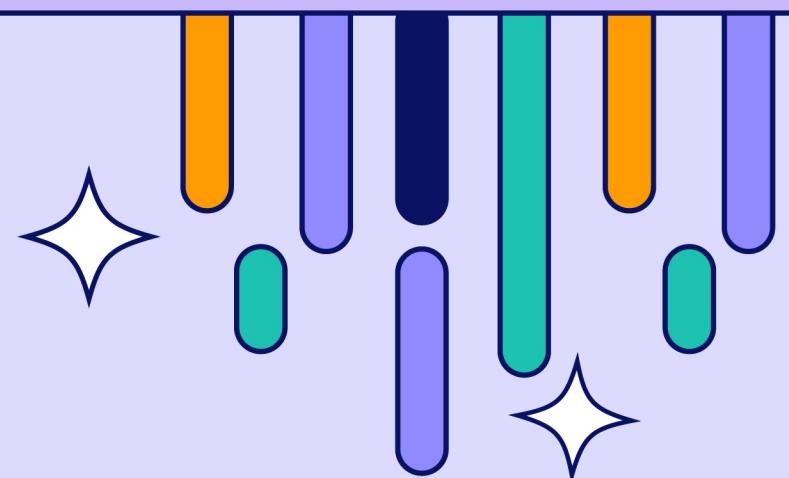


8 Common Elements Of System Design



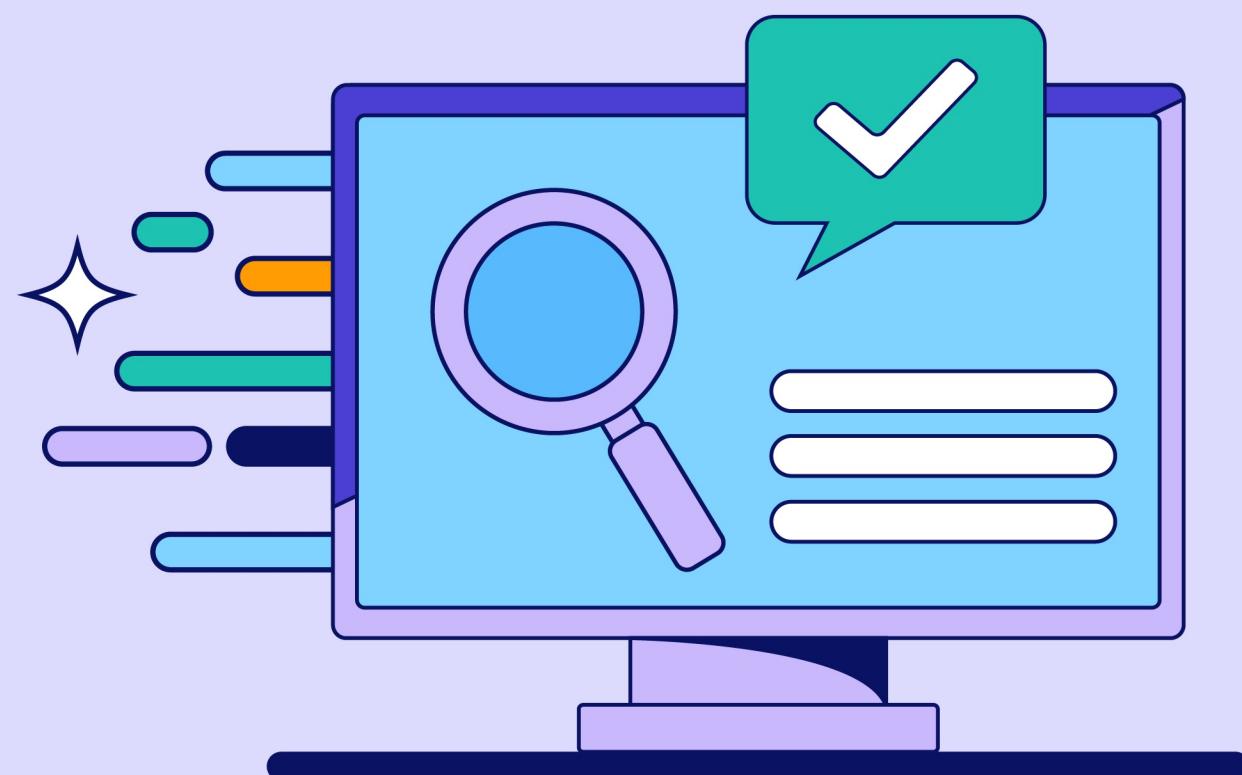
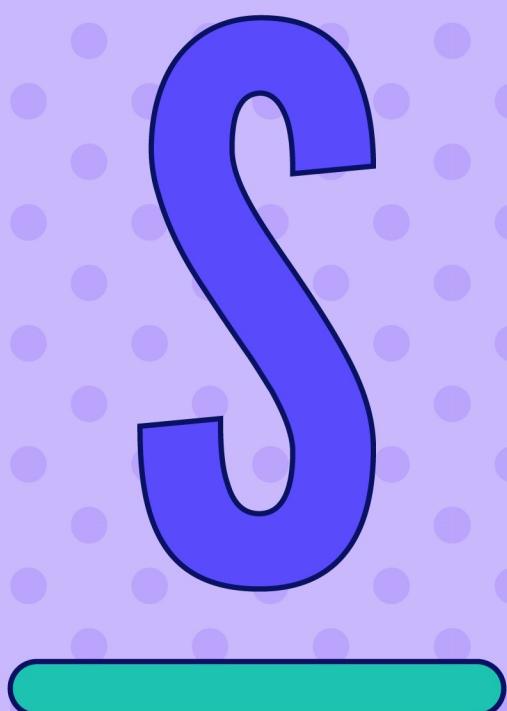


**While every system is unique,
use these elements as a starting
point in interviews.**



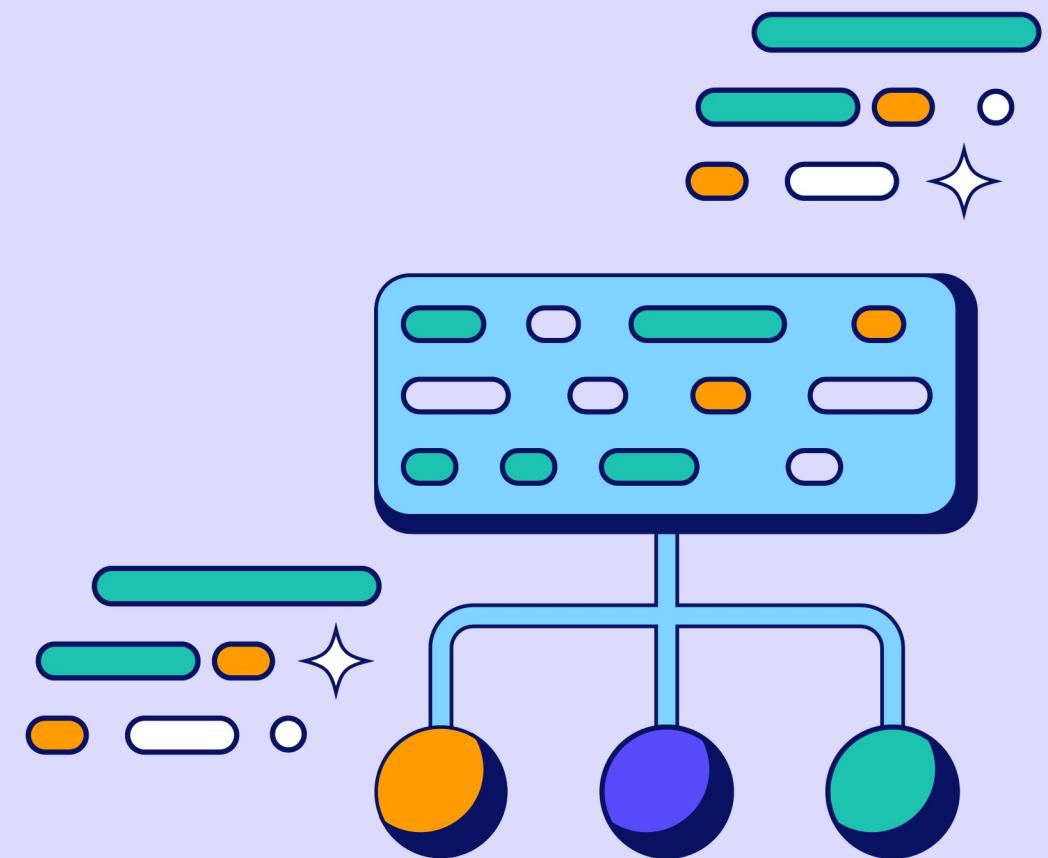
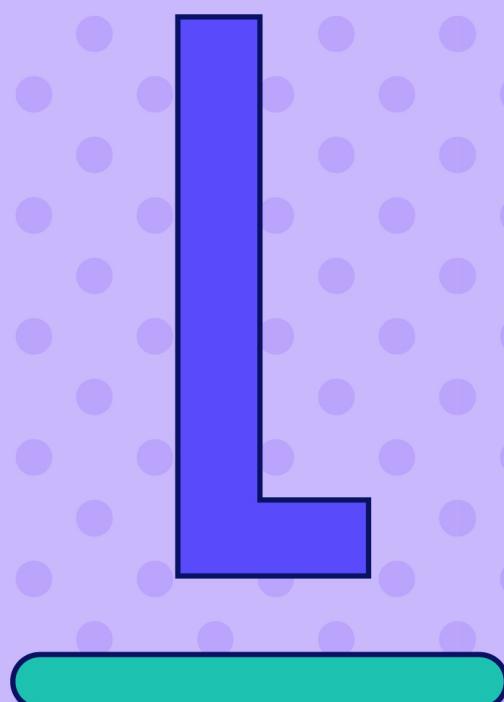
1. Search System

- Enables users to find data
- Crucial to **content-rich systems**
- Generally 3 components: Crawler, Indexer, Searcher



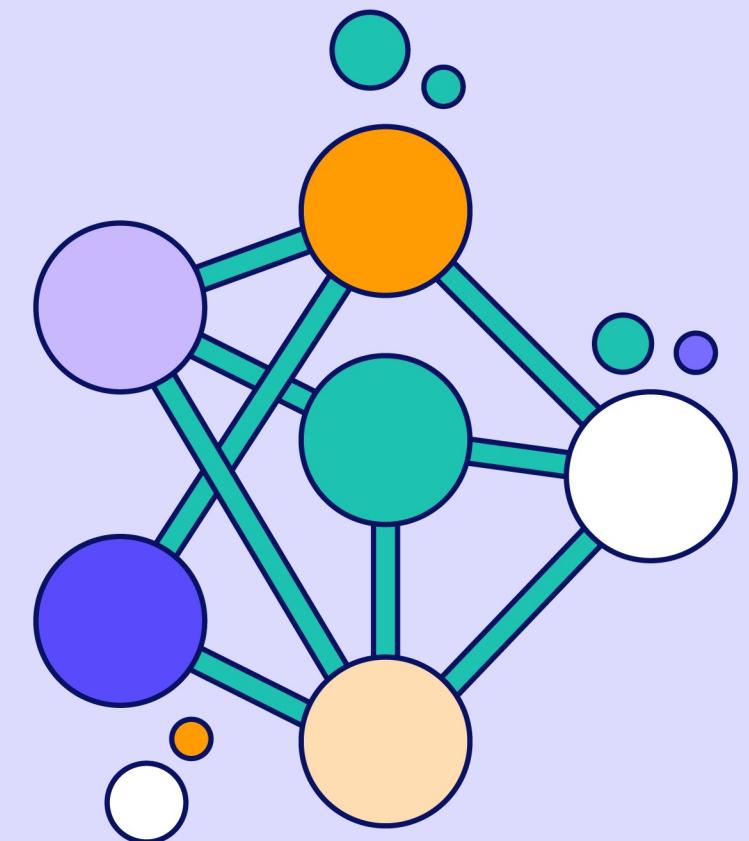
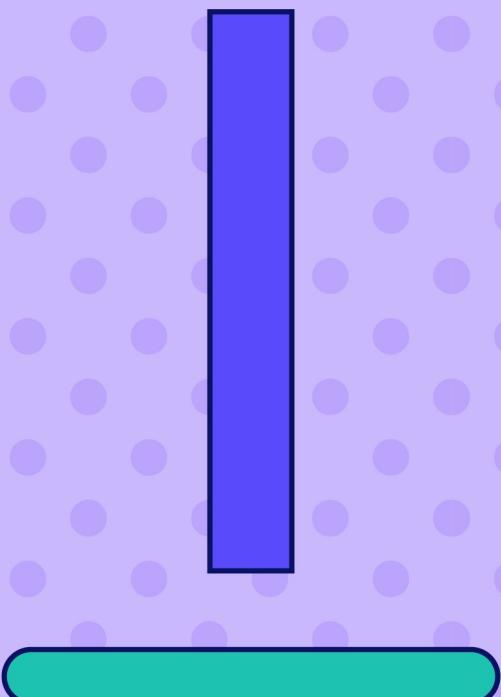
2. Load Balancer

- **Distributes incoming user requests to available servers**
- Prevents overloading or crashing
- Crucial to scale for **high traffic**



3. Interaction with a CDN

- CDN: Content Delivery Network
- Caches content geographically closer to end user to decrease latency
- Improves reliability & security



4. Cache

- Temporary data storage in memory
- Speeds getting data to servers
- Keeps most **frequently accessed** entries in memory

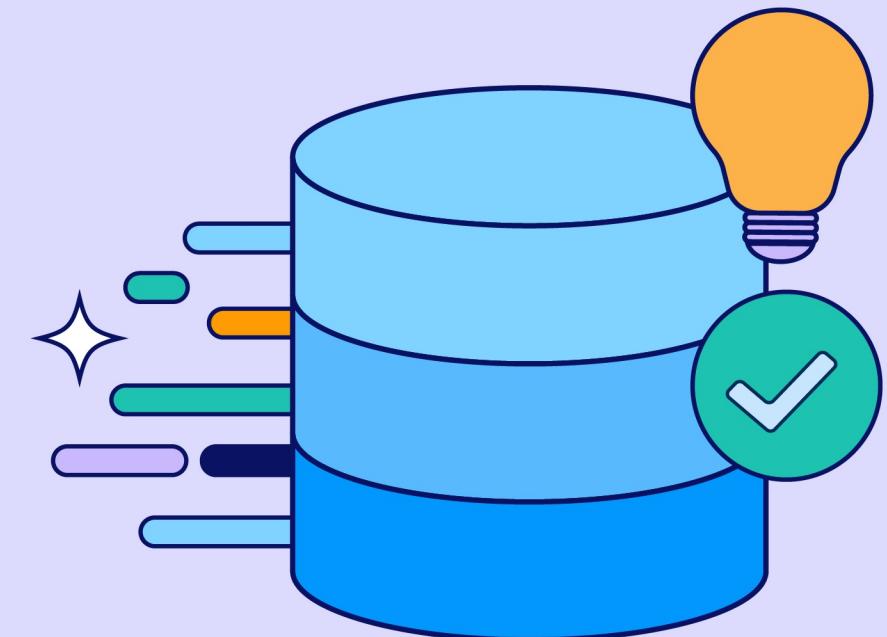
C



5. Front-End Servers

- Receives client HTTP requests
- Respond with requested content
- An essential part of web architecture

F



6. Analytics

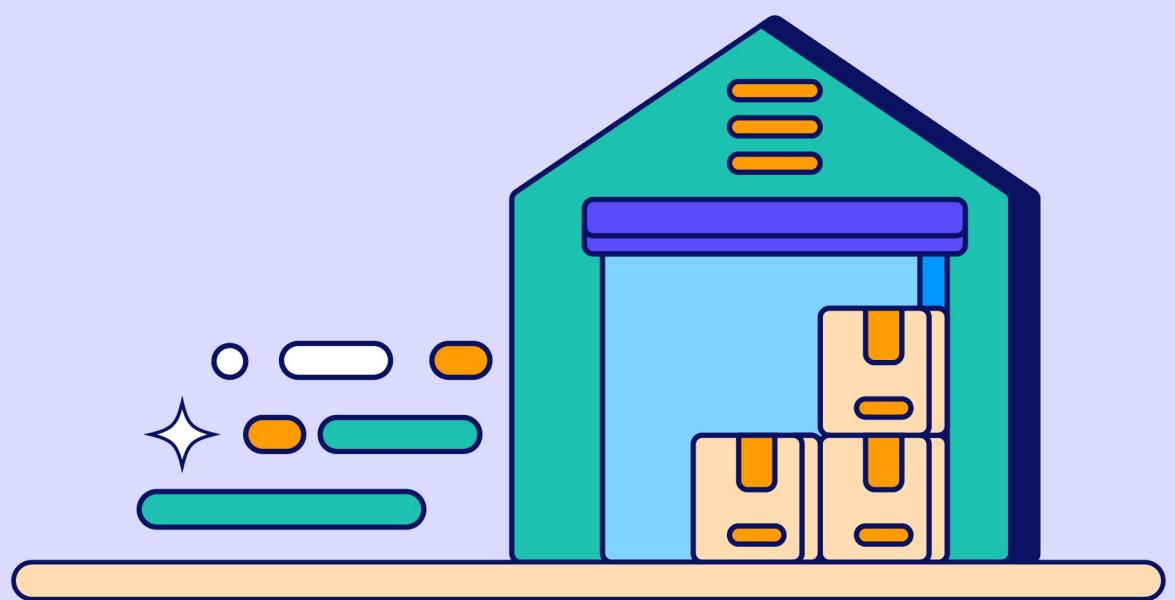
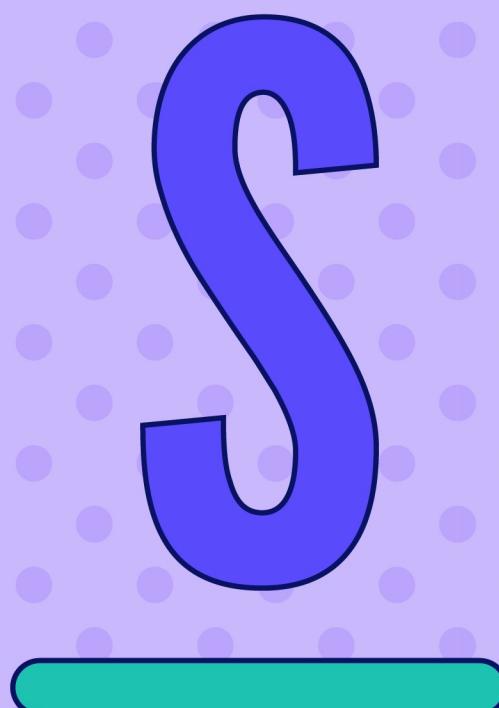
- Get a handle on your system's interactions
- Goal: measure system's internal performance & external interactions

A



7. Storage

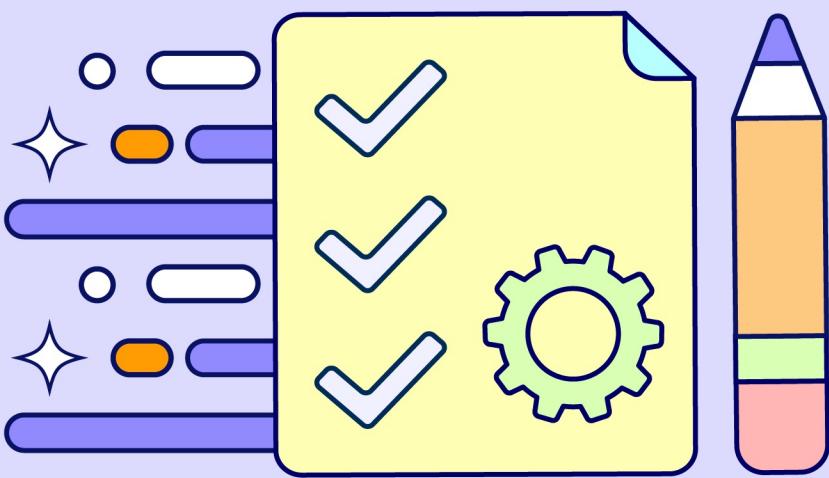
- Store, retrieve, modify, and delete data
- Examples: relational database, non-relational database, blob store



8. Task Queue

- Helps complete a large number of tasks by scheduling work amongst limited resources
- Best for **asynchronous** tasks

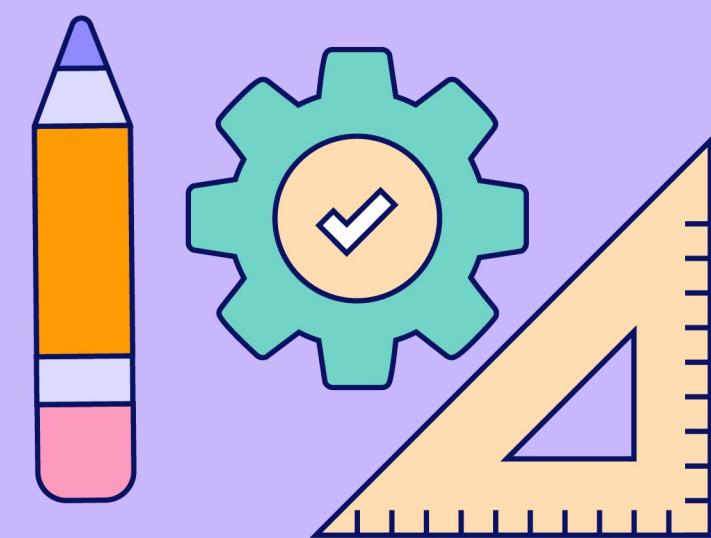
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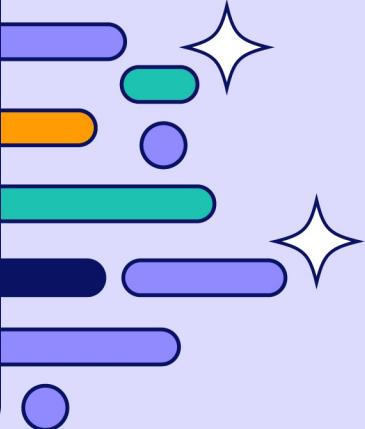
8 Common Elements of System Design

1. **S**EARCH SYSTEM
2. **L**OAD BALANCER
3. **I**NTERACTION WITH CDN
4. **C**ACHE
5. **F**RONT-END SERVERS
6. **A**NALYTICS
7. **S**TORAGE
8. **T**ASK QUEUE

(Memorize as SLIC FAST)



TELL US:



Do you have any System Design Interview advice?

Let us know in the comments!

