

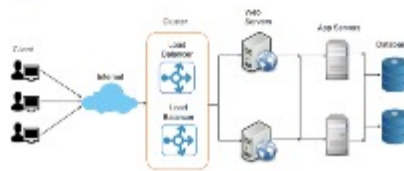
System Design

3 Principle :->

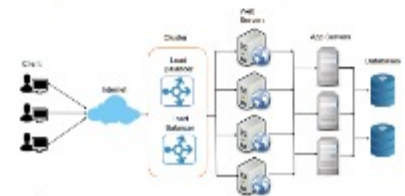
- ① Single responsibility Each component present in S.D should have single job to perform.
- ② No single point of failure The system should not have any components whose failure will result in the failure of entire system.
- ③ No bottleneck principle Since we will design scalable system should not have performance bottleneck. So ideally we scale horizontally to handle large amount of processing.



here LB, webserver, appserver
Database have single Responsibility



here if
one webserver got failed then
still system will work



traffic will
be distributed to avoid
bottleneck.

5 Step Guide for System Design

- ① Requirement Analysis (functional + non functional Requirement)
- ② Api Design (name of Api + parameter) + return (with datatype)
- ③ Design Data Model (Define Table and columns)
- High Level Design (Component and arrow flow, servers, db, LB)
- ⑤ Scale the Design (to handle large processing)

optional ⑥ Back-of-the-envelope Calculation

x x x x