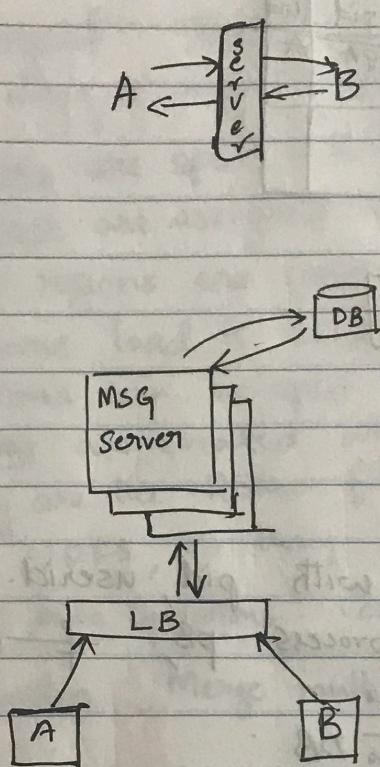


## WhatsApp System Design

### Questions:

- ① What is the scale at which system will work? How big is userbase.
- ② Do we need last seen?
- ③ Send media messages?
- ④ Encrypt messages?
- ⑤ Voice/video call?



- (i) A and B will talk to LB and LB talks to msg. servers.
- (ii) DB to save messages.

### Msg flow

- ① A sends to B.

\* if A is not connected to server, msg is saved in local DB. Pushed to msg server on successful connection. and sent to B.

\* If B is not available msg is saved on DB. When B connects to msg server, the msg is delivered to B. Always clients connect to server. server does not connect to clients.

### Inside server:

on msg receive:

- (i) create new process inside server with pid. and a table (pid, usrid). + create queue for pid.
- (ii) lookup for pid of B, send msg to B's queue
- (iii) B's process reads from its queue and sends to client B.
- (iv) if B is not connected, its process and queue are not created and the msg is saved in DB.