

# Requirements

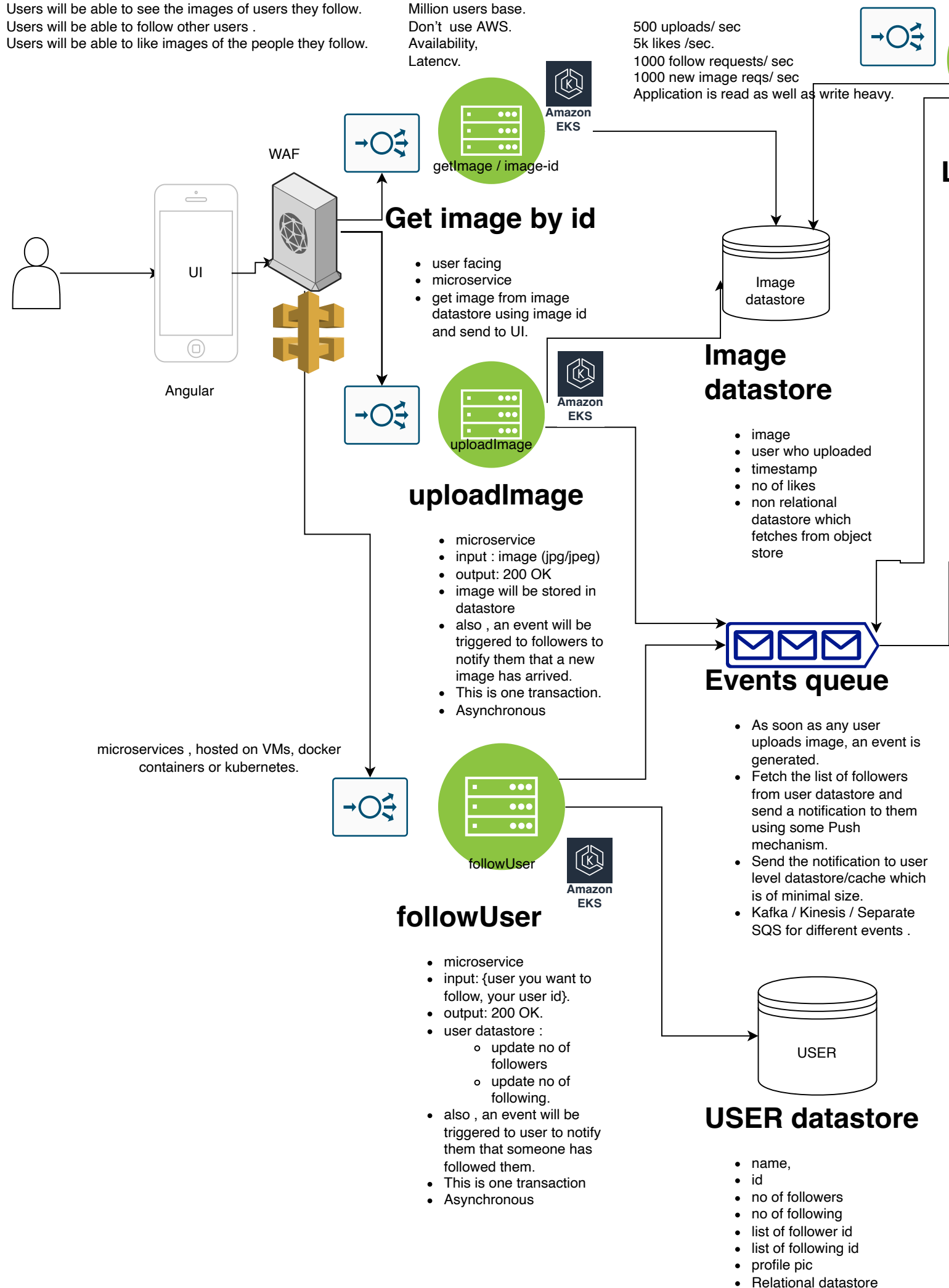
Users will be able to upload images.  
Users will be able to see the images of users they follow.  
Users will be able to follow other users .  
Users will be able to like images of the people they follow.

# Constraints

1000 follow requests per second.  
Million users base.  
Don't use AWS.  
Availability,  
Latency.

# Back of the envelope estimation.

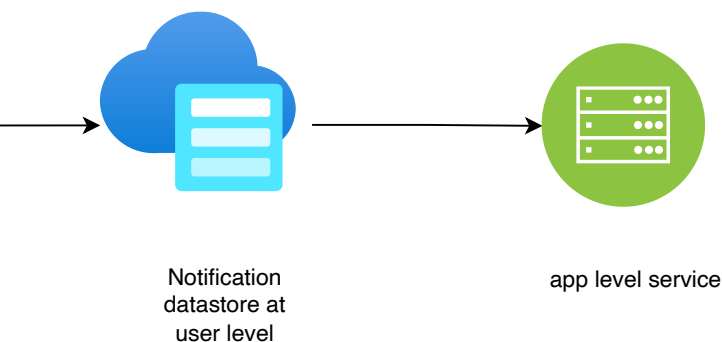
500 uploads/ sec  
5k likes /sec.  
1000 follow requests/ sec  
1000 new image reqs/ sec  
Application is read as well as write heavy.





## like image

- User will be able to like image using this microservice.
- Input : image id and user id of the person who liked it.
- increment the no. of likes for the image in image datastore.
- send an event to events queue to let the image owner know that someone liked their image.



## Notif datastore

- user level
- events queue sends the respective events of a user to the datastore.
- Can be in-memory.
- Follows subscription mechanism instead of polling.
- Once the user has read the notifications, clear them.
- Event is of form:
  - user id who generated event
  - event type
  - if it is a follow request, then user who sent the request.
  - if it is a upload notification, then user who uploaded image and the image uploaded location/url.
- in-memory datastore.
  -

## App level background process

- Subscribes to the notification datastore.
- After it gets an event, based on the type, it sends the UI response to be shown in notification window.



