Assumptions & Uses Cases

Objective

A blog management system has to be designed.

- The 3 main components of the blog are: Blog Posts, Users(normal and managers), Comments.
- Each user will have email, profile picture, and relevant information.
- Each user can create a blogpost and edit their own blogposts.
- Each user can comment on their as well as other user's blogposts.
- Each blogpost has an author (user) and a list of tag(s).
- There are 3 types of manager users:
    - Editor: Can edit/change posts of users assigned to them.
    - Admin: Powers of editor + can edit profile of users assigned to them.
    - Superadmin: Can edit any information in the database.

Use Cases

Design a database that can handle the following scenarios efficiently:

- The blog will service 1K-10K users daily.
- Each user views 10-100 posts daily.
- Each user views 0-5 user profiles daily.
- Each user writes 0-5 posts daily.
- Each user writes 0-20 comments daily.
- Each user edits 0-1 posts daily.
- Each user edits 0-1 profile daily.
- Each post has 10-100 comments.

Key Points

- From the use-cases, the biggest bottleneck comes out as servicing (10-100, average 50) posts to (1k-10K, average 5K) users daily.
- Another point of interest is that even though a user views a lot of comment, the comments are always exclusively associated with a particular post.

Solution

- List of posts should have fastest read speed. (Highest priority)
- Comments associated with every post should have fast read speed. (High priority)
- Adding comments, viewing profiles should be relatively fast. (Normal priority)
- Editing posts and profiles can be slower. (Low priority)