



Kamran Ali • 2nd

Sr EM, Ex Principal Engineer @Atlassian | Empowering Senior Engineers to Transition into Lead...
6m • 🌐

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When Kamran "Re Tweets" Ali's tweet on X (Twitter)

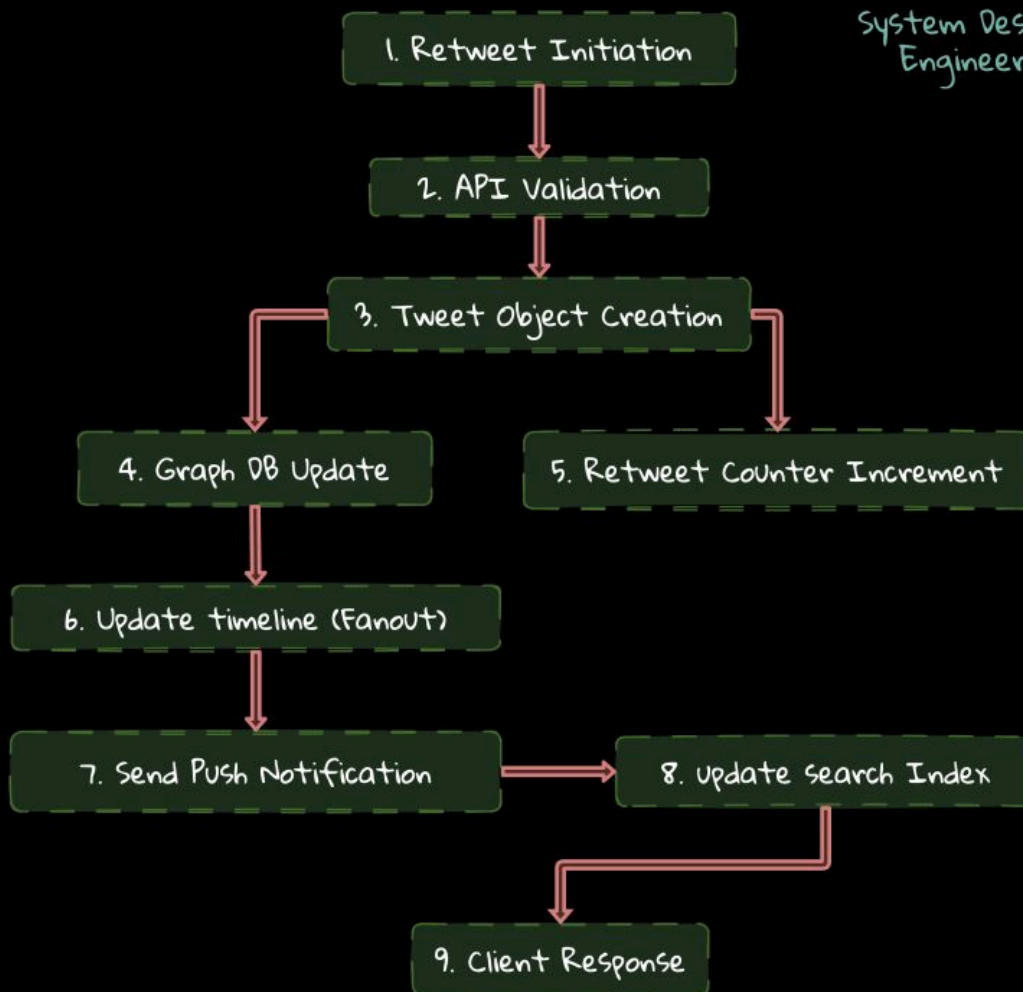
1. Kamran clicks "Retweet" on Ali's tweet, triggering an API call containing original tweet ID and authentication details
2. Request enters X's API gateway which performs rate limiting, token validation etc (API Gateway Processing)
3. Tweet service generates new tweet object to persist in database (Retweet Object Creation)
4. Graph DB is updated with retweet edge for "Who Retweeted" views (Social Graph Update)
5. Atomic increment of retweet count on original tweet
6. As "Kamran" isn't a celebrity, insert retweet ID into followers' timeline caches (Fanout operation)
7. Send push notifications to Ali and mentioned users
8. Add retweet to search index
9. Return 201 created to client

over to you, how to achieve atomic increment in step 5?

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| When Kamran "retweets" Ali's Tweet on X

System Design
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Appreciate the quick insights. [Kamran Ali](#)