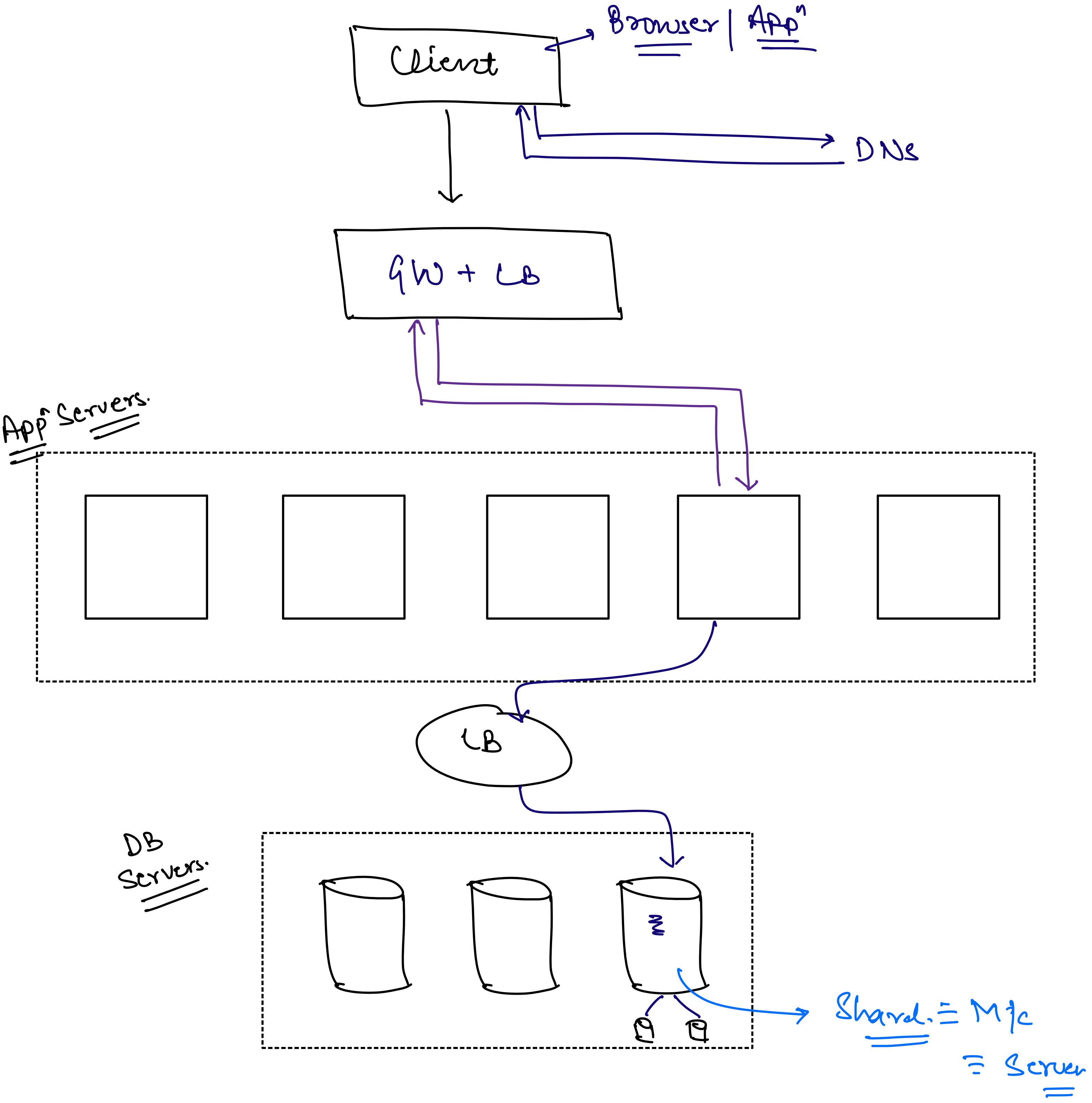
→ Recap.

- → Consistent Hashing
- → App server layer & storage layer should be separate.



SHARDING.

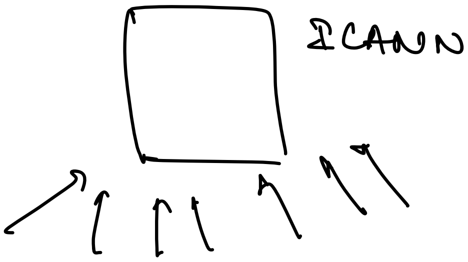
↳ Distributing data across multiple m/c.

⇒ To enable scaling of our App^n, We have decoupled the app^n servers and DB m/c but the tradeoff here is we have introduced an extra n/w hop & because of this overall latency of the system will take a hit.

App^n Servers can be Stateful or Stateless depending on the usecase.

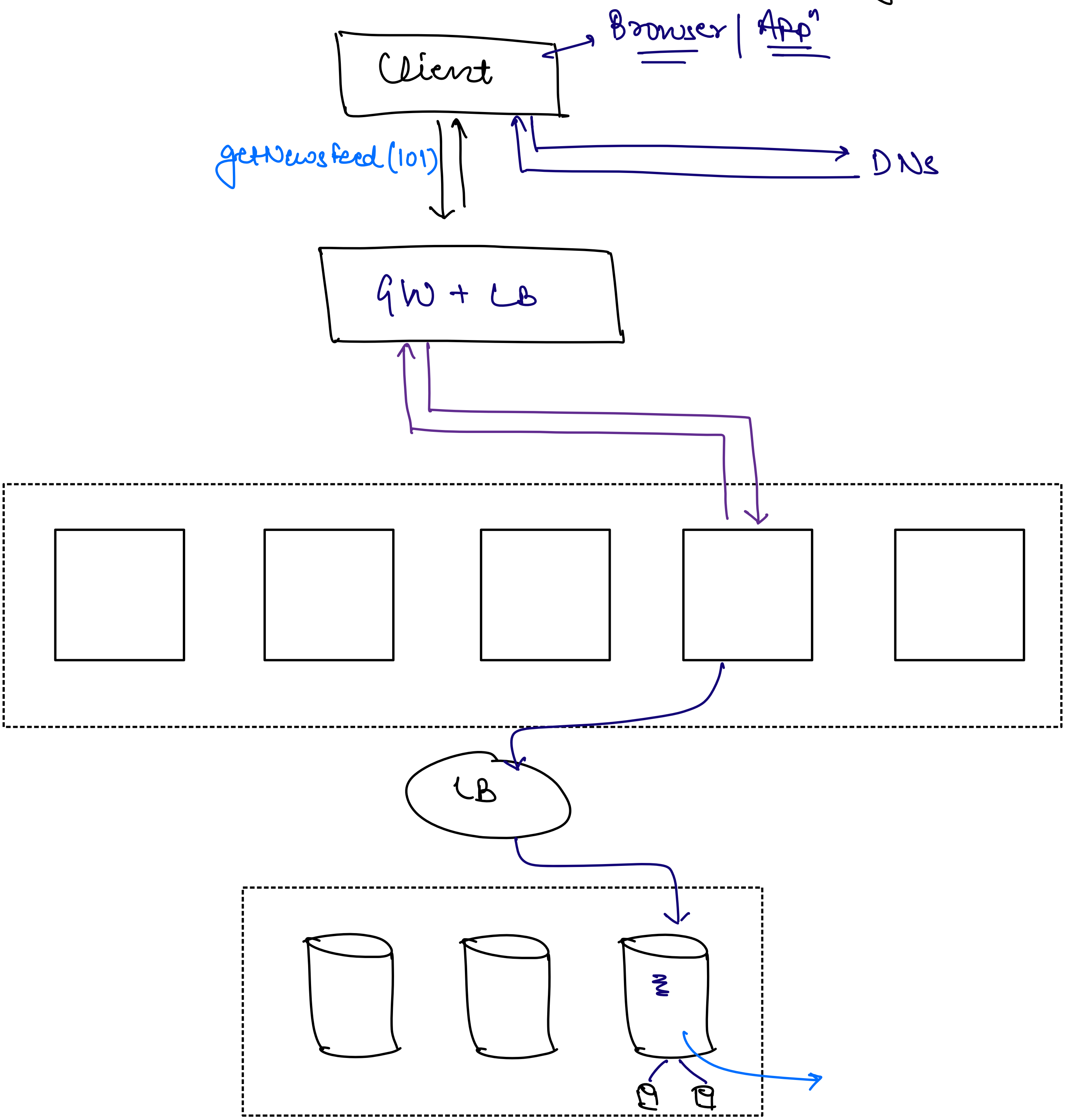
DB Servers should always be Stateful.

⇒ DNS.



Caching: Process of storing frequently accessed data at the place which is near to user to Optimize the overall data access time.

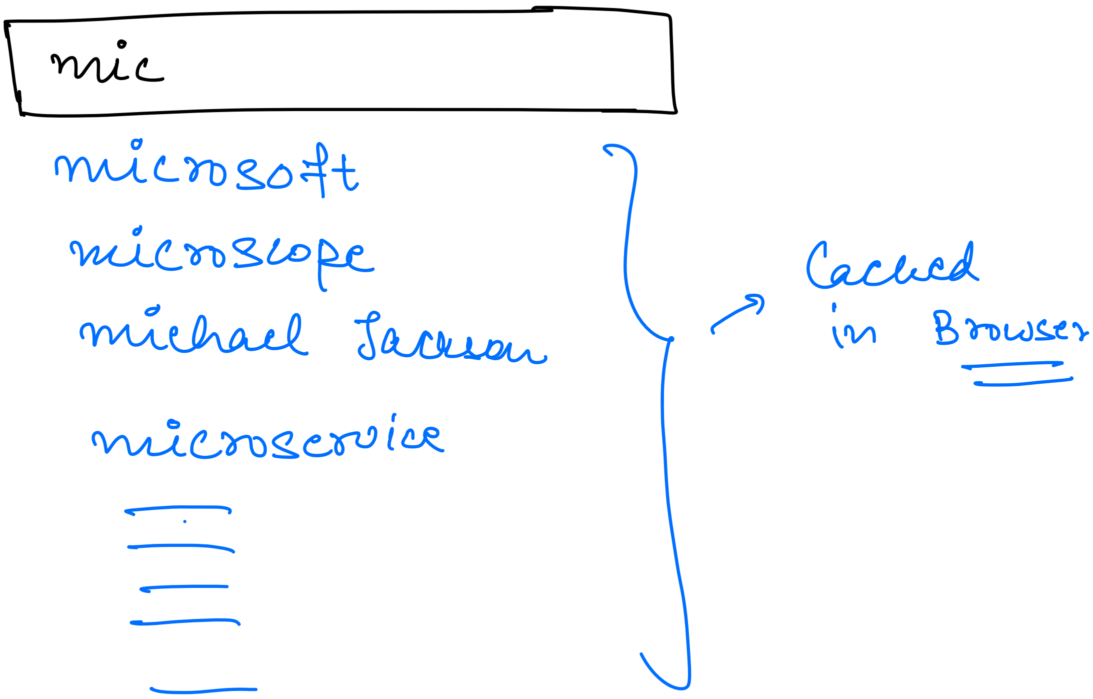
I) Client Side Caching | Browser Caching

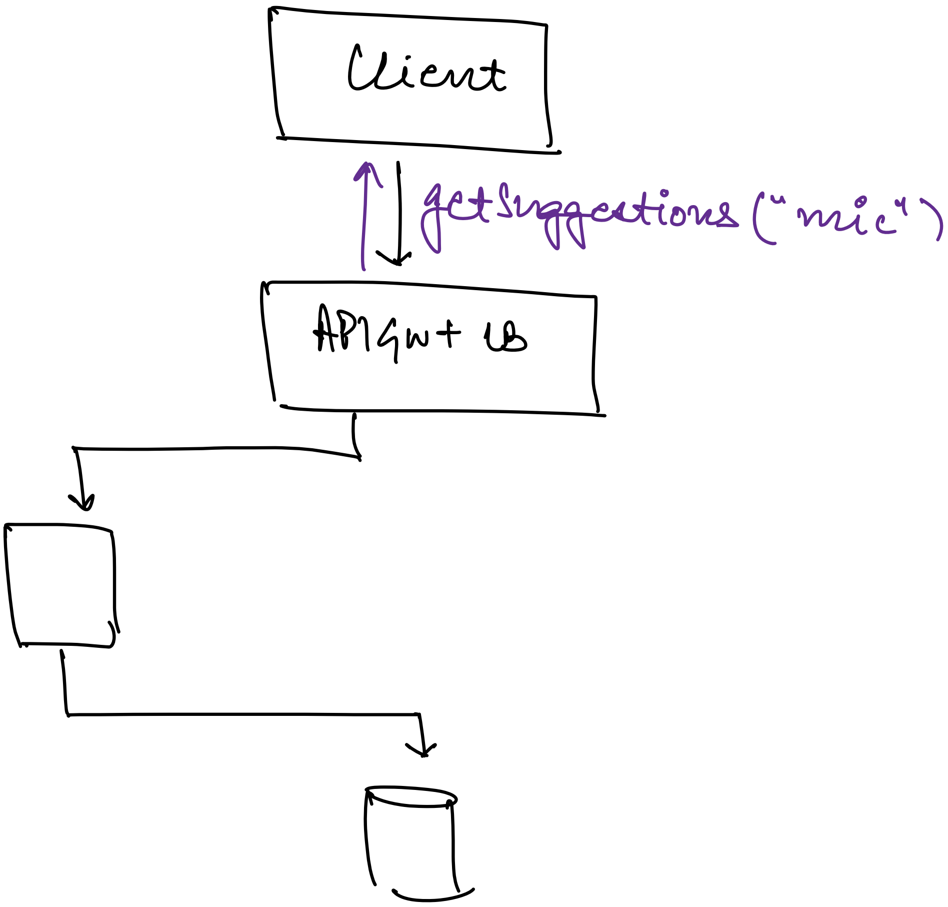


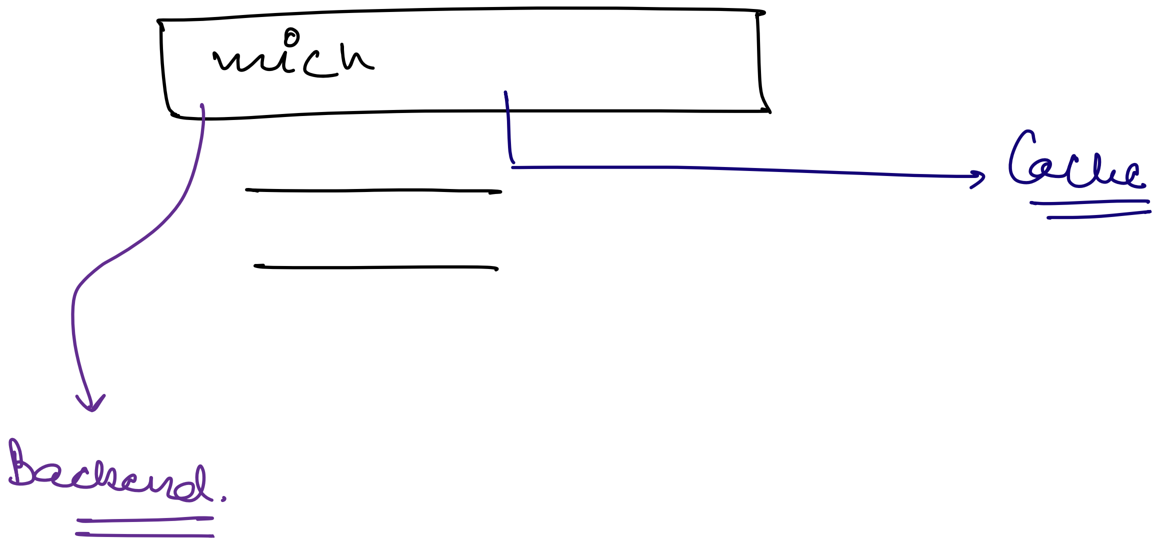
⇒ Pagination.

⇒

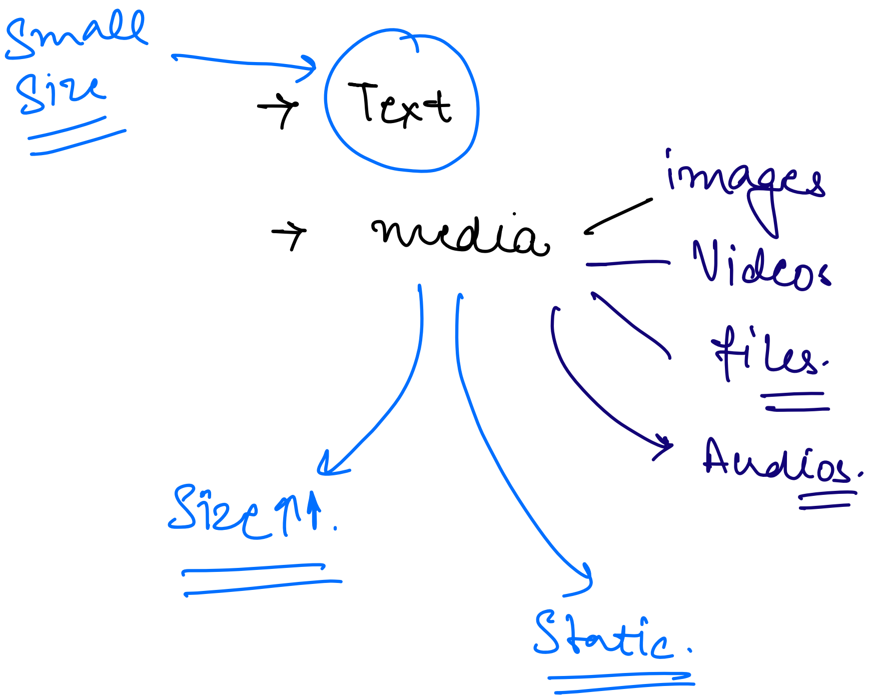
Chrome Browser.







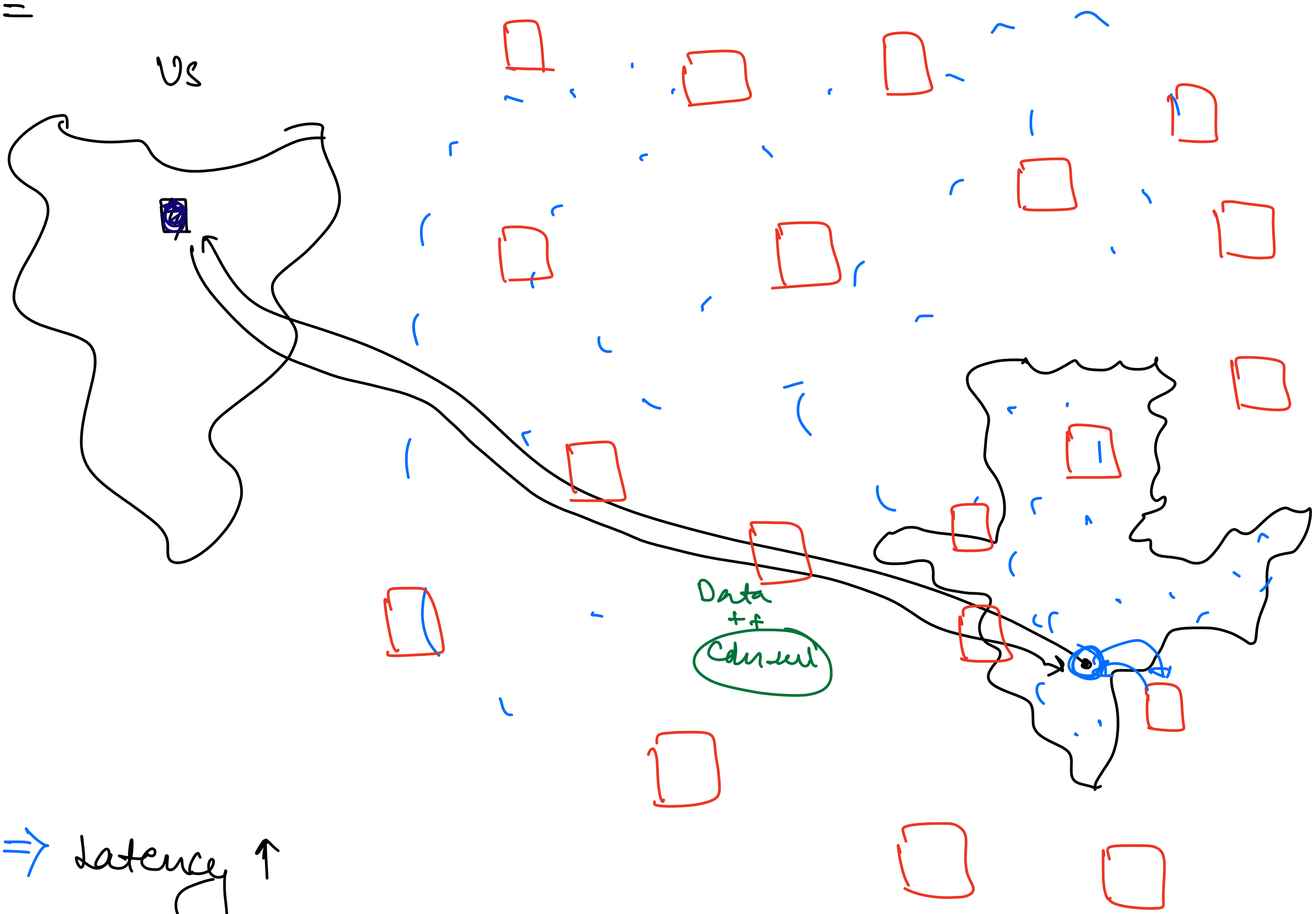
Content Delivery Network. = CDN.



CDN.

- Akamai
- Cloudflare
- Cloud front
- FBCDN.

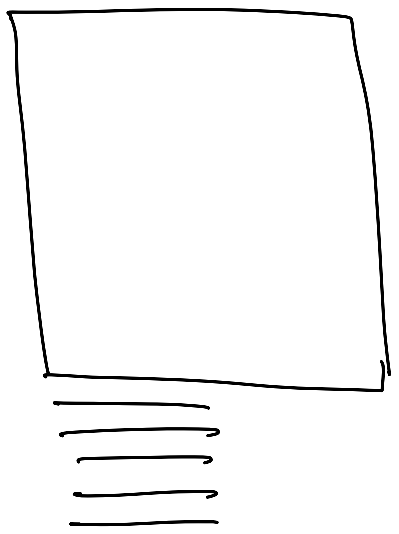
=

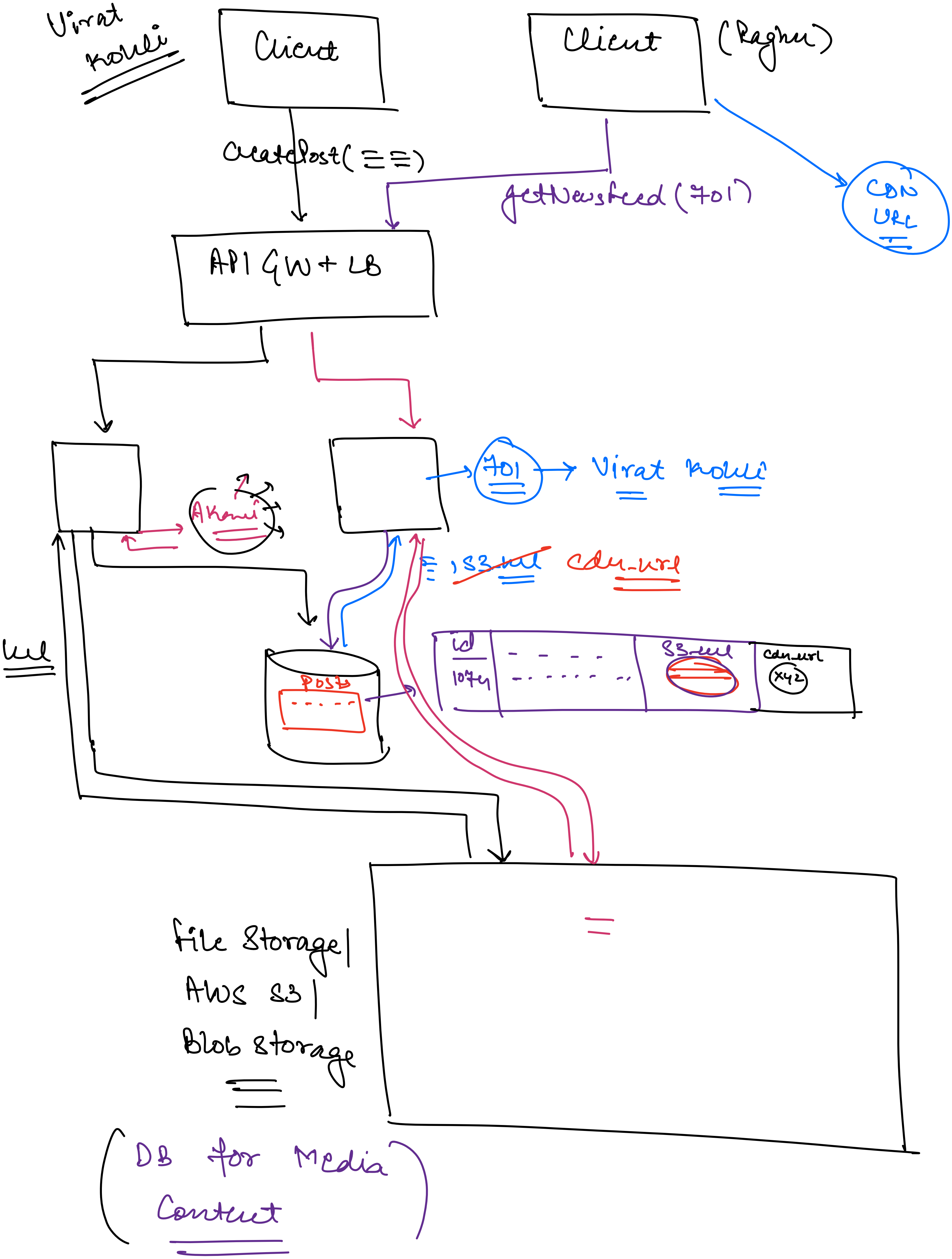


⇒ Latency ↑

⇒ N/w congestion

⇒ App^ & DB server will get overloaded.





id		S3_url	cdn_url
1074	- - - - - - ..		x42

⇒ **CDN.**

↳ Geographically distributed n/w of m/c to store frequently accessed data.

→ Edge m/c or Edge nodes or Geo Nodes.

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