Fast Cache Warming.

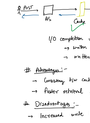
→ Database as caching layer. (Facebook name Flash)
→ Thundering Herd.

Agenda

→ 101 on Cache update strategies
→ CAP theorem.

Cache update Strategy

① Write Through Cache :-



Advantages :-
→ Consistency after cache & db
→ Faster retrieval of recent data.

Disadvantages :-
→ Increased write latency

Application Usecase :-
→ Apps that want to retrieve the recently written data frequently
eg. Critical commerce

Cache

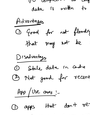
② Write Around Cache

I/O Completion is confirmed as persistent data is written to db

Advantages
① Good for not frequently read data. i.e. write intensive/bias that may not be subsequent recent
Disadvantages
② Stale data in cache
③ Not good for recently written data

App / UI usecase :-
① Apps that don't retrieve recently written data
eg. Facebook/ Twitter apps
② SMS

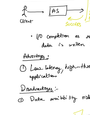
Read Through Cache :-



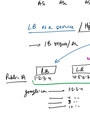
③ Write back cache

• I/O completion as soon as data is written to Cache

Advantages
① Low latency, high throughput for write intensive applications
Disadvantages :-
② Data availability risk / Chances of data loss



Use Cases :-
• Google docs / Office 365
• Leaderboard / Ecommerce
• SOT counters / Likes


LLM
Lance ML
Embed (ML)
Embed
Client
Client
Client