INTERVIEW READY

Everything About Cache

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What is Cache?

A cache is temporary storage that stores a part of our database in memory.

Types of Cache

- **Local Cache: A local cache is nothing but a memory inside the service itself. Since the data is present in the memory, it is much faster to get the data. It reduces data consistency while increasing response time.**

Types of Cache

- **Global Cache: Instead of each node having its data copy, we have a central data copy, which is a single node storing all the key-value pairs in its memory. It improves the data consistency but reduces the response time.**

Write Policies in Cache

A write policy is triggered when there is a write operation in the cache. Keep in mind that it is different from the replacement policy. A replacement policy is triggered when there is no space for a new key and a key is evicted from the cache

Write-Back Policy:

If the key-value pair that is to be updated is present in the cache then it is updated. However, the key-value pair is not immediately updated in the database. So as long as the cache is alive, users will get consistent data. However, if the cache is not alive, the data will be stale.

Write Through Policy:

In this policy, when there is a write request, we evict the key that is being updated, while simultaneously updating the database. The next time there is a read request, that is when the cache polls the database for the entry, persists the entry and sends the response to the user.

Write-Around Policy:

In this policy, when we get a write request, instead of updating the entry in the cache, we update the entry in the database. Now when we get a read request, we will send the stale value from the cache. And we will be getting stale value until the entry is evicted from the cache.

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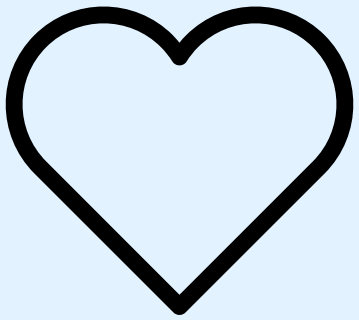

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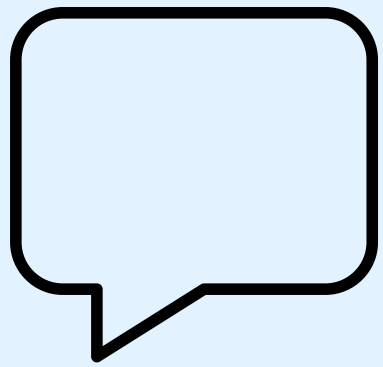

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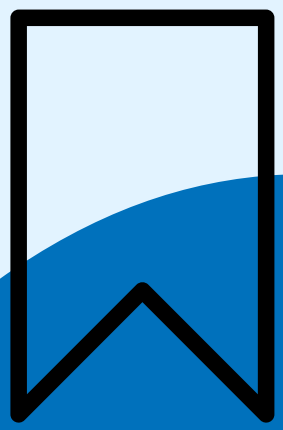

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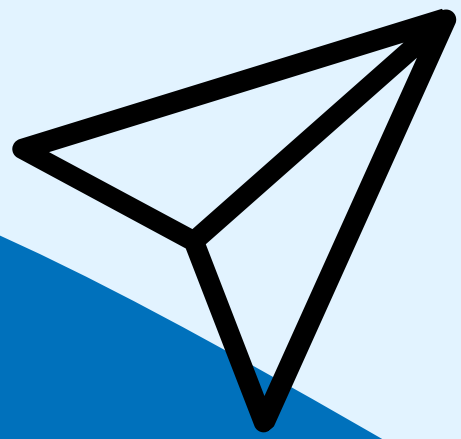

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