

Caching

Computing

Where to cache, how to invalidate, and the failure modes of each.

Strategies, roughly from simplest to most involved.

Strategy	How	Risk
TTL expiry	Expire after n seconds	Stale within the window
Write-through	Update cache on every write	Slower writes
Write-behind	Write cache now, store later	Data loss on crash
Cache-aside	App checks cache, then store	Thundering herd on a miss
Explicit invalidation	Delete the key on change	Easy to miss a path

Cache stampede: many requests miss at once and all hit the database.
Fix with a lock, or by staggering the TTLs.