

Cache Decision Worksheet

System Design Interview Quick Reference

1) Is This Data Cache-Worthy?

- Read-to-write ratio > 10:1
- Expensive to compute (> 50ms)
- Tolerates staleness (how many seconds/minutes?)
- Frequently accessed (top 20% of requests)

Decision: If 3+ boxes checked → CACHE IT

2) Which Cache Type?

IF primarily static assets (images, CSS, JS) →
CDN caching

ELSE IF user-specific, session data →
Application-level (Redis/Memcached)

ELSE IF database query results → Query
result cache

ELSE IF entire HTML pages, not personalized
→ Full-page cache (Varnish)

3) Which Invalidation Strategy?

Consistency critical? → Write-through

Known freshness window? → TTL-based

High write volume, eventual consistency OK? →
Write-behind

Real-time updates needed? → Event-driven
invalidation

Database is source of truth? → Cache-aside
(most common)

4) Eviction Policy

General purpose → LRU

Known freshness requirements → TTL

Stable access patterns → LFU

Simple implementation → FIFO