

System Design Decision Justification Template

Interview Practice Guide

Section 1: The Four-Part Structure

1. **State the chosen option:** “I would use [SPECIFIC APPROACH]...”
2. **Explain what you’re optimizing:** “This optimizes for [QUALITY] because [REQUIREMENT]...”
3. **Acknowledge the sacrifice:** “We’re trading [WHAT YOU LOSE] for [WHAT YOU GAIN]...”
4. **Tie to system goals:** “For this system, [BENEFIT] matters more than [SACRIFICE] because [CONTEXT]...”

Section 2: Practice Examples (Fill-in Scenarios)

Scenario A — Database Choice

I would use [SQL / NoSQL / NewSQL] for [WORKLOAD] because we need [CONSISTENCY / QUERY PATTERNS / SCALE].

Tradeoff: we accept [DOWNSIDE] to gain [UPSIDE] given [CONTEXT].

Scenario B — Caching Strategy

I would cache [WHAT] at [LAYER: client/CDN/edge/app/DB] using [TTL / invalidation] to optimize for [LATENCY / COST].

Tradeoff: we risk [STALE DATA / COMPLEXITY] but it’s acceptable because [CONSISTENCY NEED] and [SLO].

Scenario C — Consistency Model

I would use [strong / eventual / session] consistency for [ENTITY] to optimize for [CORRECTNESS / AVAILABILITY / PERFORMANCE].

Tradeoff: we give up [LATENCY / AVAILABILITY / FRESHNESS] in exchange for [BENEFIT] because [USER EXPECTATION / BUSINESS RISK].

Section 3: Common Mistakes Checklist

- Avoided circular reasoning
- Used specific metrics, not vague benefits
- Explicitly acknowledged downsides
- Connected to requirements, not authority