Contents

Scenario: Adoption of Unproven Technology

Describe your evaluation, risk mitigation, and rollout plan for adopting a new, unproven technology in production.

Purpose

- Tests your ability to balance innovation with risk
- Evaluates your approach to technical due diligence
- Assesses your planning for safe rollout and rollback
- Checks your communication and stakeholder management skills

---

Summary

Conduct spike testing and benchmarks. Compare reliability and cost. Deploy gradually behind feature flags. Roll back if SLOs are impacted.

Evaluation & Due Diligence

- **Define Requirements:** Clarify business and technical goals for adopting the new technology.
- **Research & Compare:** Review documentation, community support, and alternatives.
- **Proof of Concept (PoC):** Build a small-scale prototype to validate core features and integration points.
- **Benchmarking:** Measure performance, reliability, and cost against current solutions.
- **Security & Compliance:** Assess for vulnerabilities, licensing, and regulatory risks.

Risk Mitigation

- **Identify Risks:** List potential failure modes (e.g., lack of support, performance bottlenecks, vendor lock-in).
- **Mitigation Strategies:**
  - Isolate the new technology behind clear interfaces or APIs

  - Use feature flags or toggles for easy enable/disable
  - Ensure robust monitoring and alerting
  - Plan for rapid rollback
- **Stakeholder Buy-in:** Present findings and risks to engineering, product, and leadership for approval.

Rollout Plan

- **Incremental Deployment:**
  - Start with non-critical or internal workloads
  - Gradually expand to more users or services
- **Shadow/Parallel Testing:** Run the new technology alongside the old to compare results in real time
- **Monitor SLOs:** Track latency, error rates, and user impact
- **Rollback Plan:** Define clear criteria and process for reverting to the previous solution if issues arise

---

Communication

- **Internal:**
  - Keep engineering and product teams updated on progress, risks, and results
  - Document decisions, trade-offs, and lessons learned
- **External (if applicable):**
  - Communicate changes to customers if user experience may be affected

---

Post-Adoption Review

- **Evaluate Outcomes:** Did the new technology meet goals for performance, reliability, and cost?
- **Document Learnings:** Capture what worked, what didn't, and recommendations for future adoptions
- **Share Results:** Present findings to the broader team or organization

---

Metrics for Success

- Time to value (from PoC to production)
- Impact on SLOs (latency, error rate, uptime)
- Cost savings or improvements
- User and stakeholder satisfaction