Service Discovery - Discussion Topics

Architecture & Design

1. **When to use client-side vs server-side service discovery?**

   - Trade-offs between complexity and flexibility

   - Impact on client libraries and coupling

   - Load balancing considerations

2. **How do you choose between Consul, etcd, and ZooKeeper?**

   - Consistency models (CP vs AP)

   - Operational complexity

   - Feature sets and ecosystem support

3. **What are the risks of DNS-based service discovery?**

   - TTL and caching issues

   - Propagation delays

   - Load balancing limitations

Real-World Scenarios

1. **Design service discovery for a multi-region deployment**

   - Regional vs global registries

   - Failover strategies

   - Latency-aware routing

2. **How would you handle a service registry failure?**

   - Graceful degradation

   - Local caching strategies

   - Recovery procedures

Health Checking & Reliability

1. **What's your approach to health check design?**

   - Shallow vs deep health checks

   - Check frequency and timeout tuning

   - Cascading failure prevention

2. **How do you prevent flapping services?**

   - Debouncing strategies

   - Gradual rollout/rollback

   - Circuit breaker integration

Advanced Topics

1. **Service mesh vs traditional service discovery: When to use each?**

   - Sidecar proxy trade-offs

   - Operational complexity

   - Feature requirements

2. **How do you handle service discovery during deployments?**

   - Blue-green deployment integration

   - Canary release support

   - Connection draining strategies