Load Balancer - Discussion Topics

Architecture & Design

1. **Layer 4 vs Layer 7 load balancing: When to use which?**

   - Performance implications

   - Feature trade-offs

   - Use case scenarios

2. **How do you design for high availability in load balancing?**

   - Active-active vs active-passive

   - Health check strategies

   - Failover mechanisms

3. **What are the trade-offs of client-side vs server-side load balancing?**

   - Service mesh patterns

   - Complexity and control

   - Performance considerations

Real-World Scenarios

1. **Design a load balancing strategy for a microservices architecture**

   - Service discovery integration

   - Dynamic scaling considerations

   - Circuit breaker patterns

2. **How would you handle sticky sessions in a distributed system?**

   - Session affinity approaches

   - Stateless design alternatives

   - Trade-offs with scalability

Performance & Optimization

1. **How do you choose the right load balancing algorithm?**

   - Round-robin vs least connections vs weighted

   - Application characteristics

   - Monitoring and tuning

2. **What metrics matter most for load balancer performance?**

   - Latency (P50, P99)

   - Connection pooling efficiency

   - Backend health and distribution

Advanced Topics

1. **How do you implement global load balancing across regions?**

   - DNS-based GSLB

   - Anycast routing

   - Latency-based routing

2. **What's your approach to zero-downtime deployments with load balancers?**

   - Blue-green deployments

   - Canary releases

   - Connection draining strategies

3. **How do you handle WebSocket connections with load balancers?**

   - Connection persistence

   - Scaling challenges

   - Protocol upgrade handling