

Circuit Breaker & Resilience - Learning Materials

Articles & Blogs

- [Circuit Breaker Pattern](#) - Martin Fowler's original explanation of the pattern
- [Release It! Design Patterns](#) - Michael Nygard's stability patterns (Chapter 5)
- [Netflix Hystrix: How It Works](#) - Deep dive into Netflix's circuit breaker implementation
- [Resilience4j User Guide](#) - Comprehensive guide to modern Java resilience library
- [Exponential Backoff and Jitter](#) - AWS Architecture Blog on retry strategies

Videos

- [Resilience Engineering with Resilience4j](#) - Spring I/O conference talk
- [Circuit Breaker Pattern Explained](#) - ByteByteGo visual explanation
- [Building Resilient Microservices](#) - QCon talk on resilience patterns
- [Chaos Engineering at Netflix](#) - How Netflix tests resilience

Technical Documentation

- [Resilience4j GitHub](#) - Source code and examples
- [Spring Cloud Circuit Breaker](#) - Spring's abstraction over circuit breaker implementations
- [Polly .NET Resilience Library](#) - .NET equivalent with excellent documentation
- [Istio Circuit Breaking](#) - Service mesh approach to resilience

Key Concepts to Explore

- Circuit breaker state machine (Closed → Open → Half-Open)
- Bulkhead pattern and thread pool isolation
- Exponential backoff with decorrelated jitter
- Timeout configuration strategies
- Fallback and graceful degradation patterns
- Chaos engineering and failure injection testing