

# Resiliency in microservices



# What is resiliency

Services are always in a state of partial failure and recovery due to hardware issues, networking glitches, virtual machine crashes, bursty traffic causing timeouts, etc.

Resiliency is a type of service architecture that help to prevent cascading failures and to preserve functionality in the event of service failure.

# Systems to pay attention to

- **Downstream services:** APIs that our service is calling, can be either 3rd-party services or services within our domain
- **Databases**
- **Messaging services**

Important metrics are: execution latency, requests per second and resources consumption

# Common patterns

## **Retry**

Simply retries an execution. **Can create snowflake effect**

## **Bulkhead**

Creates a bottleneck by limiting executions concurrency

## **Circuit Breaker**

Fails fast by blocking calls of failed downstreams