

**20/10**

PROJECT  
Decoder

# Microservices Patterns e Spring Projects

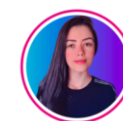
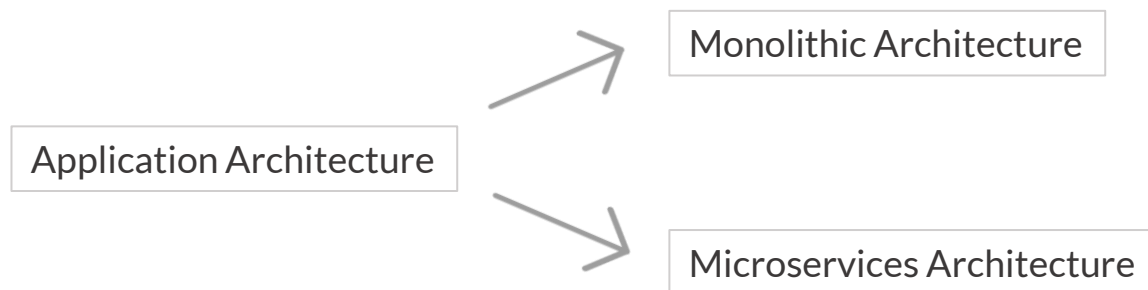
## Overview Completo

# O que você verá:

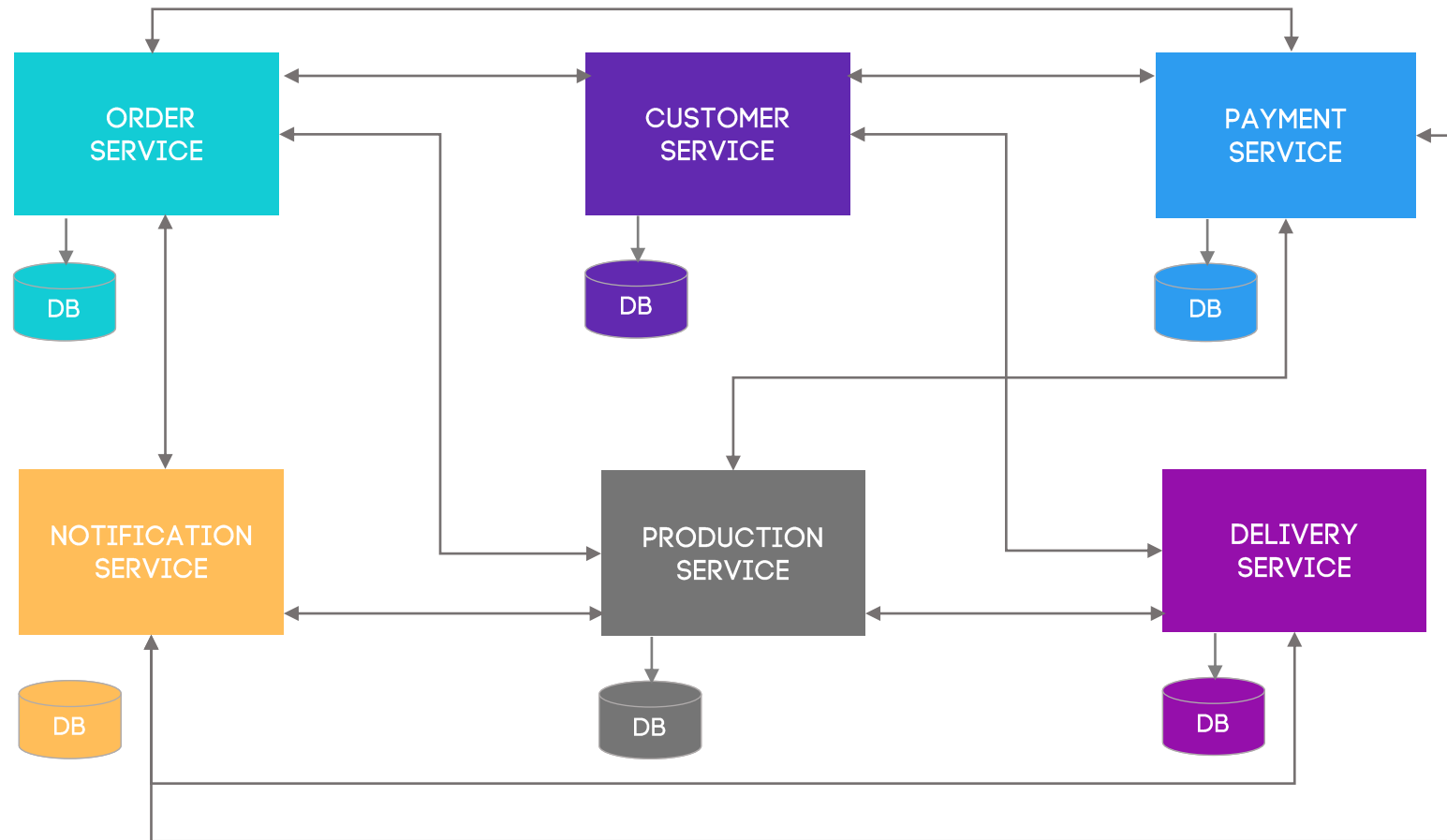
- Overview do ecossistema Spring para a implementação de Arquiteturas de Microservices;
- Comunicação entre Microservices;
- Comunicação Síncrona One-To-One Request/Response;
- API Gateway Pattern;
- Service Registry Discovery Pattern;
- Circuit Breaker Pattern;
- API Composition Pattern;
- Comunicação Assíncrona One-To-One via Mensageria;
- Comunicação Assíncrona One-To-Many via Mensageria;
- Broker Pattern;
- Mediator Pattern;
- Event Driven com Event Notification Pattern;
- Event Carried State Transfer Pattern;
- Saga Pattern;
- Externalized Configuration Pattern;
- Observability: Distributed Tracing;
- Observability: Metrics;
- Log Aggregation Pattern;
- Etc.



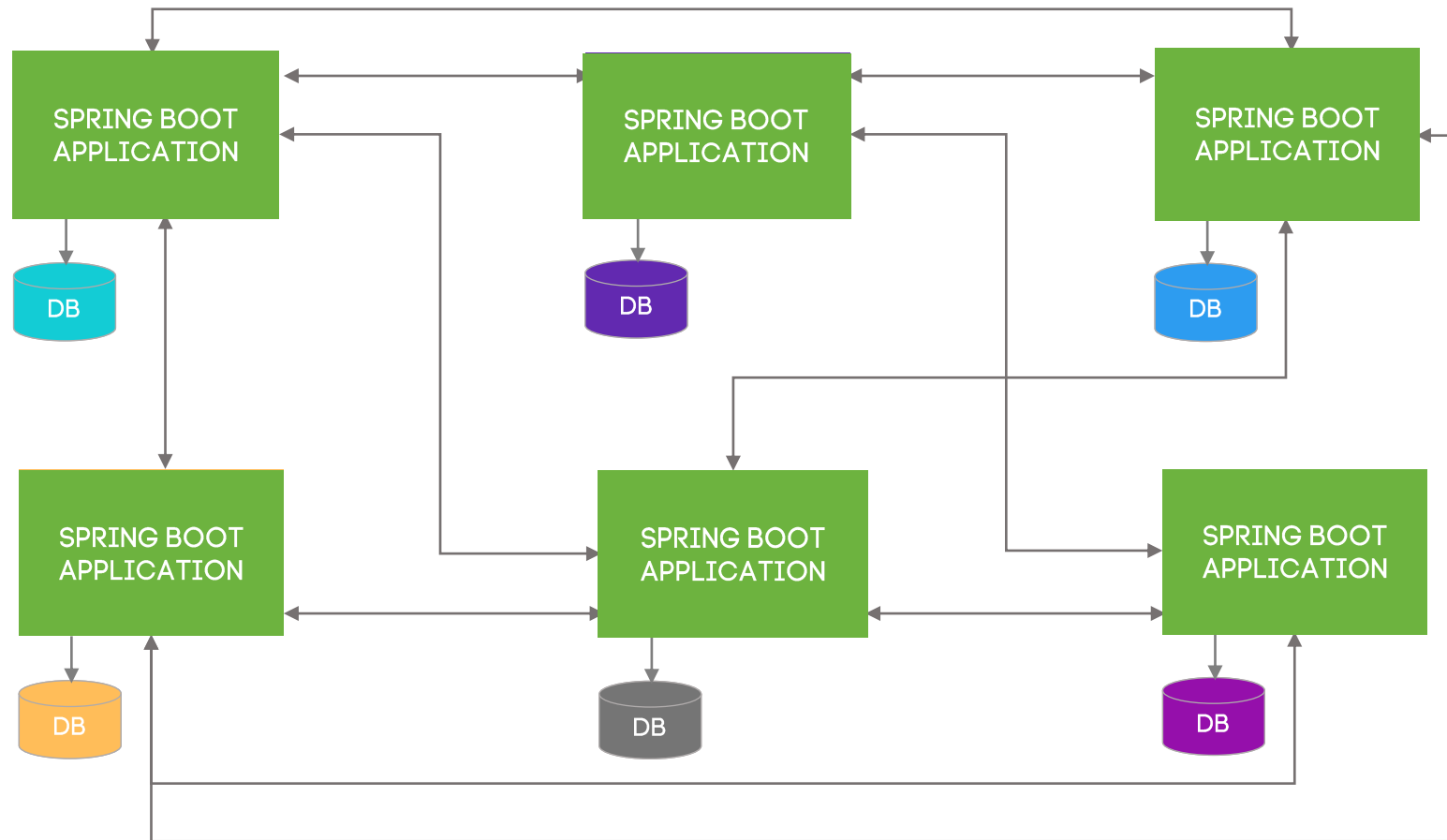
# Arquitetura da Aplicação



# Arquitetura de Microservices



# Arquitetura de Microservices



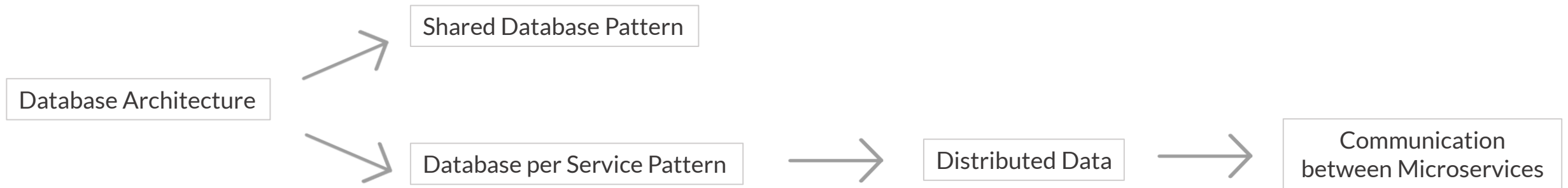
*Spring Projects*

Spring Boot  
Spring Data

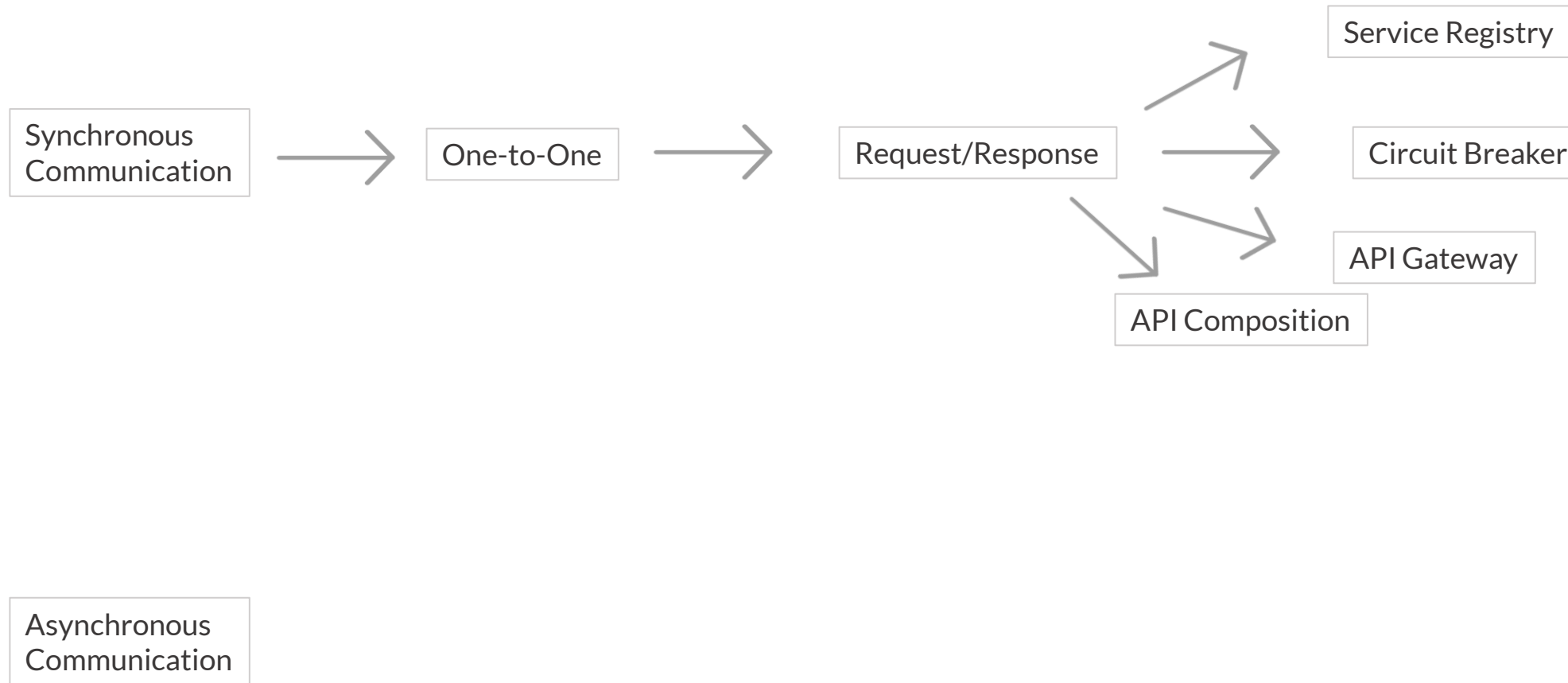


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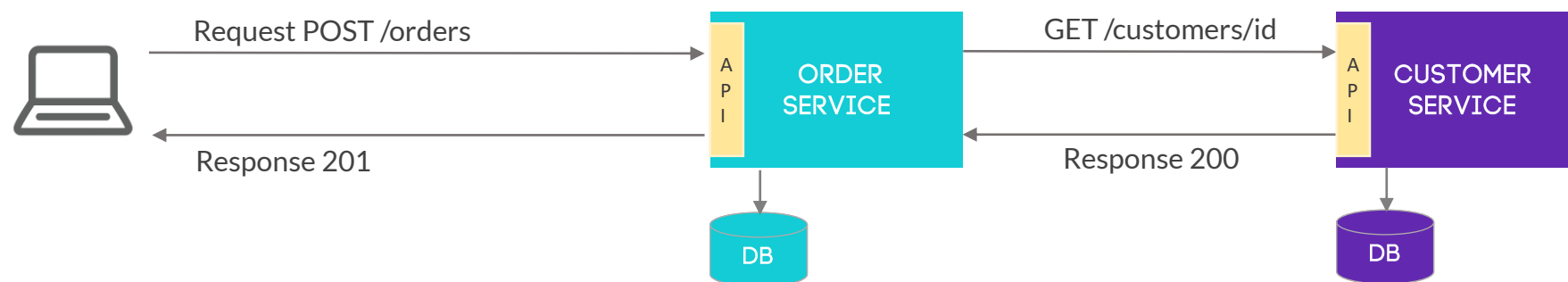
# Database Pattern



# Comunicação entre Microservices

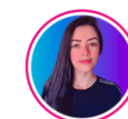


# Comunicação Síncrona via REST API



## Spring Projects

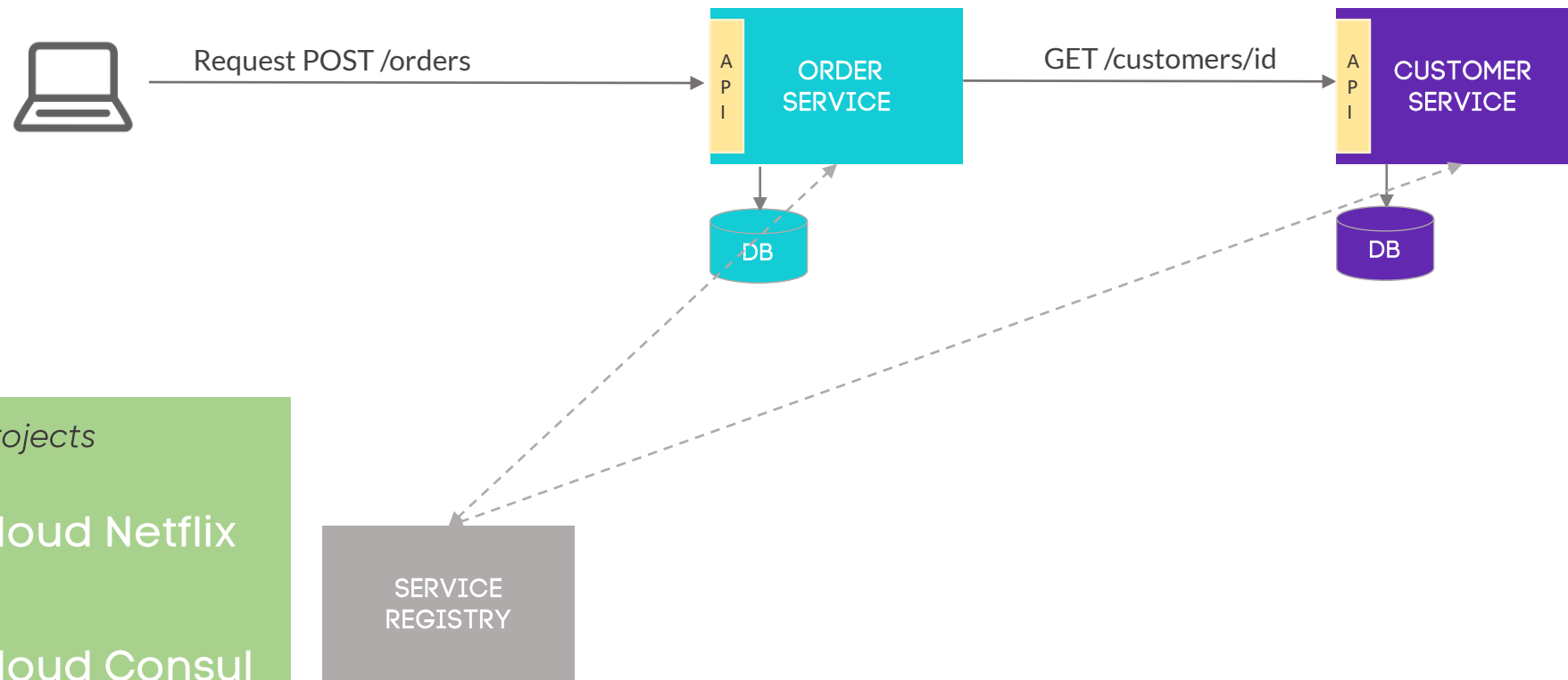
- Spring Web: RESTful and Spring MVC
- Spring Reactive Web: Spring Webflux
- Spring HATEOAS
- Spring Validation



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# Service Registry / Discovery



*Spring Projects*

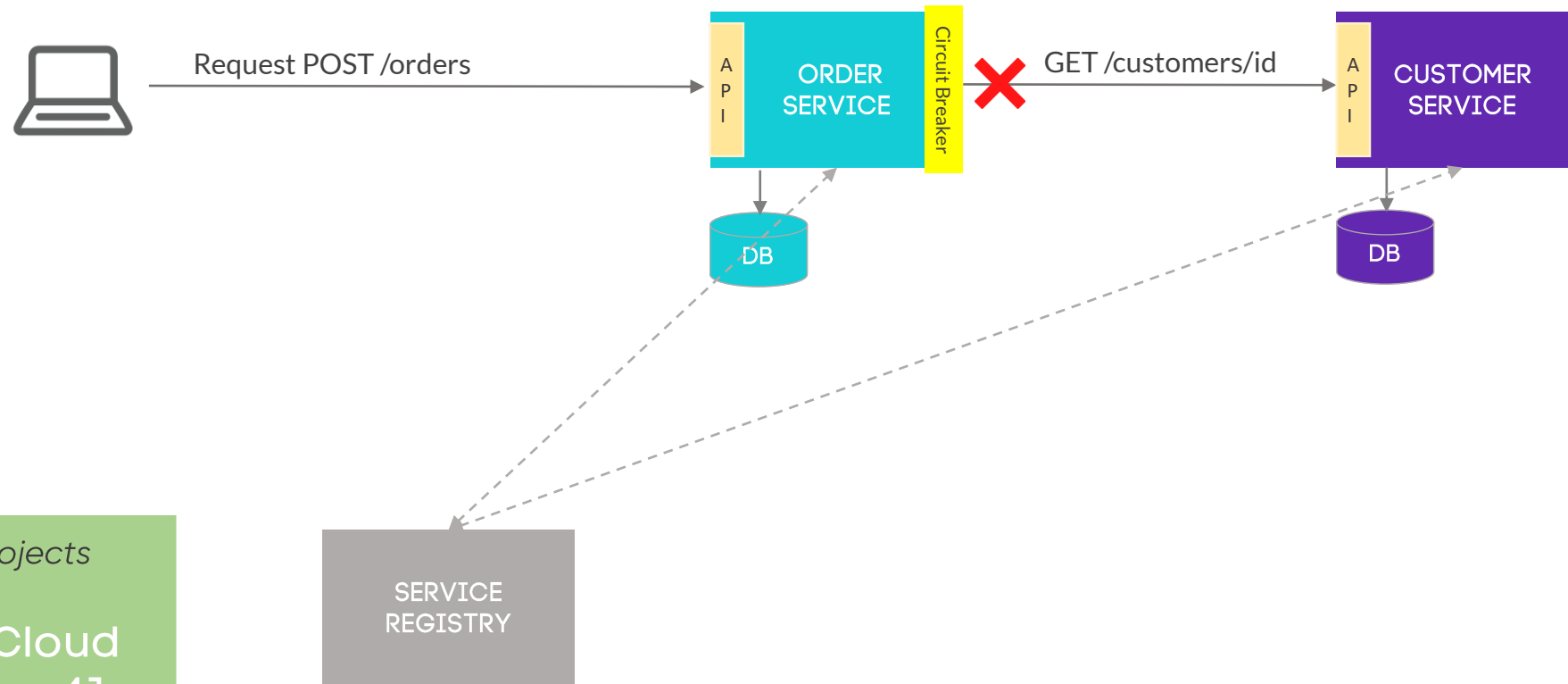
Spring Cloud Netflix  
Eureka

Spring Cloud Consul



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# Circuit Breaker



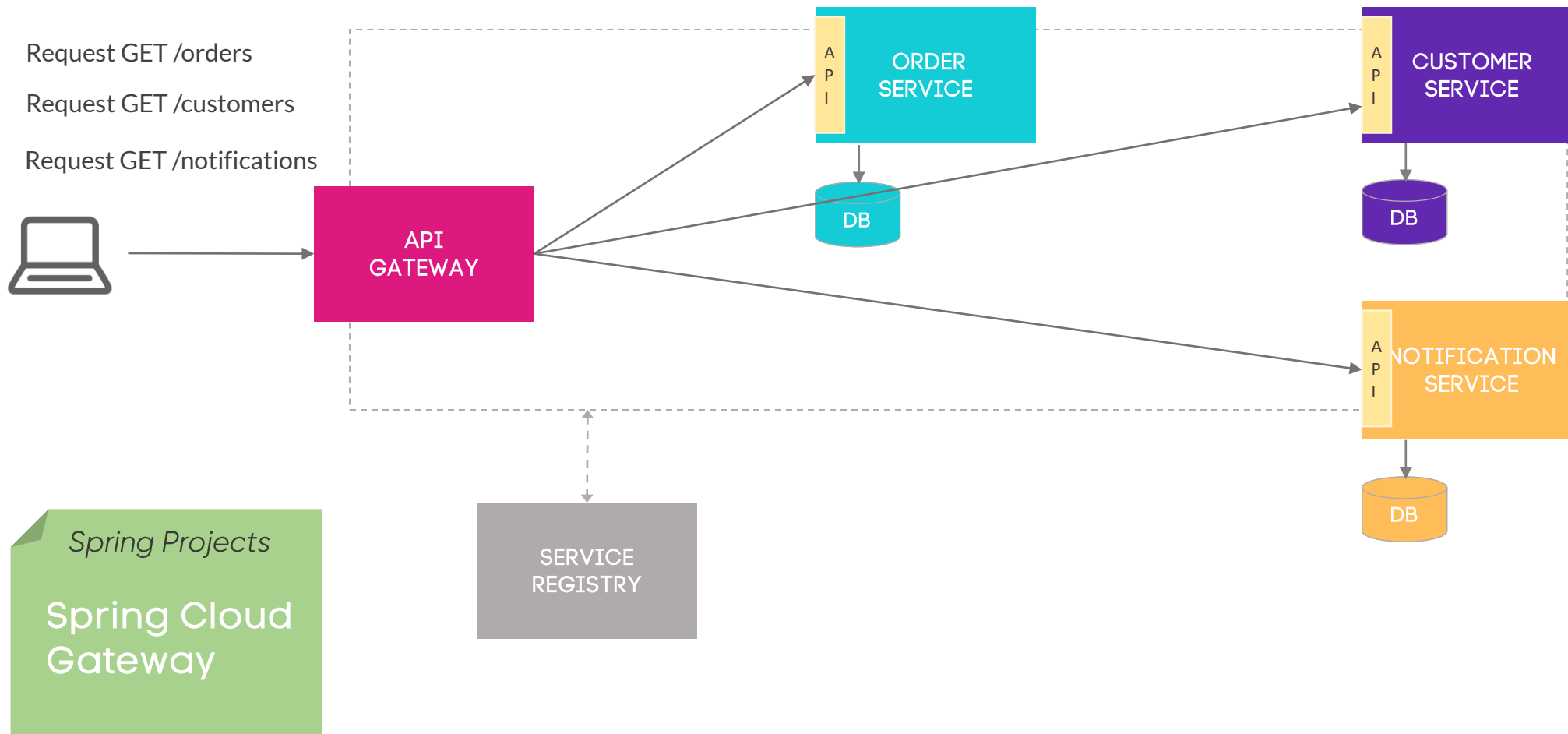
Spring Projects

Spring Cloud  
Resilience4J

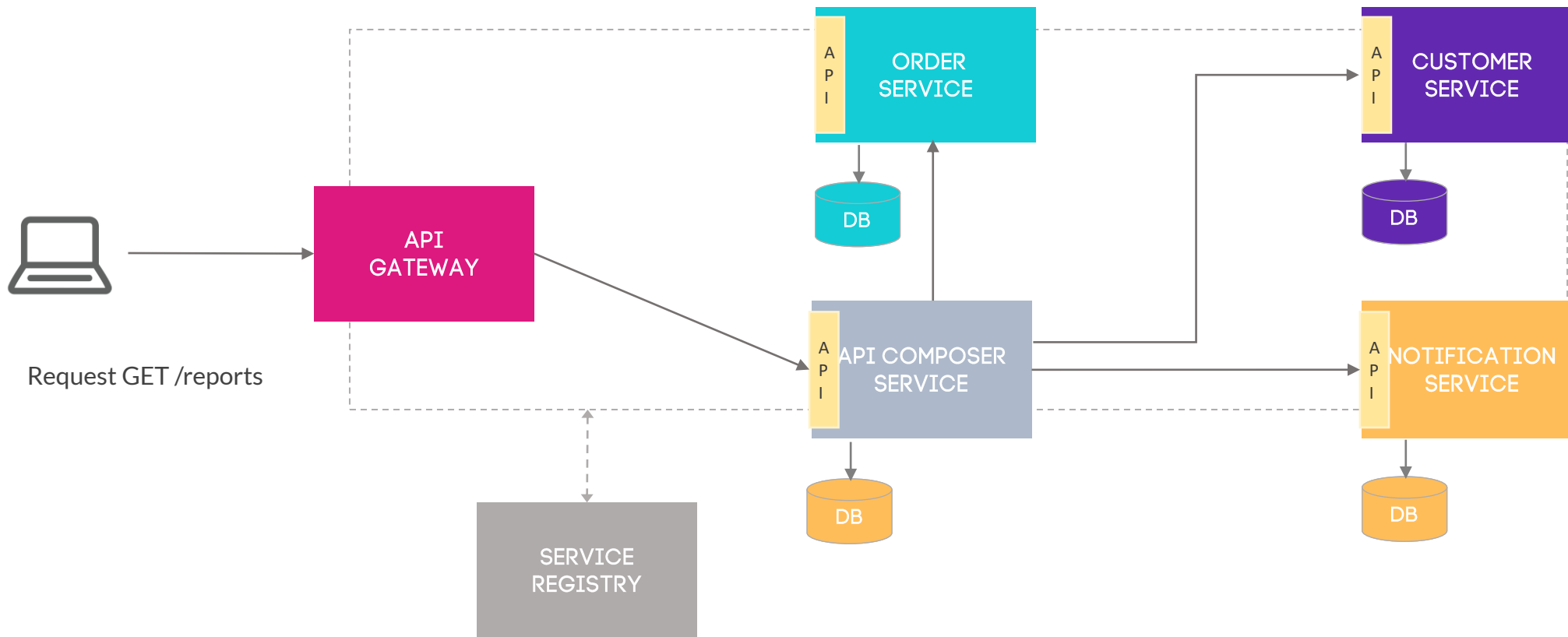


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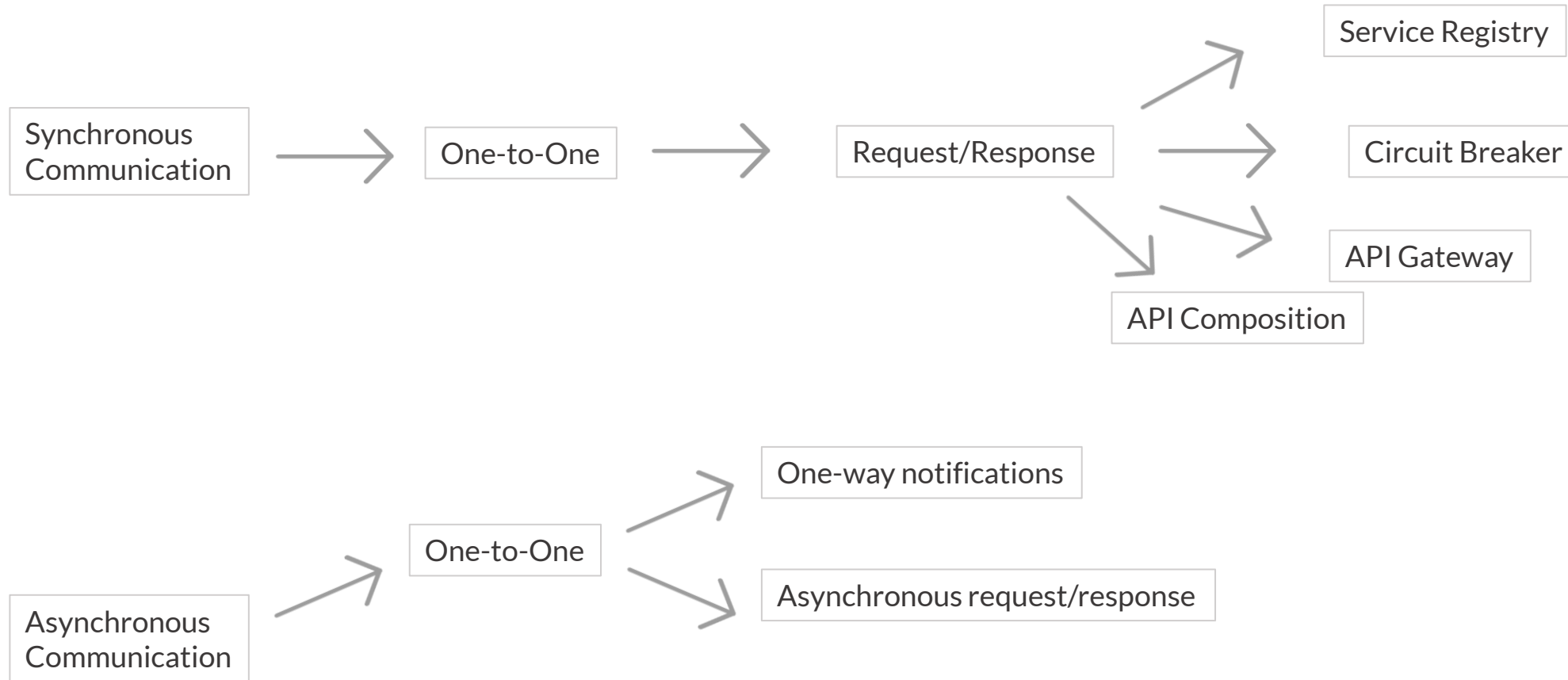
# API Gateway Pattern



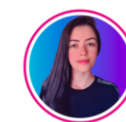
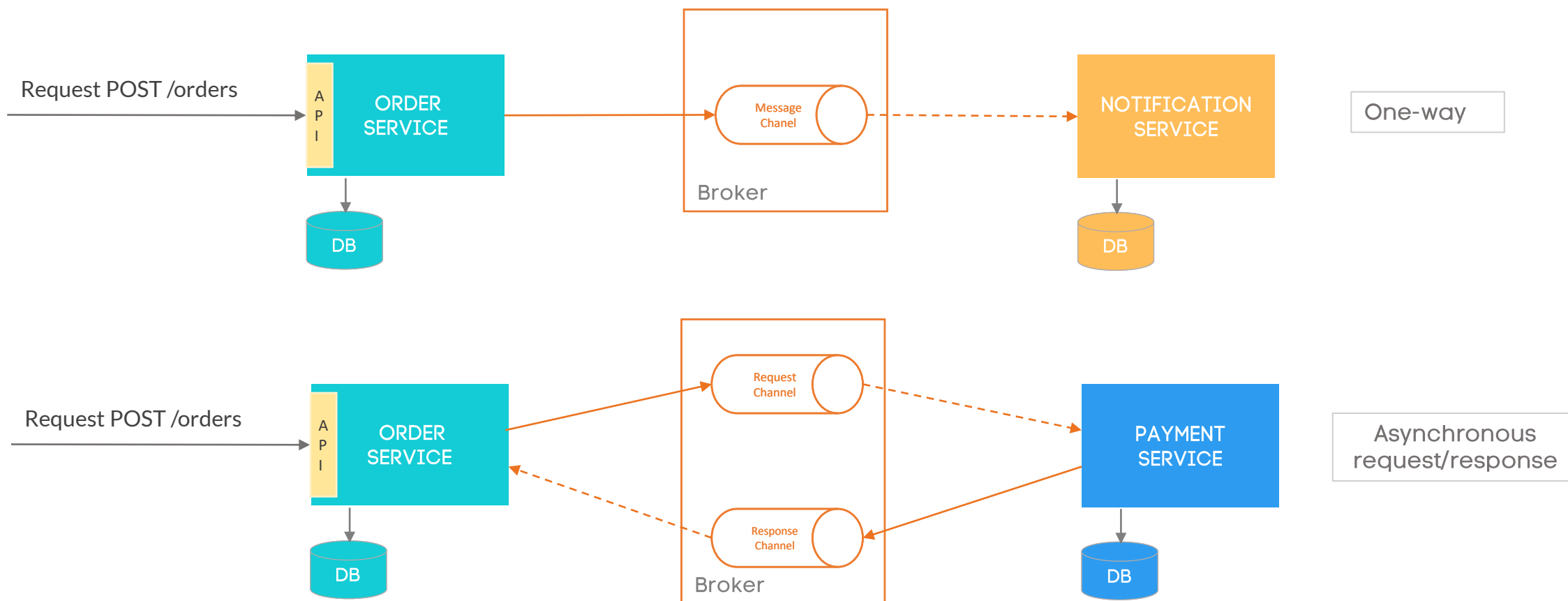
# API Composition Pattern



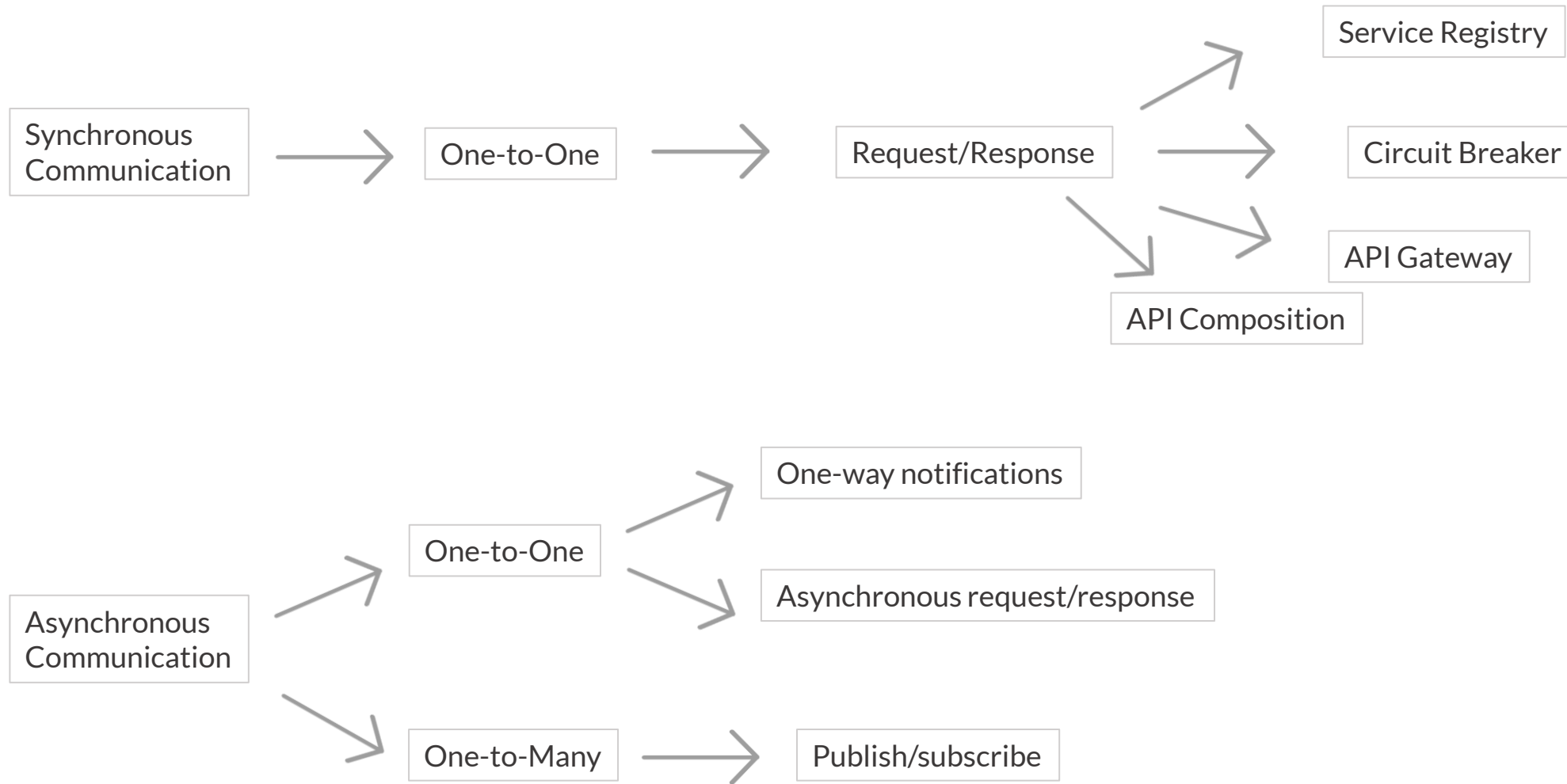
# Comunicação entre Microservices



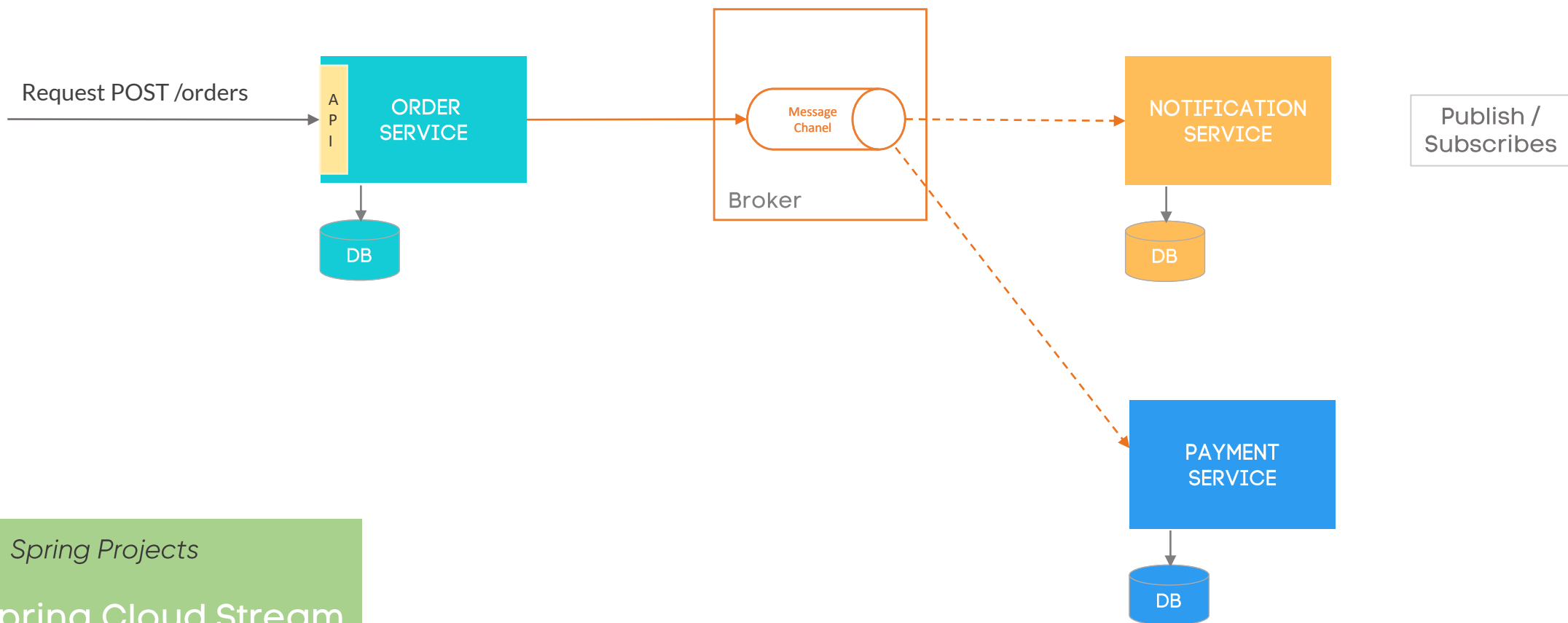
# Comunicação Assíncrona via Mensageria: One-To-One



# Comunicação entre Microservices

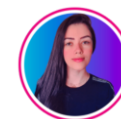


# Comunicação Assíncrona via Mensageria: One-To-Many



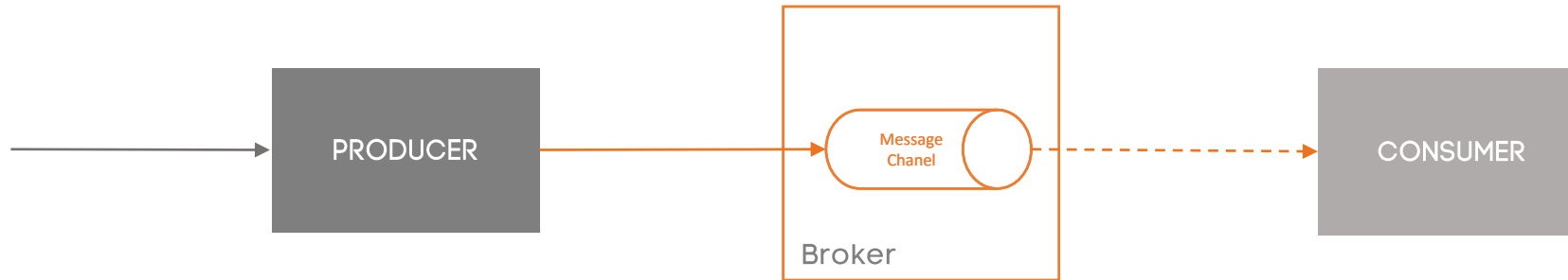
Spring Projects

Spring Cloud Stream  
Spring AMQP

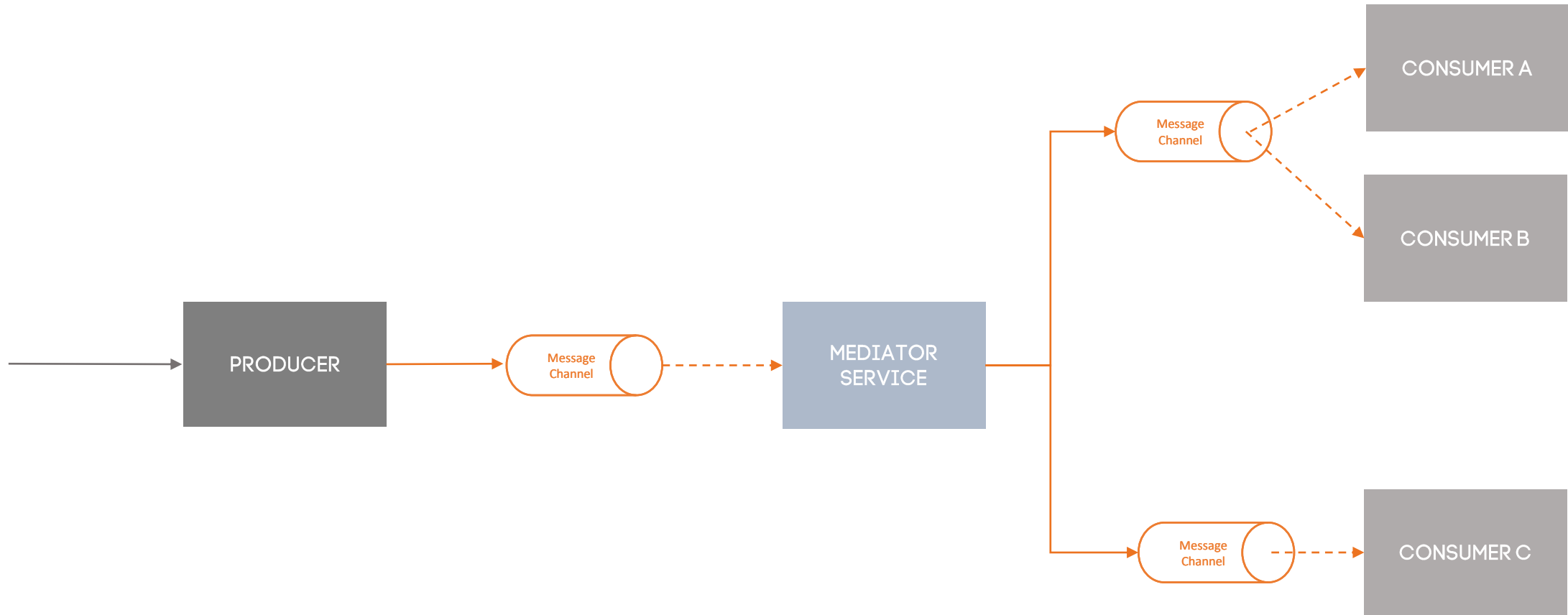




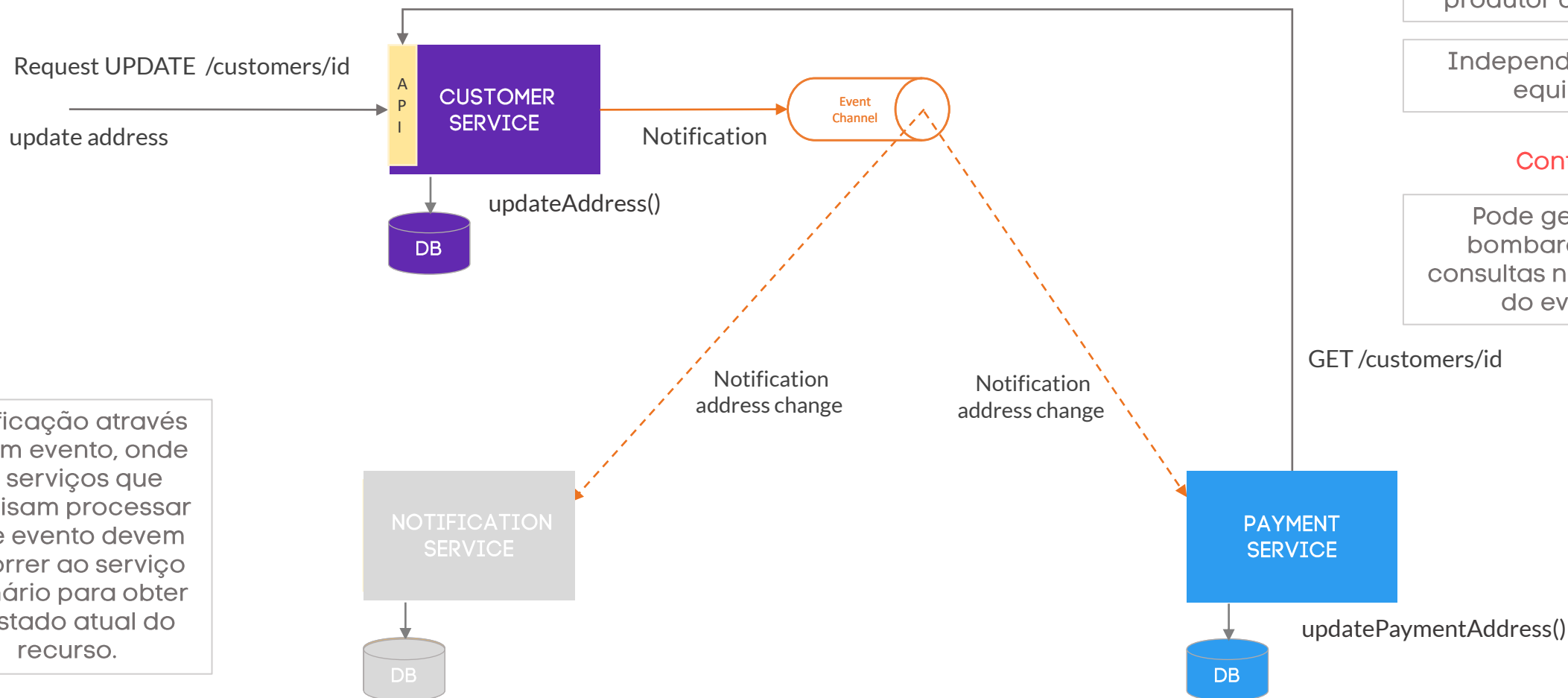
# Broker Pattern



# Mediator Pattern



# Event Notification Pattern



## Prós

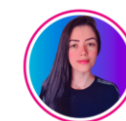
Isolamento de responsabilidade do produtor do evento

Independência de equipes

## Contras

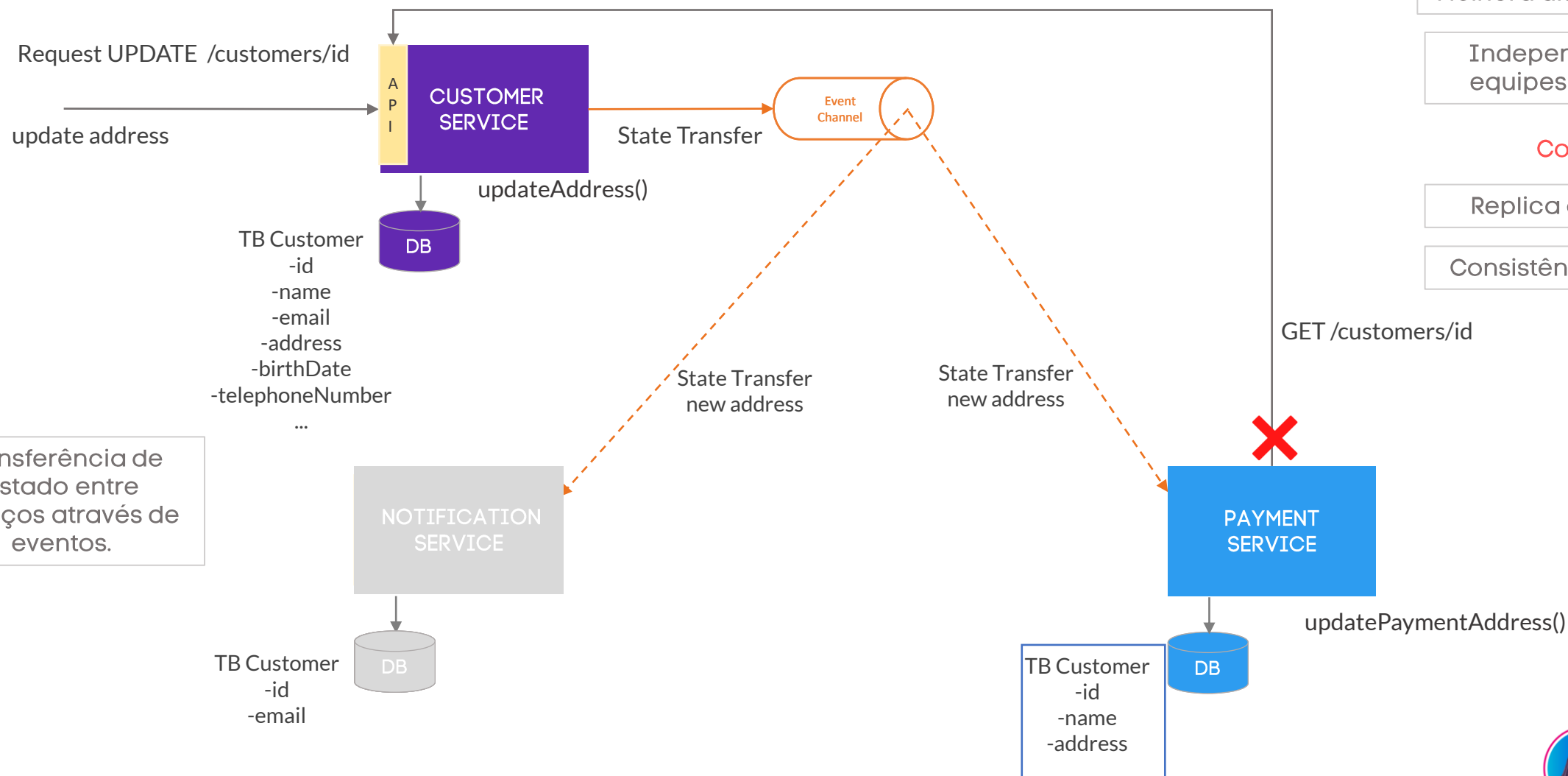
Pode gerar um bombardeio de consultas no produtor do evento

Notificação através de um evento, onde os serviços que precisam processar esse evento devem recorrer ao serviço primário para obter o estado atual do recurso.



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# Event-Carried State Transfer Pattern



## Prós

Melhora performance

Melhora disponibilidade

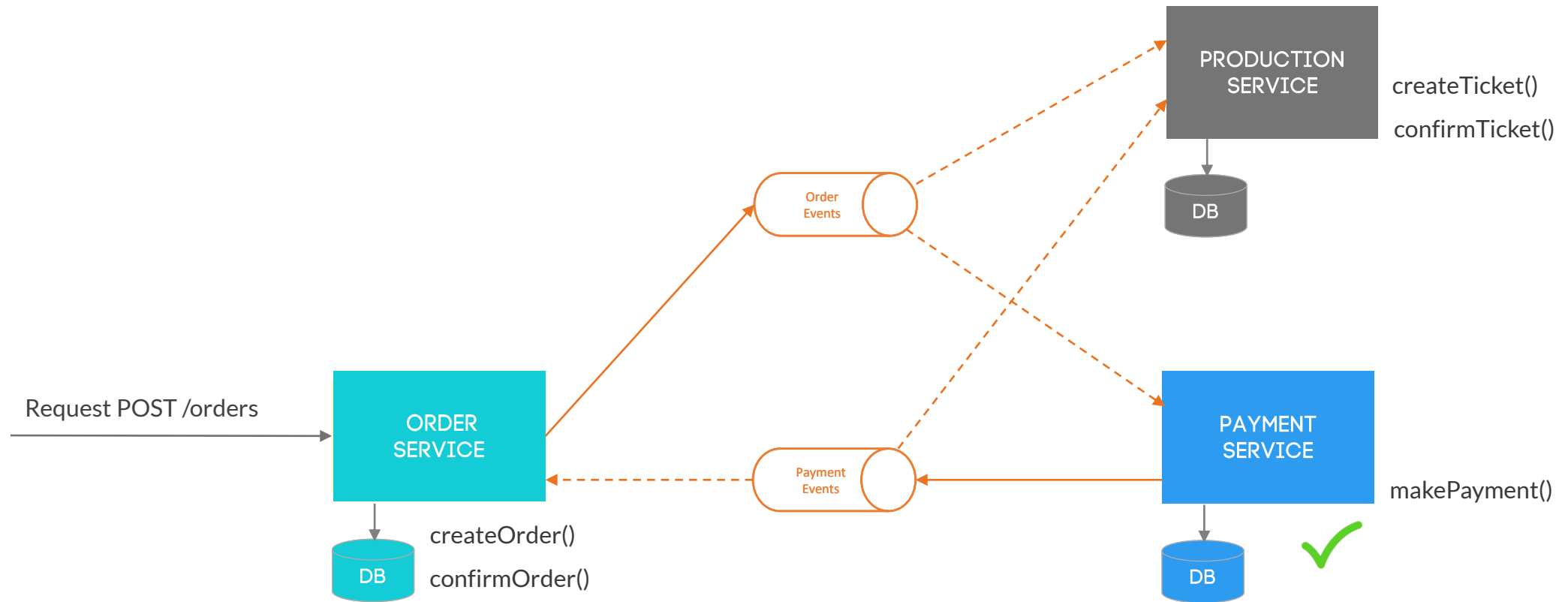
Independência de equipes e serviços

## Contras

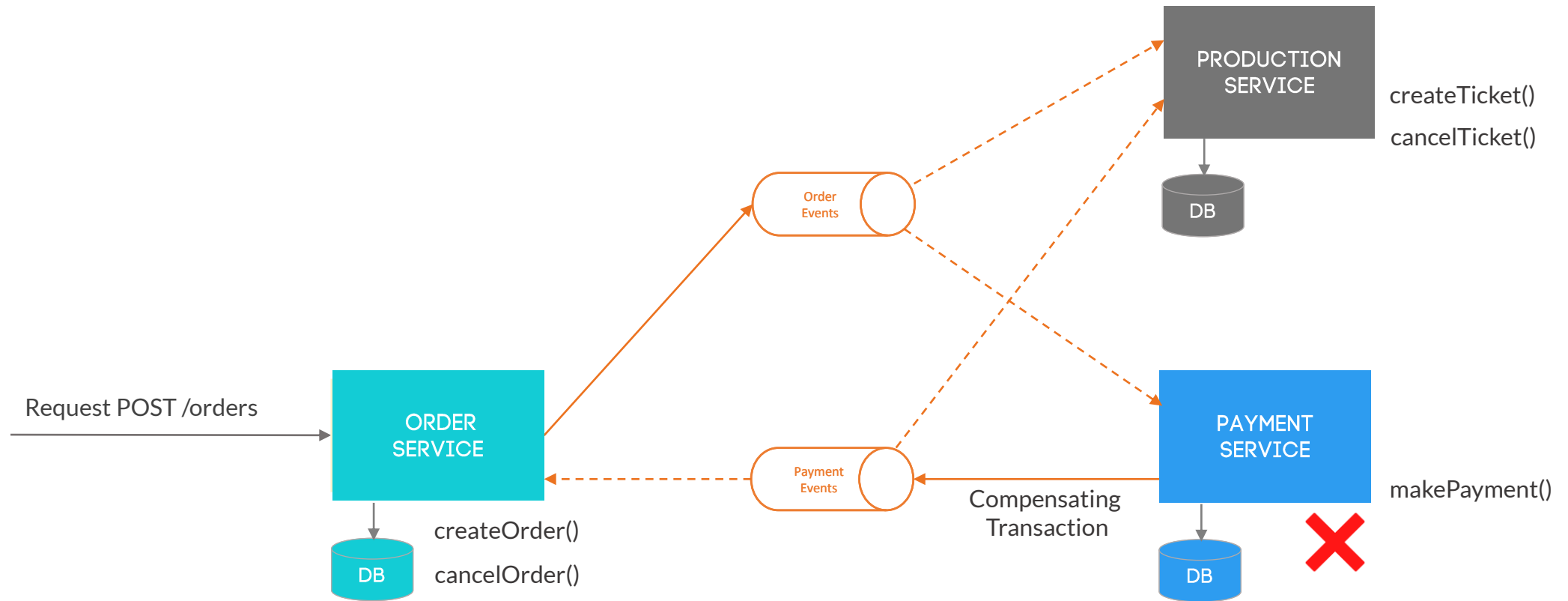
Replica dos dados

Consistência Eventual

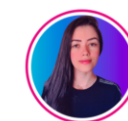
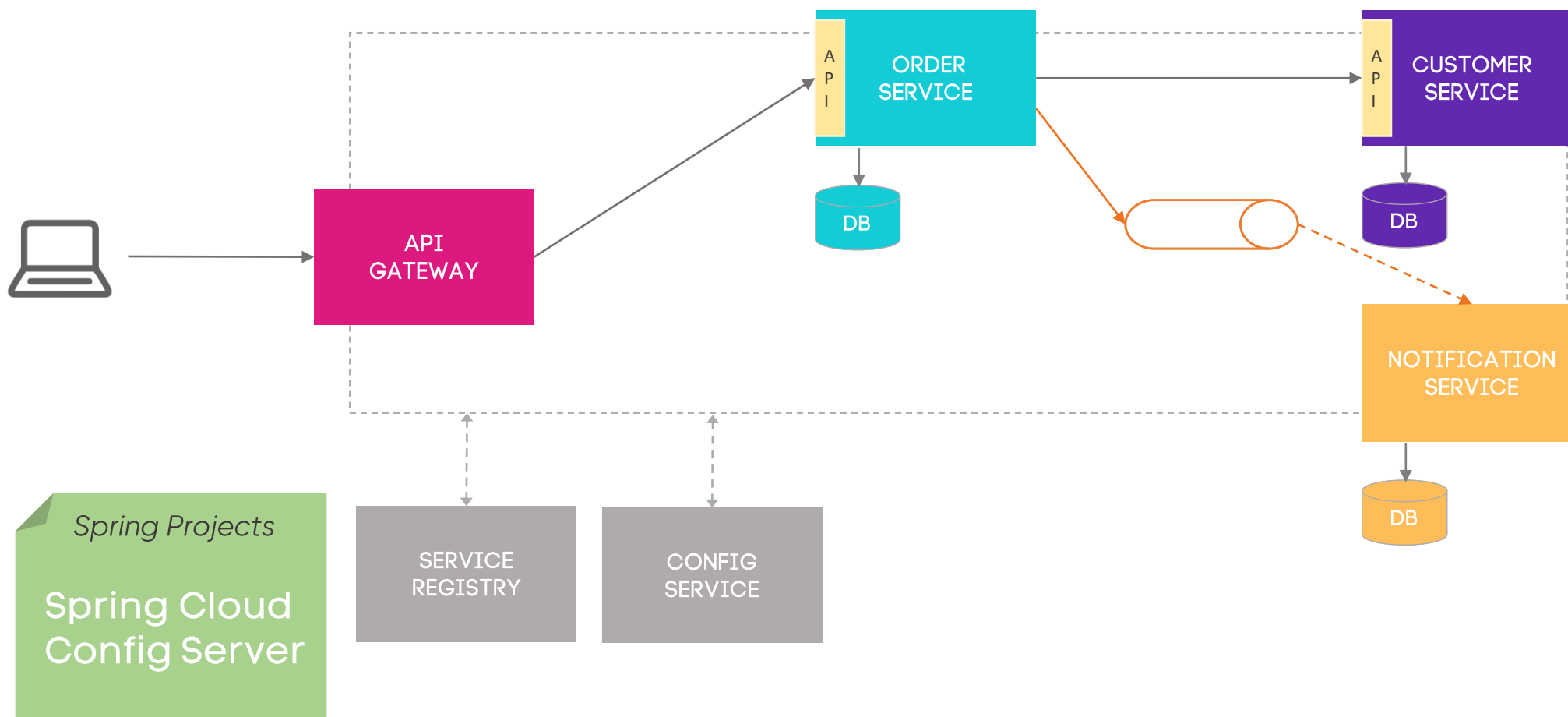
# Saga Pattern



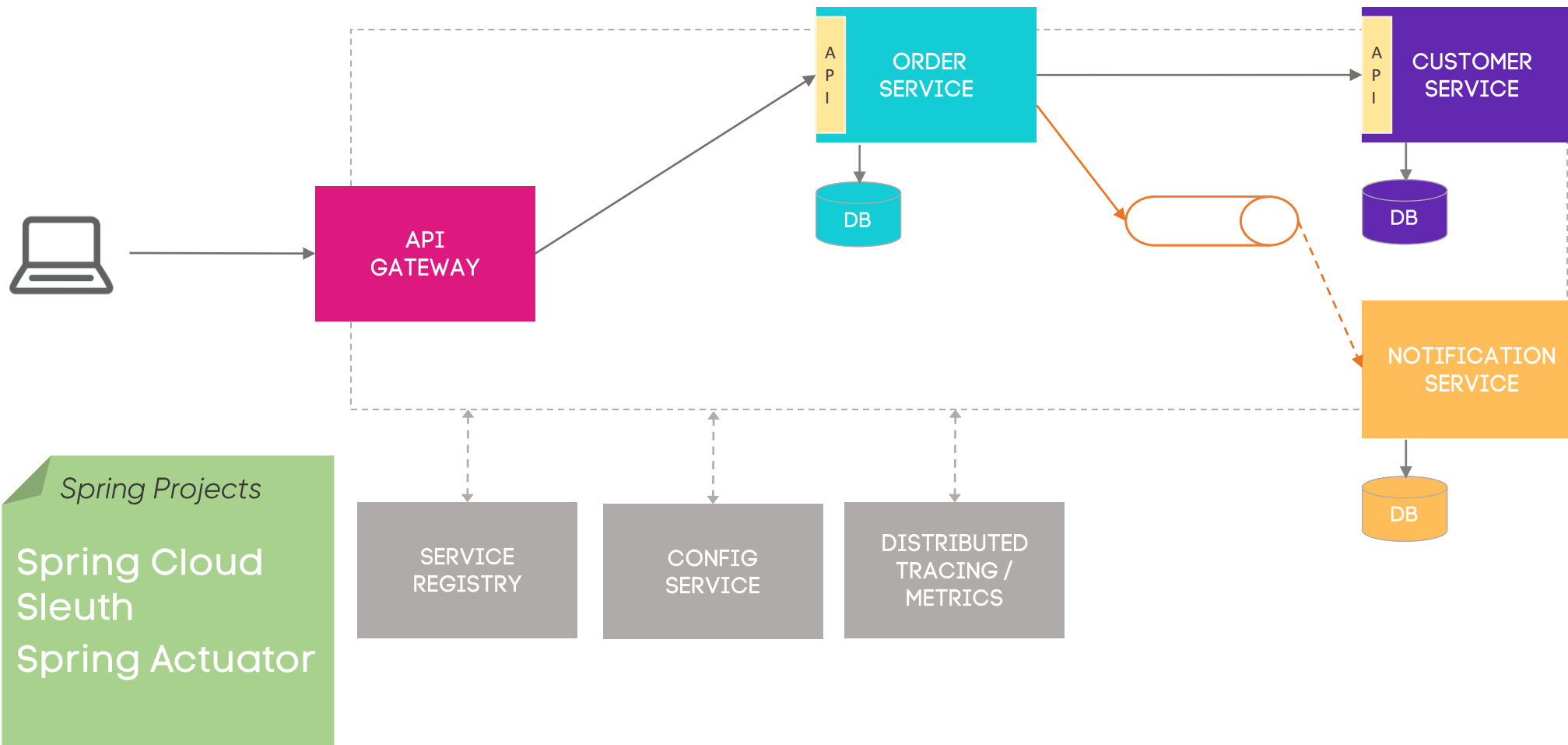
# Saga Pattern



# Externalized Configuration

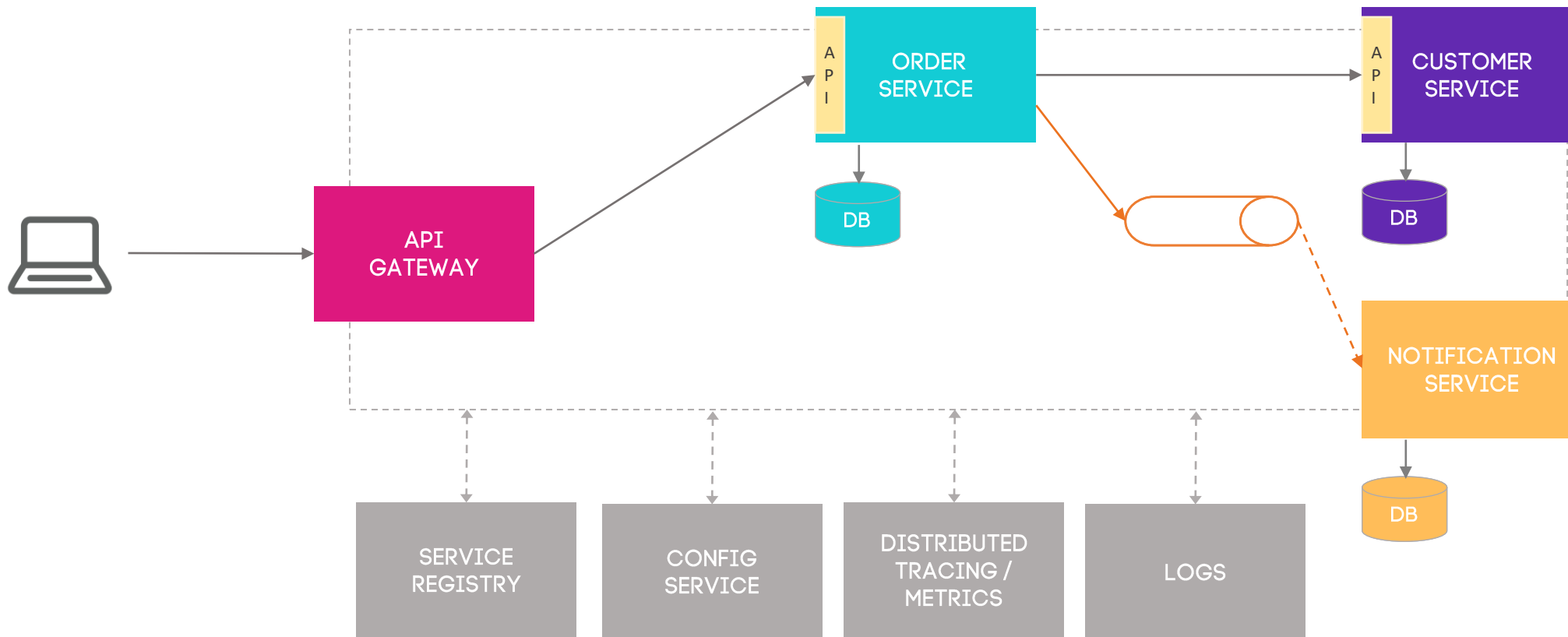


# Observability: Distributed Tracing / Metrics



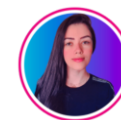


# Observability: Log Aggregation



# Obrigada!

Não perca o próximo dia: **Projeto Decoder**



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