

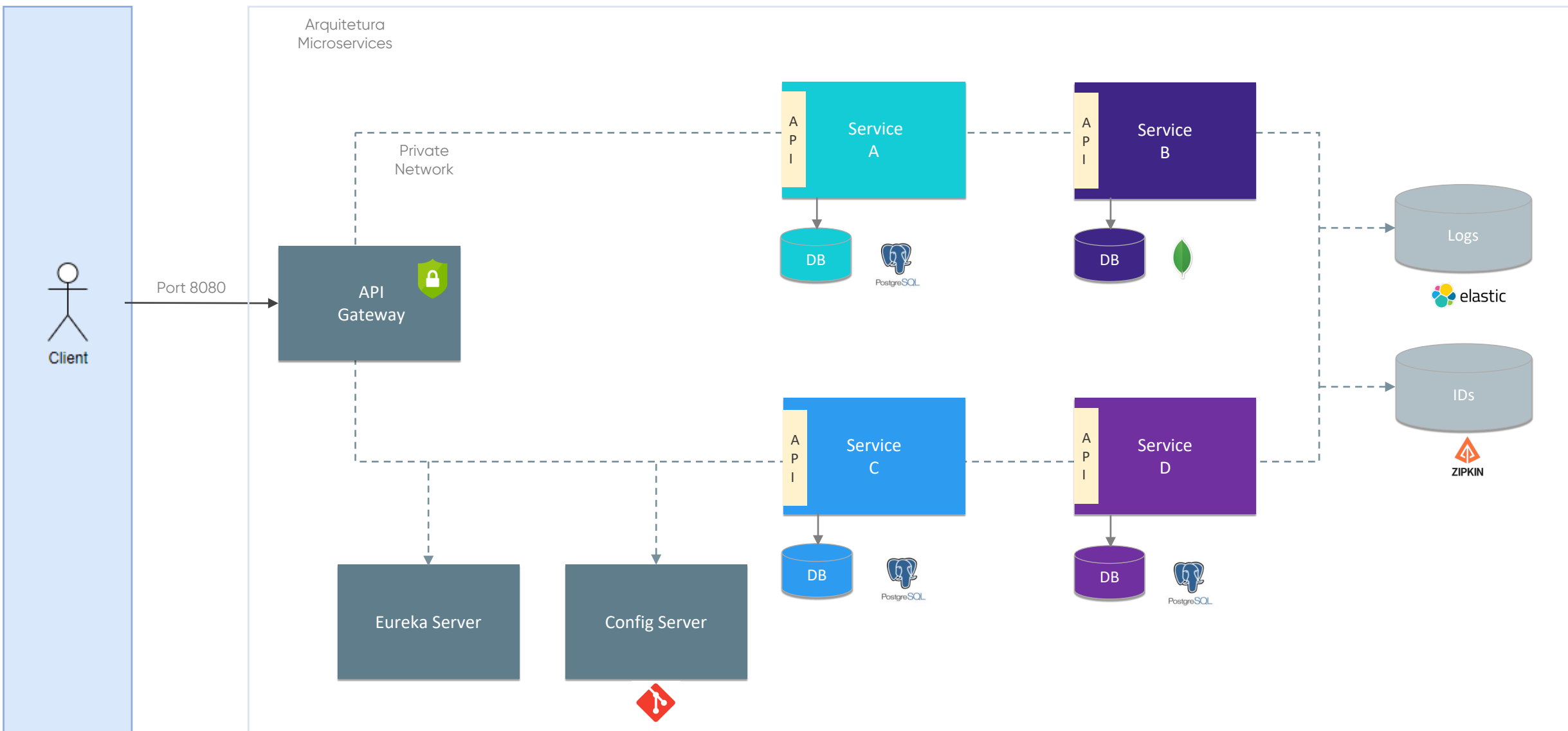
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**Vídeo 3 - 16/03**

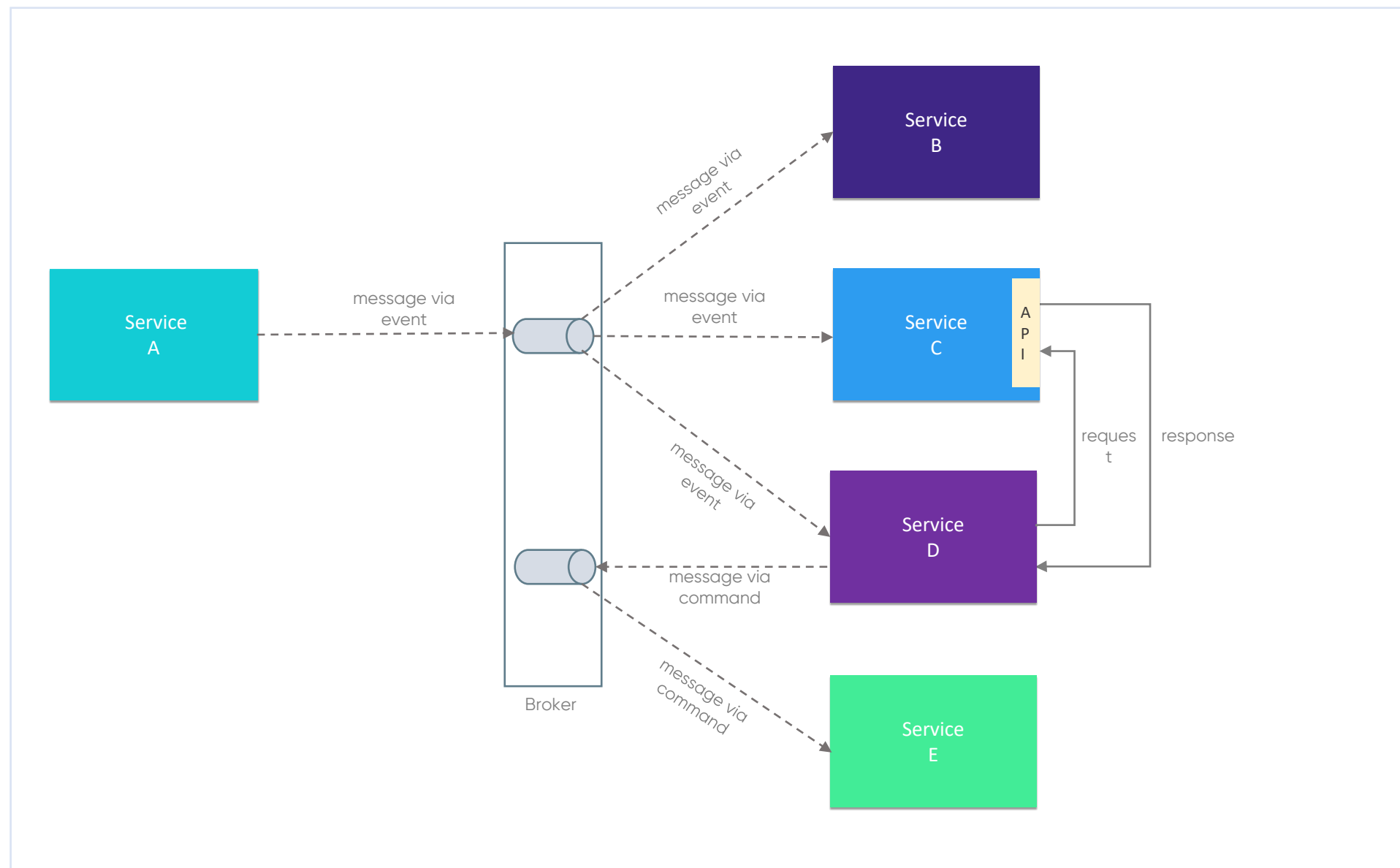
# Microservices Patterns



# Arquitetura de Microservices – Abstração



# Comunicações entre Microservices



# Microservices Patterns

1 - Service Registry / Discovery Pattern

2 - Circuit Breaker Pattern

3 - API Gateway Pattern

4 - API Composition Pattern

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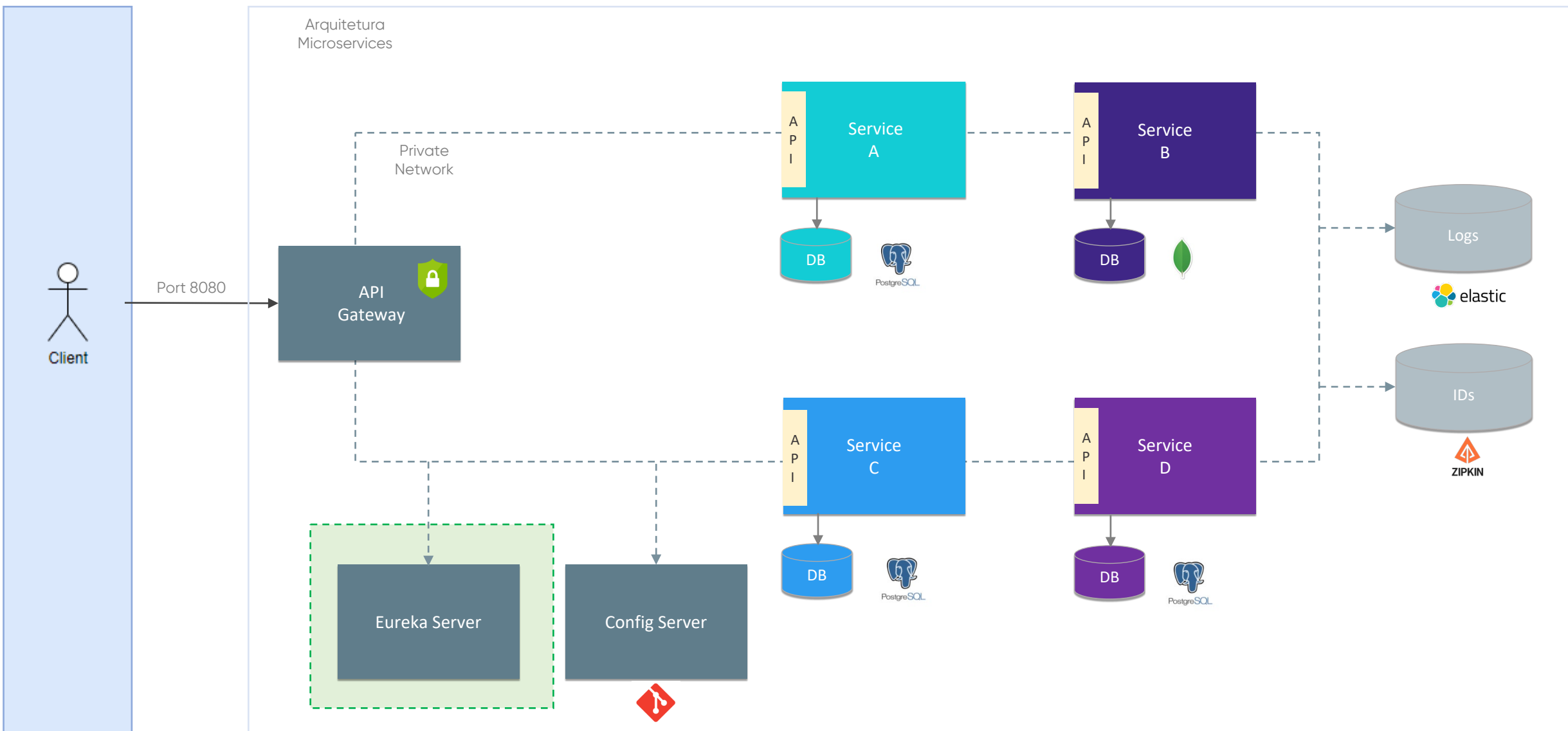
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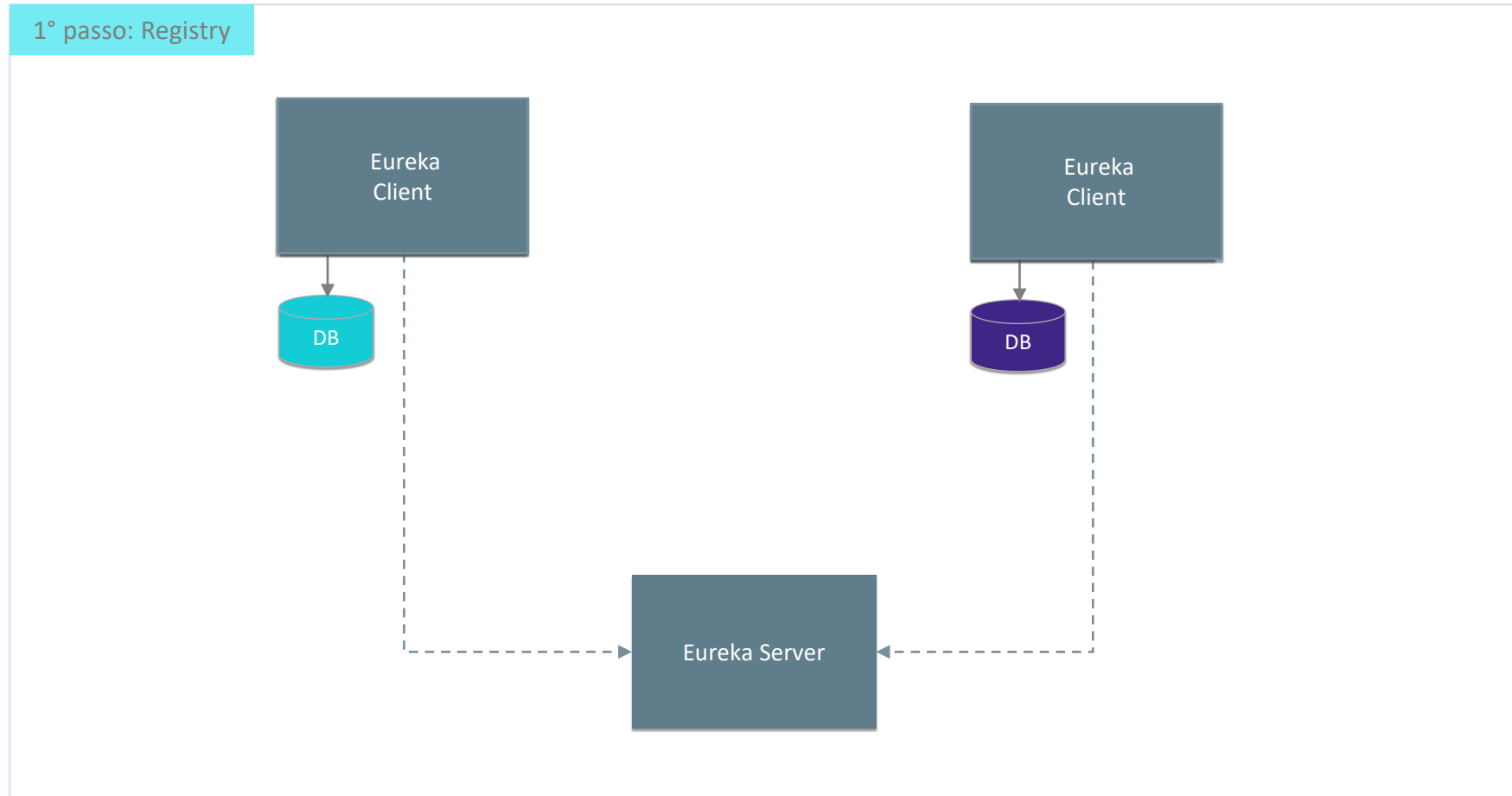
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# Service Registry / Discovery Pattern



# Service Registry / Discovery Pattern



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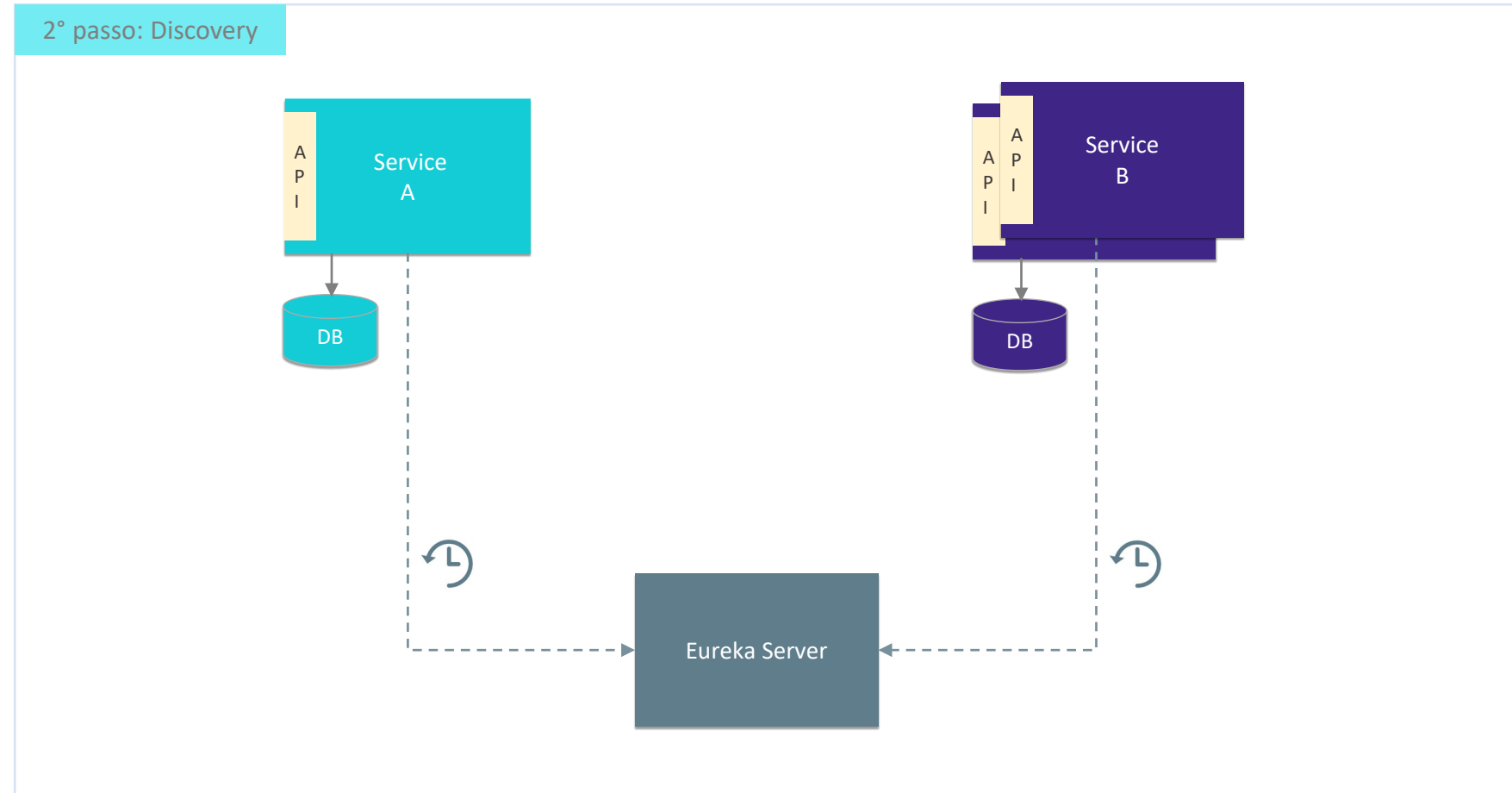
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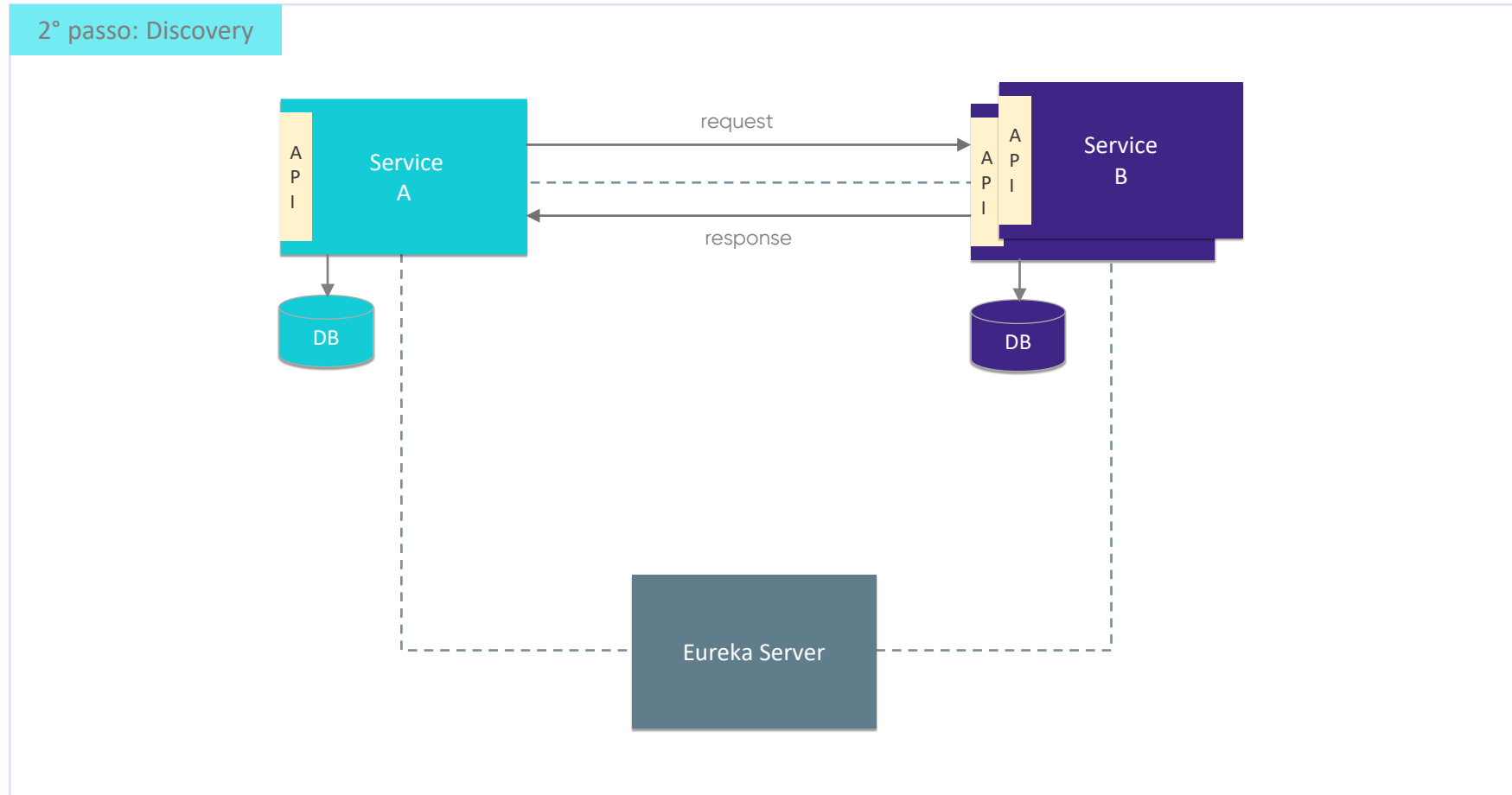


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# Service Registry / Discovery Pattern



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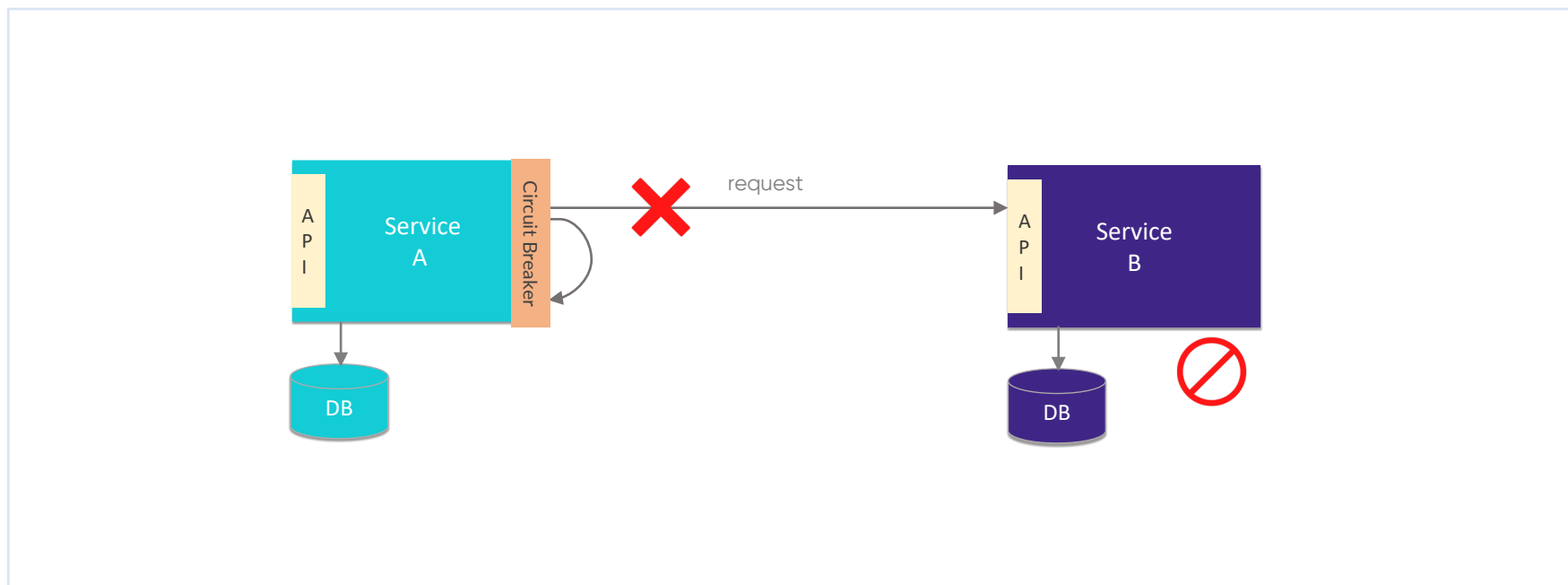
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# Circuit Breaker Pattern



Estados: CLOSED, OPEN e HALF\_OPEN

Métodos fallbacks e fluxos alternativos



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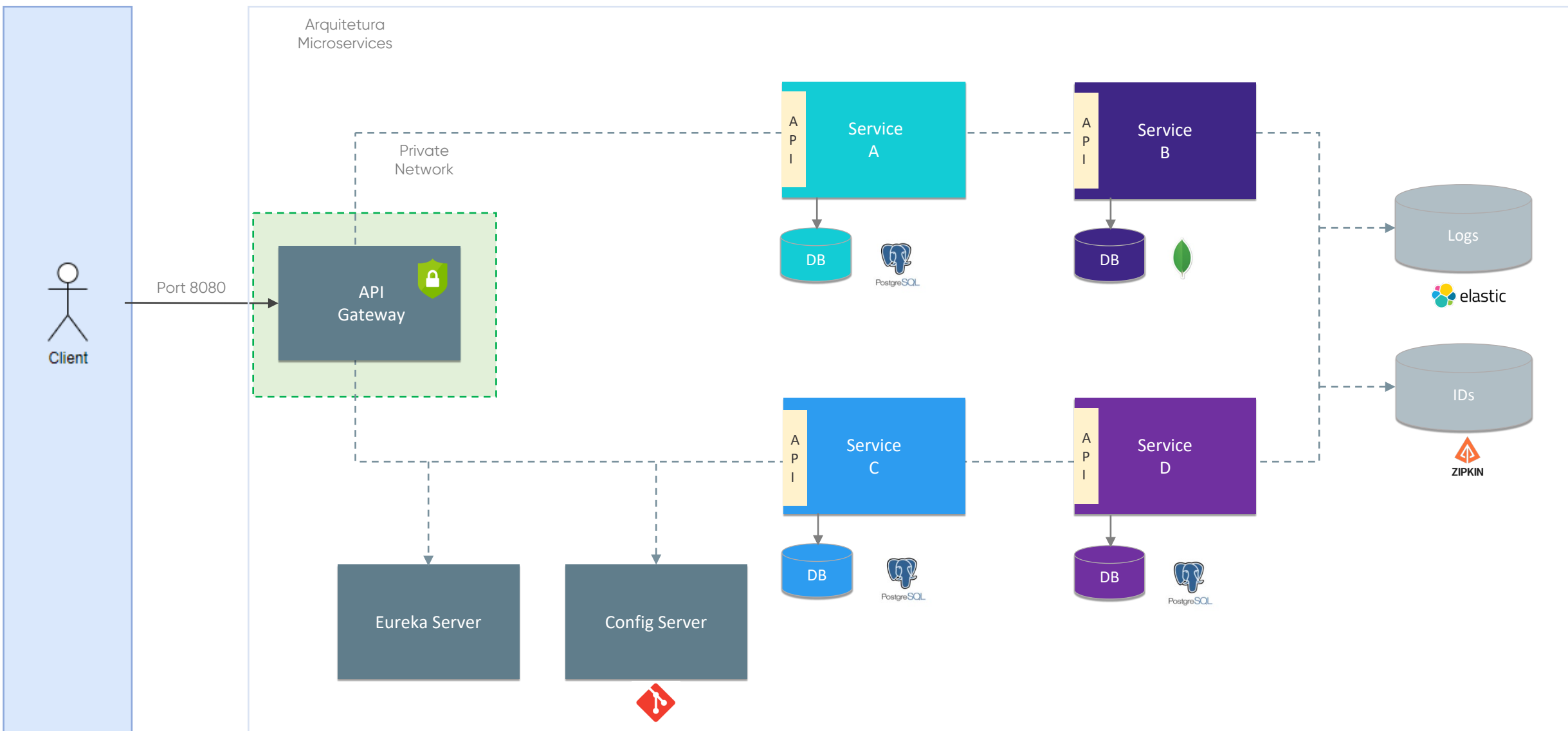
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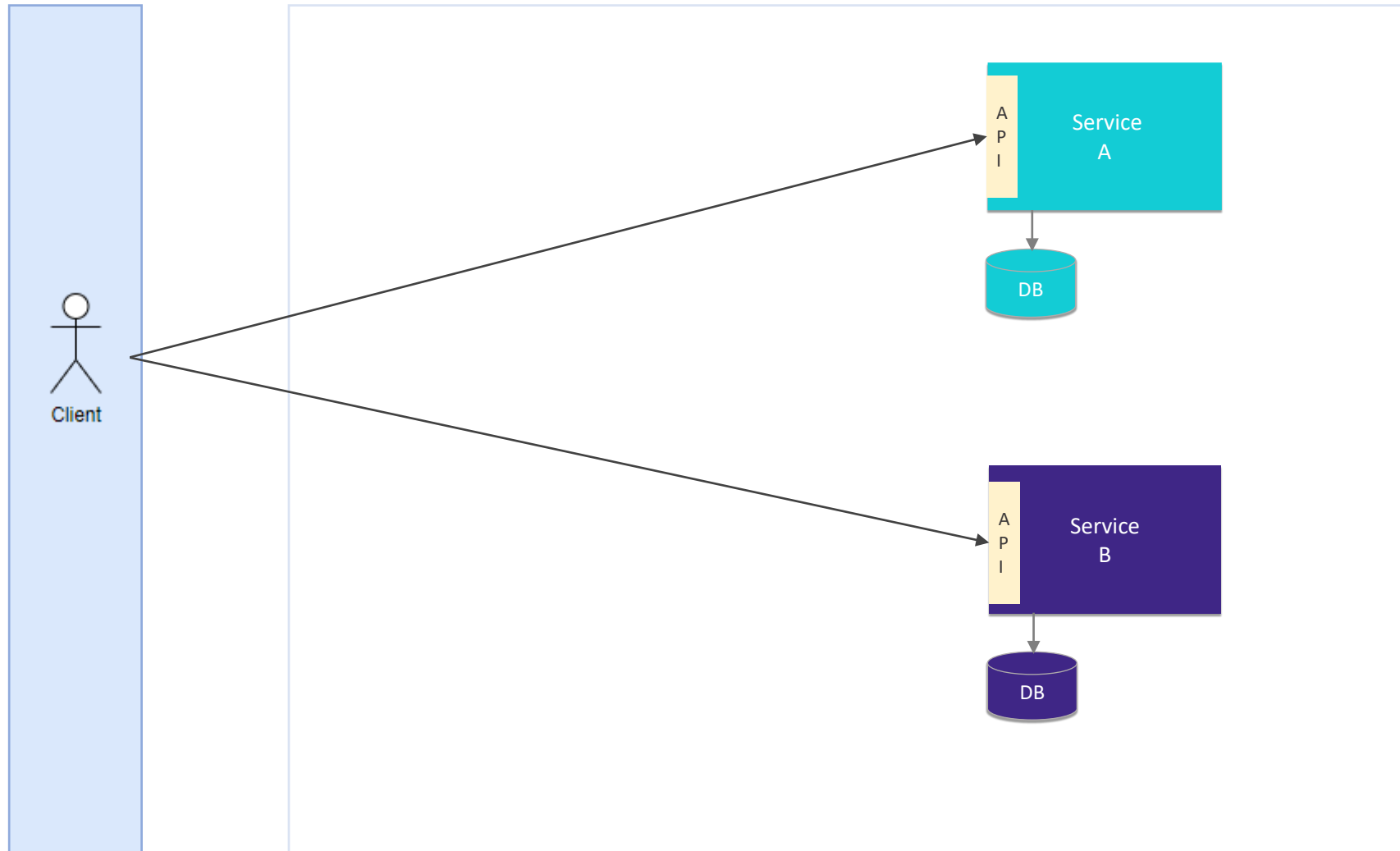
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# API Gateway Pattern

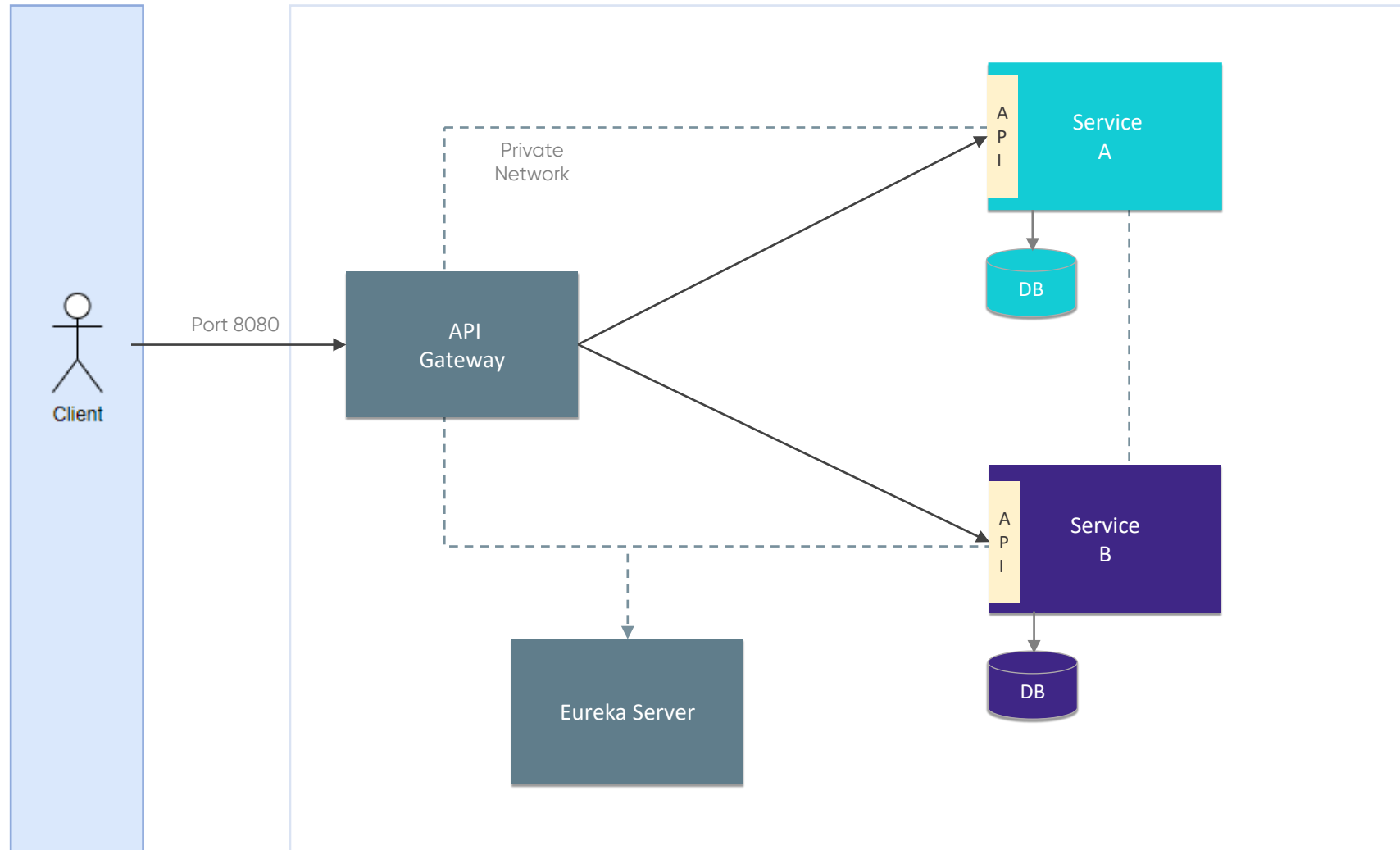


# API Gateway Pattern





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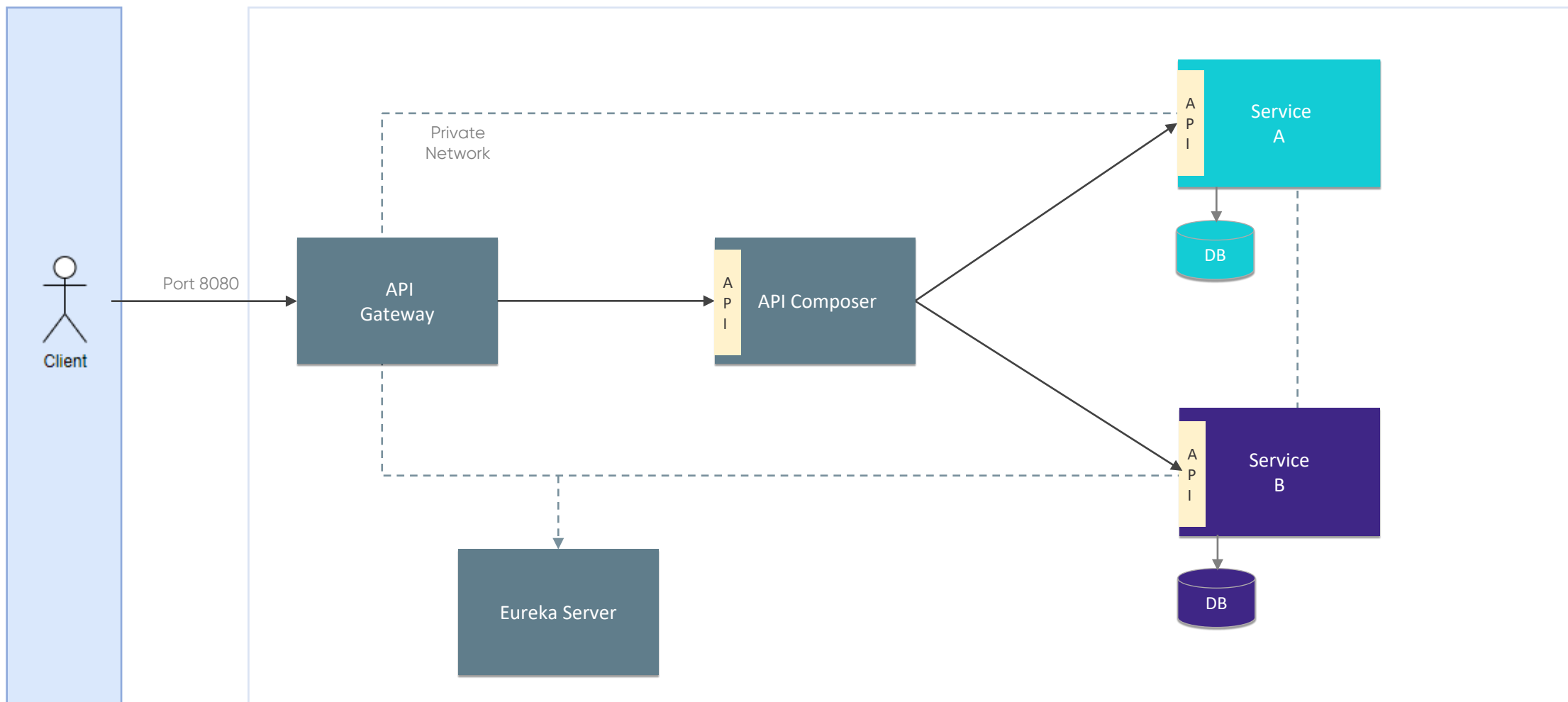
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# API Composition Pattern



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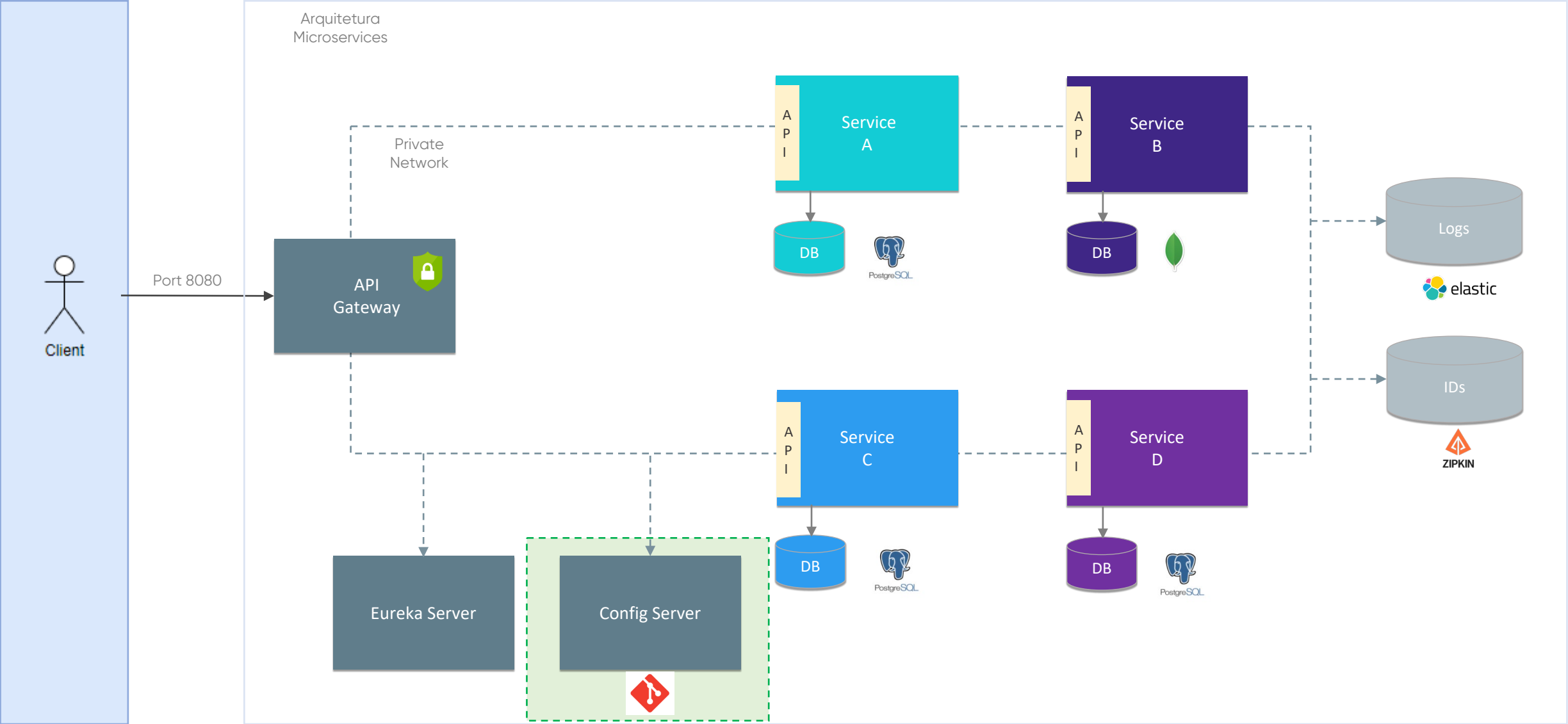
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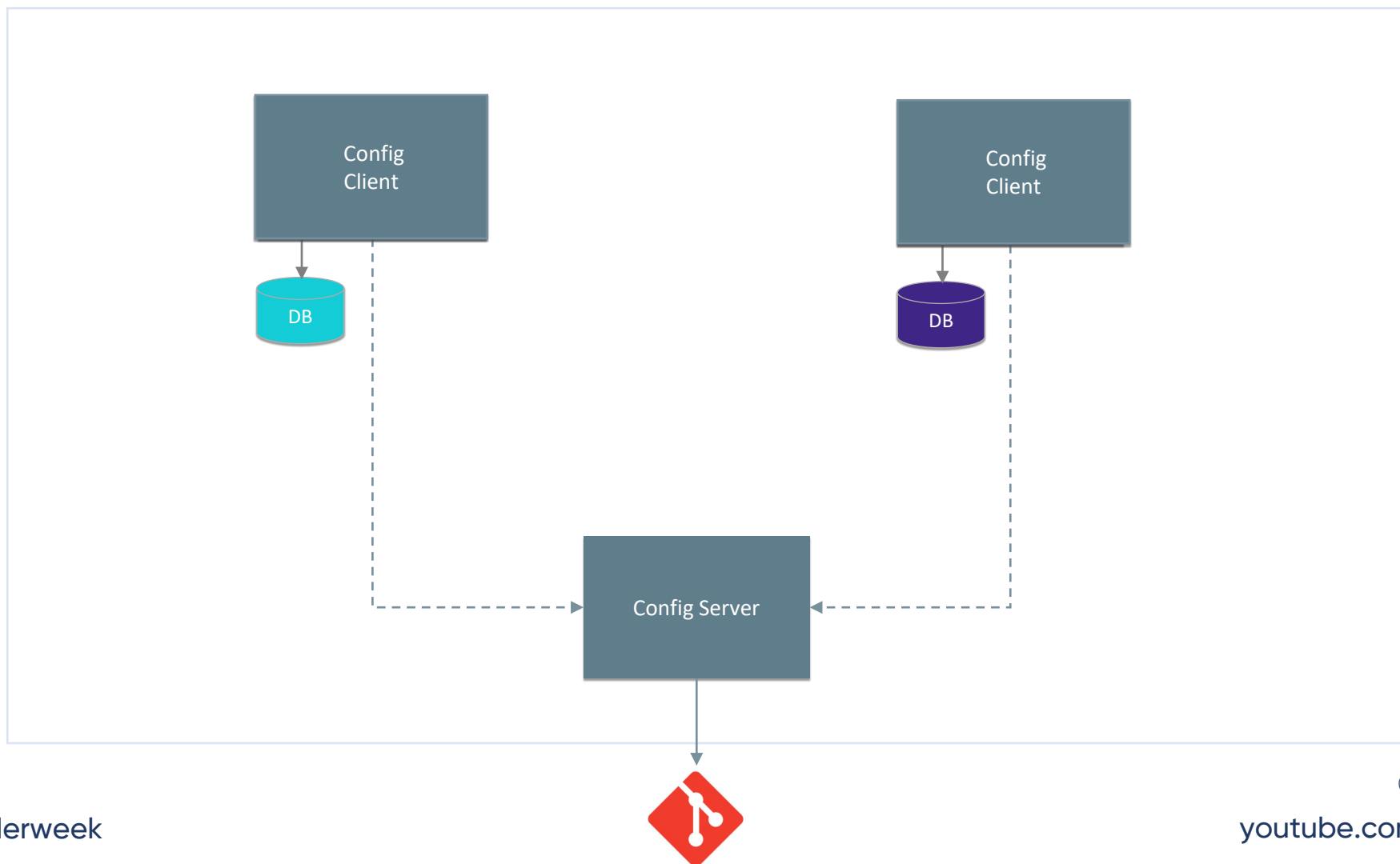
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# Externalized Configuration Pattern



# Externalized Configuration Pattern



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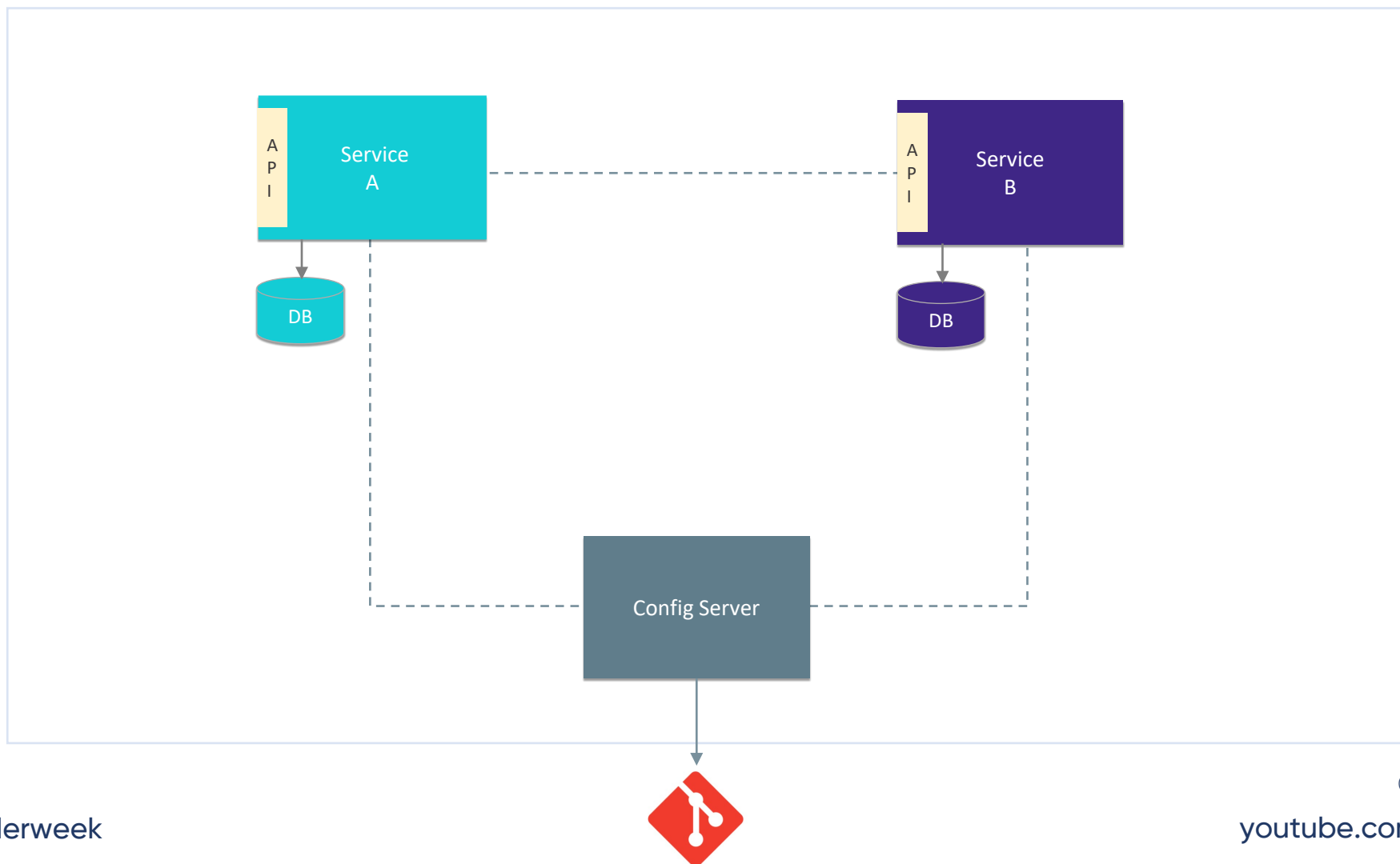
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# Externalized Configuration Pattern



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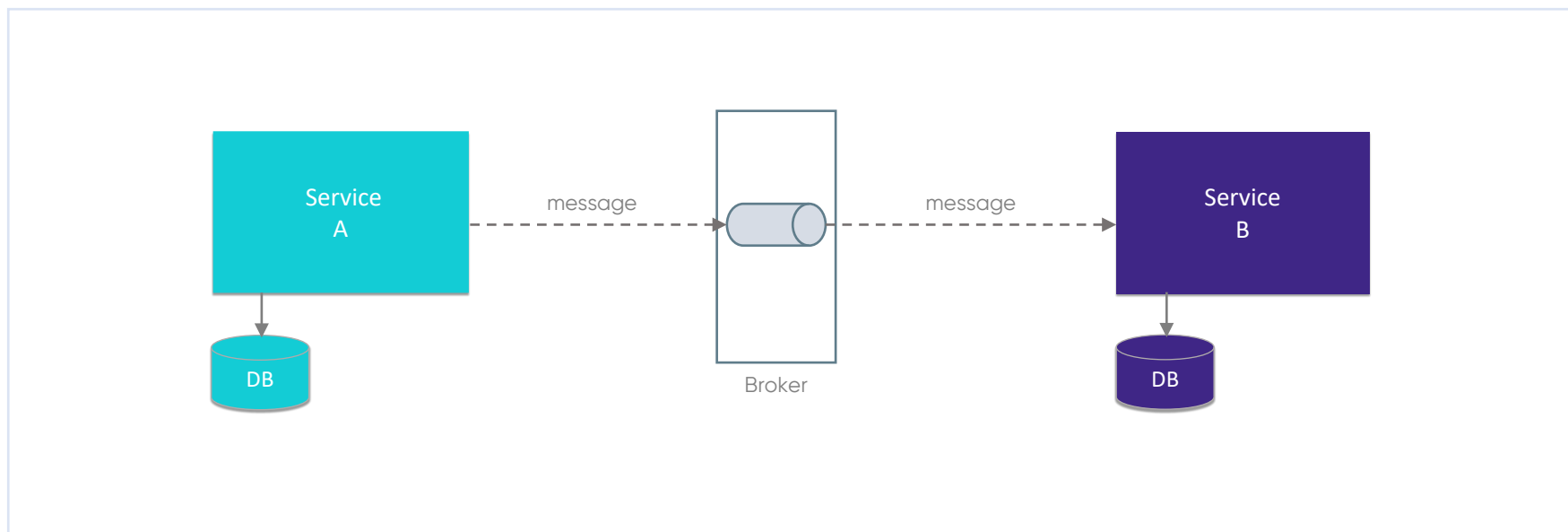
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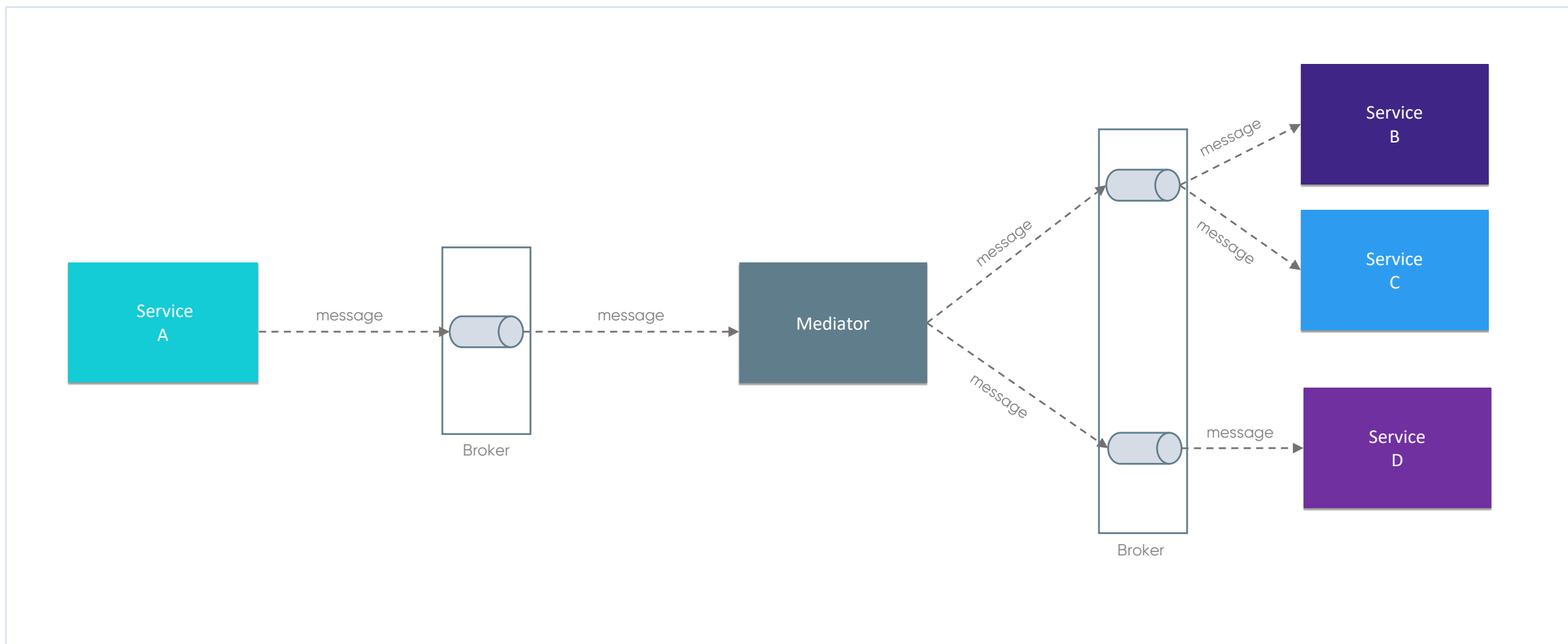
# Broker Pattern



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# Mediator Pattern



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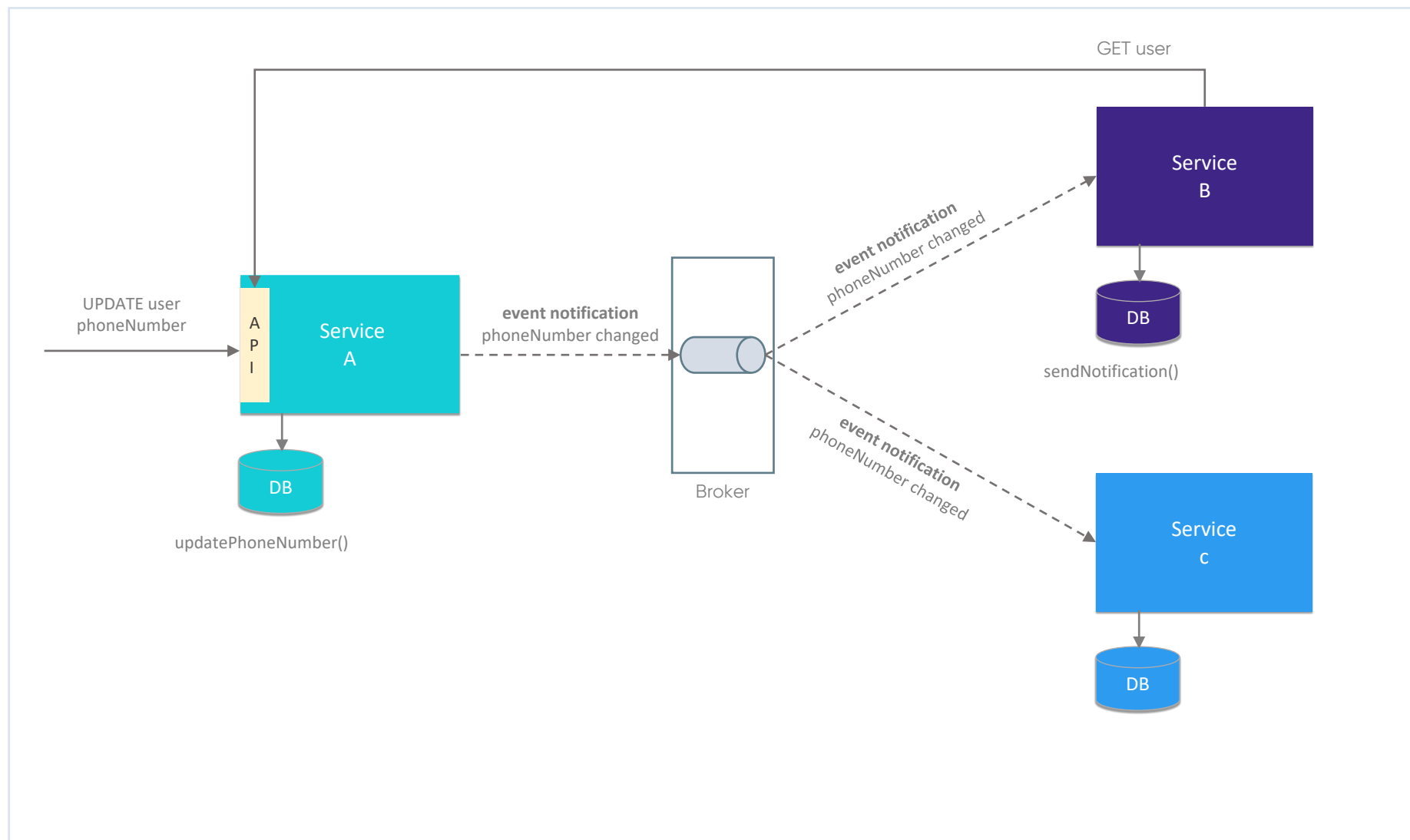
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# Event Driven – Event Notification Pattern



## Prós

Isolamento de responsabilidade do produtor do evento

## Atenção

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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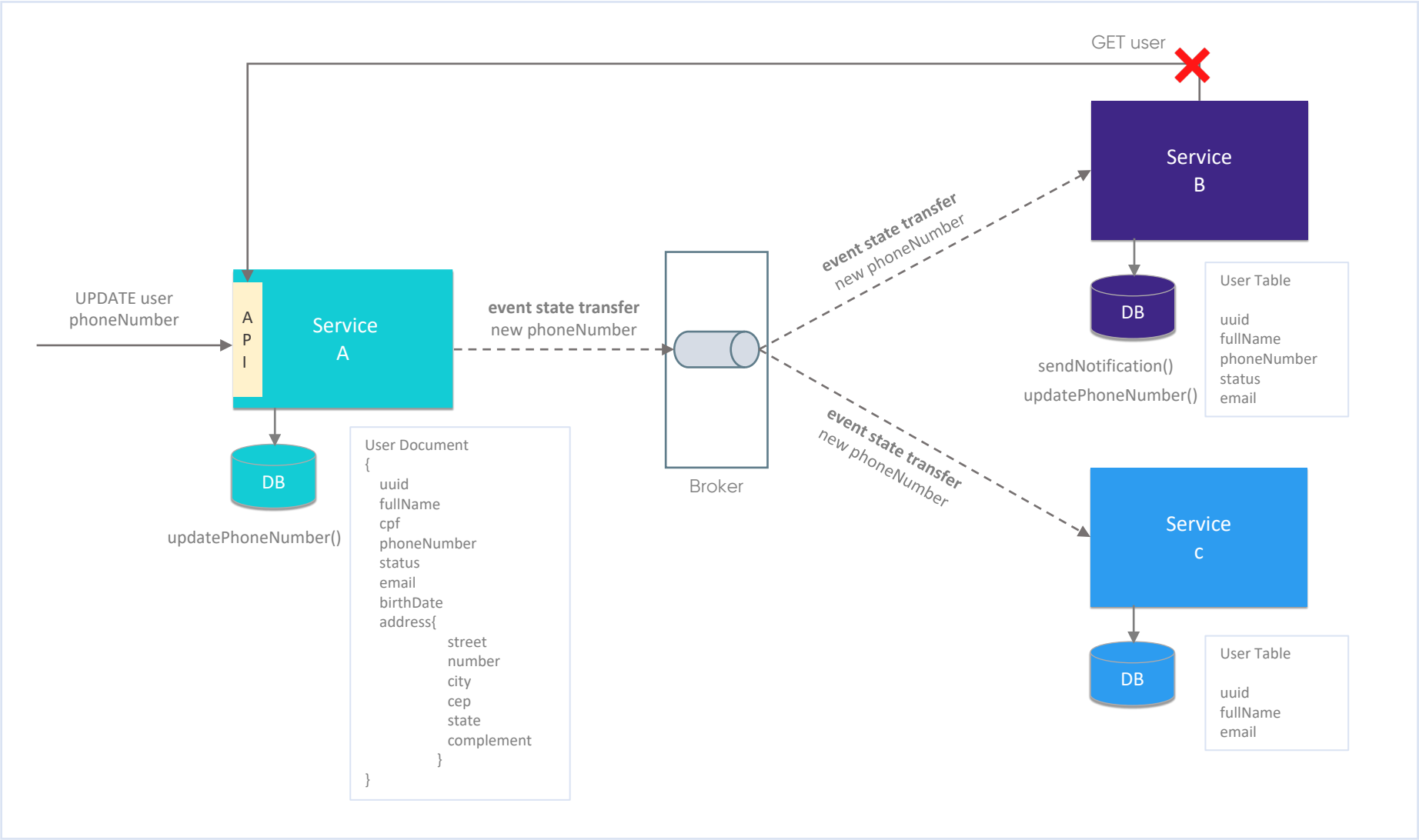
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# Event Driven - Event-Carried State Transfer Pattern



## Prós

Melhor performance

Maior disponibilidade

## Atenção

Replicação dos dados

Consistência Eventual

Transferência de estado entre serviços através de eventos.

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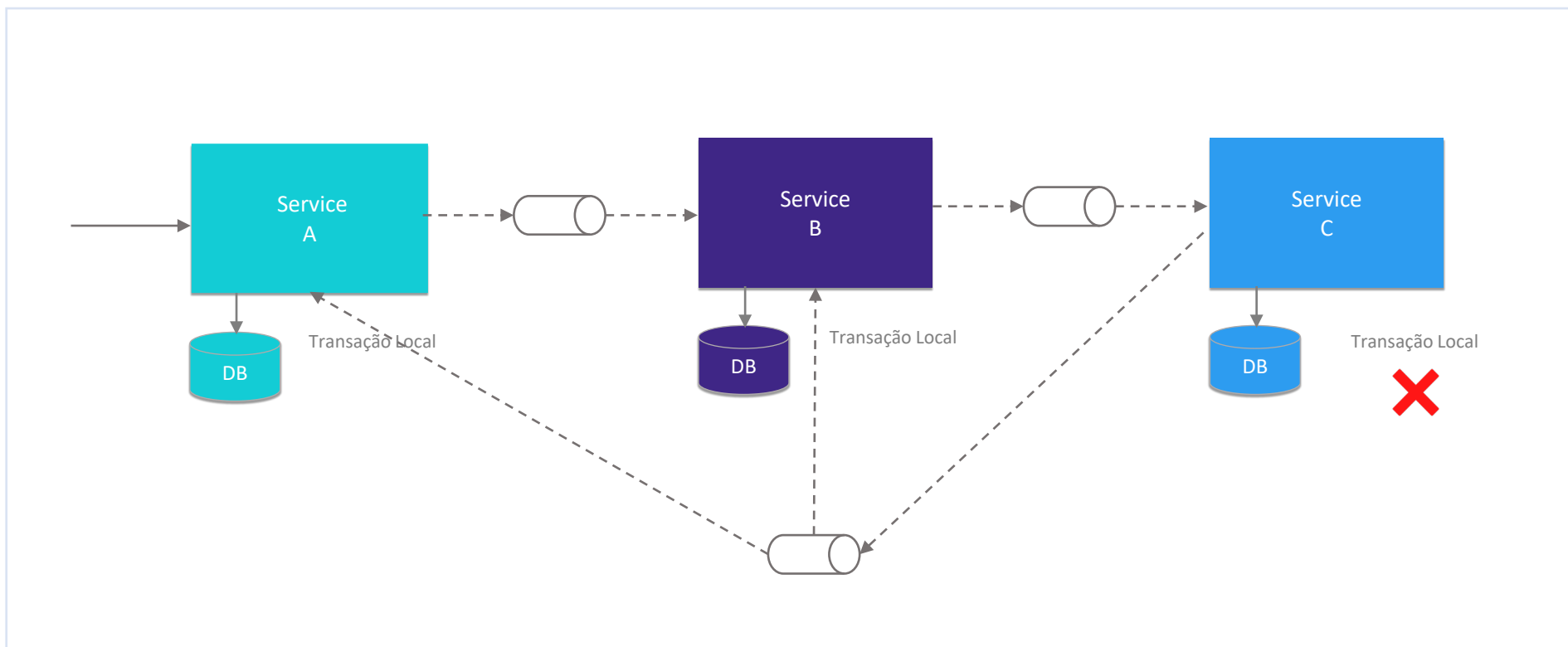
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# Saga Pattern



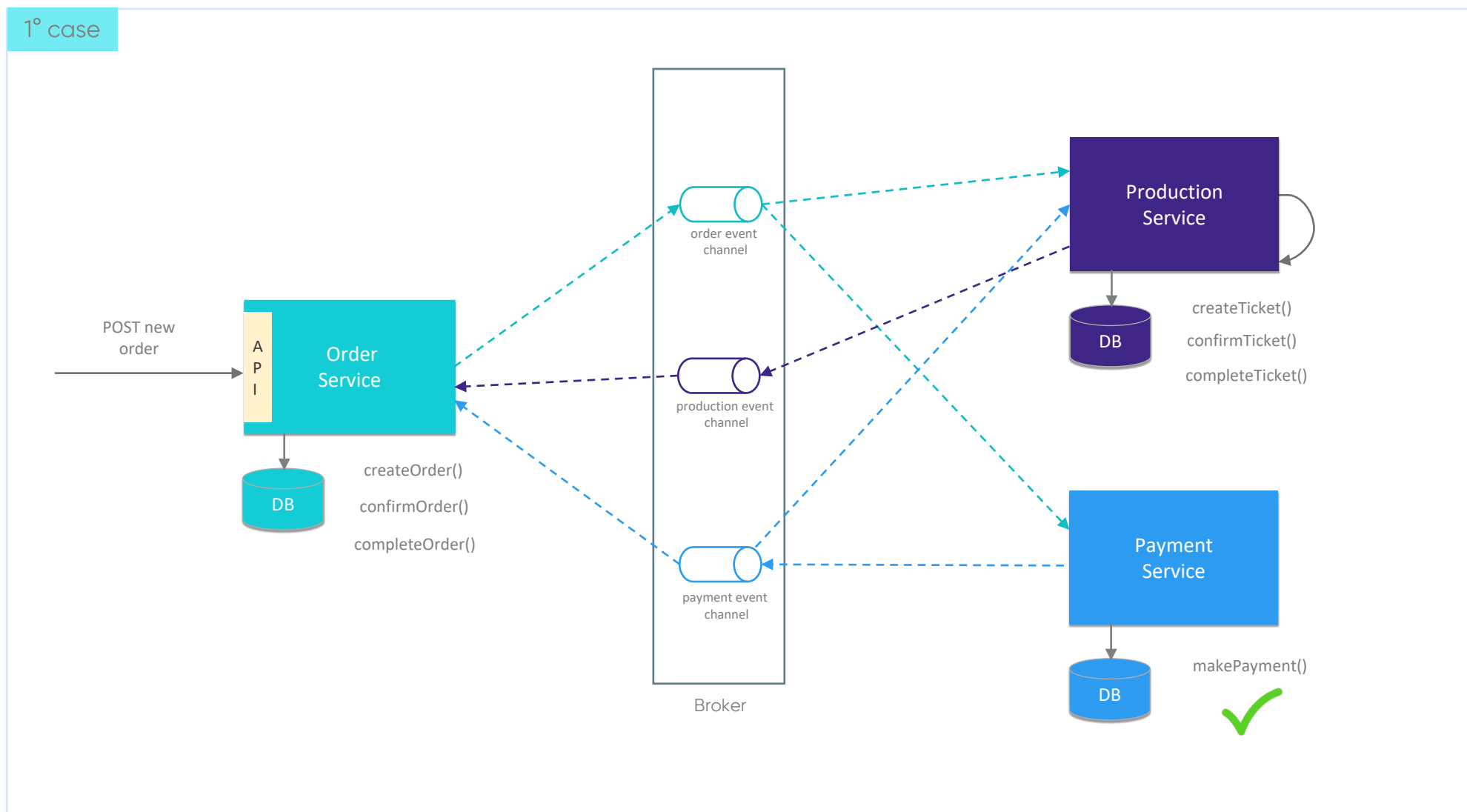
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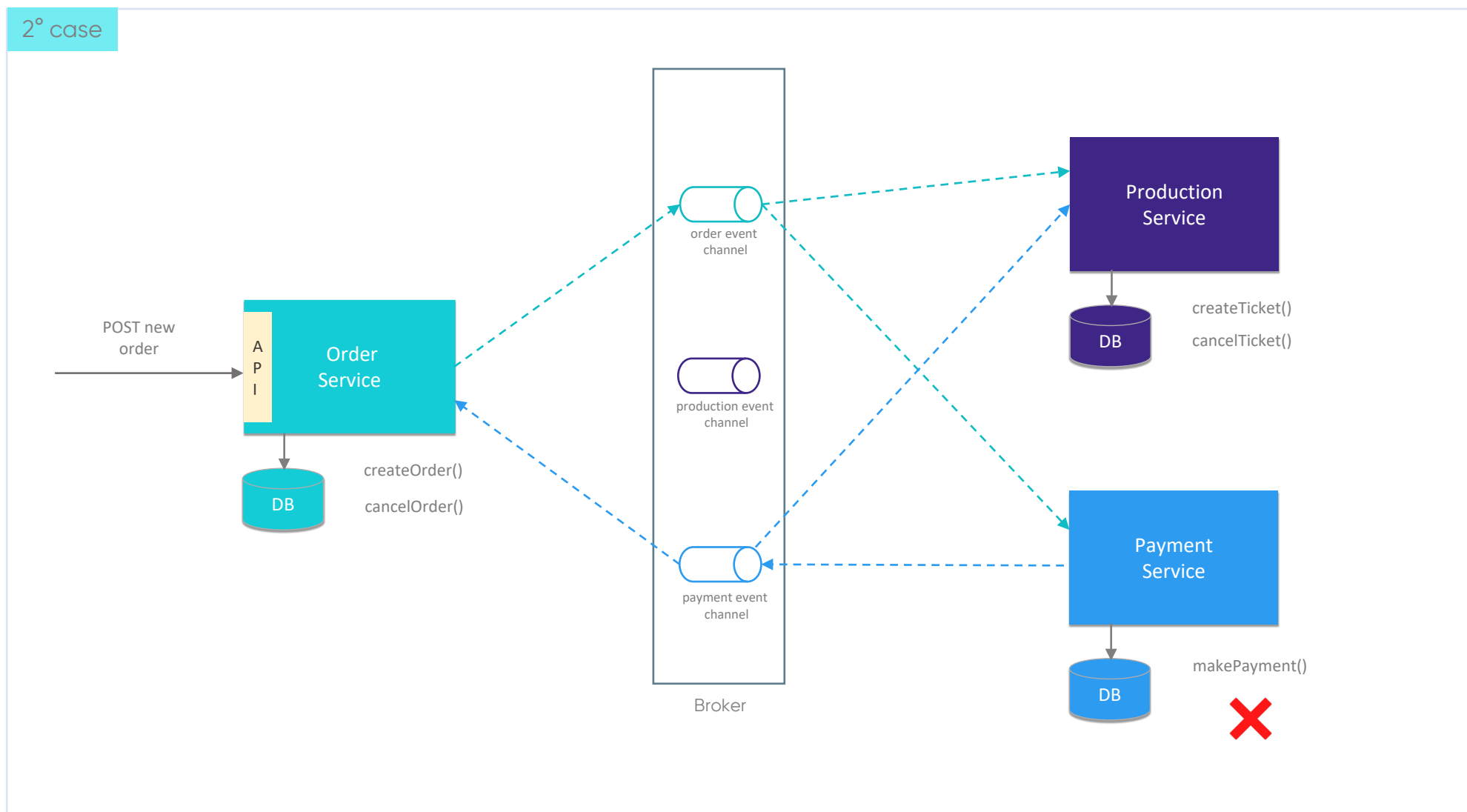
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# Saga Pattern – Coreografia

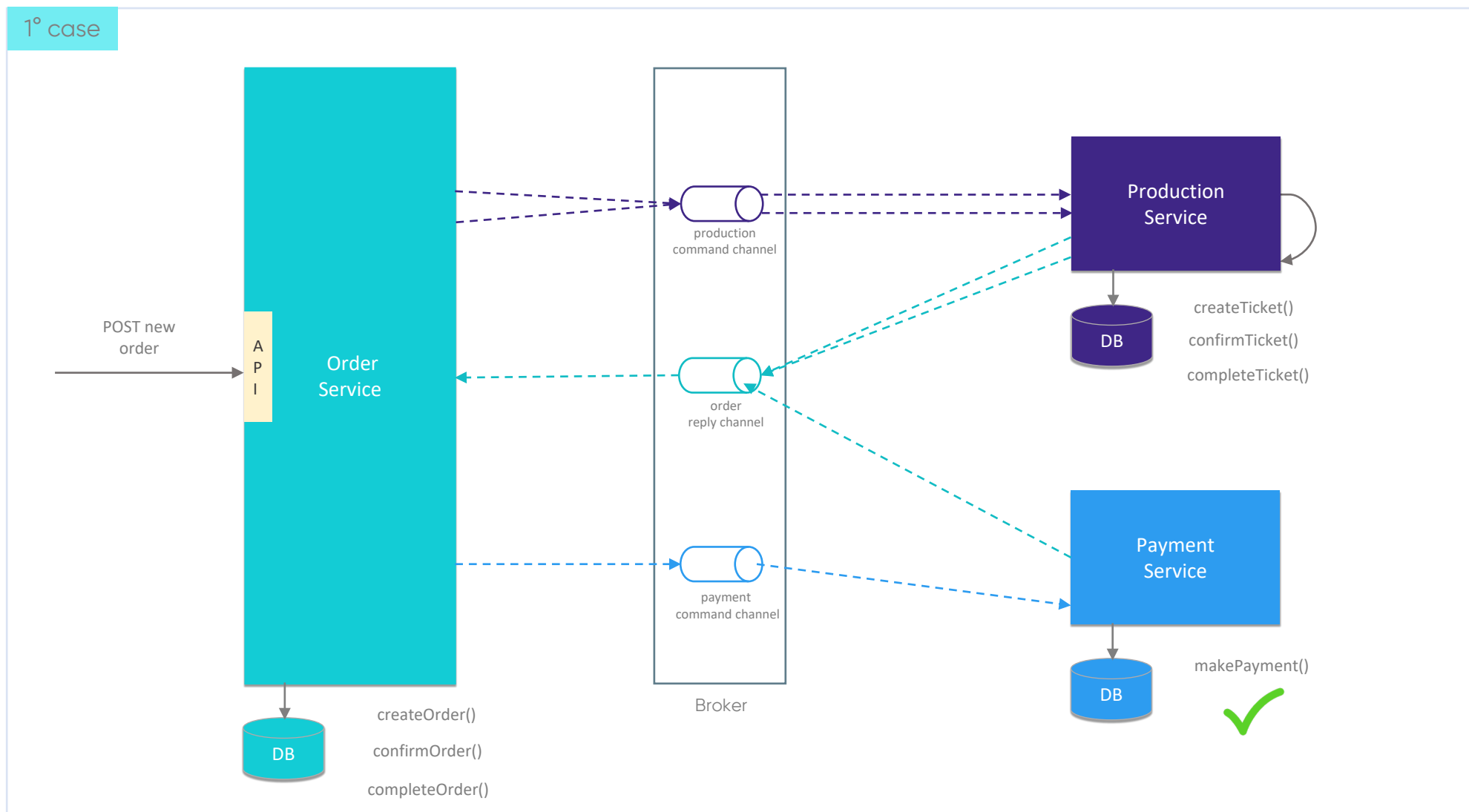


# Saga Pattern – Coreografia

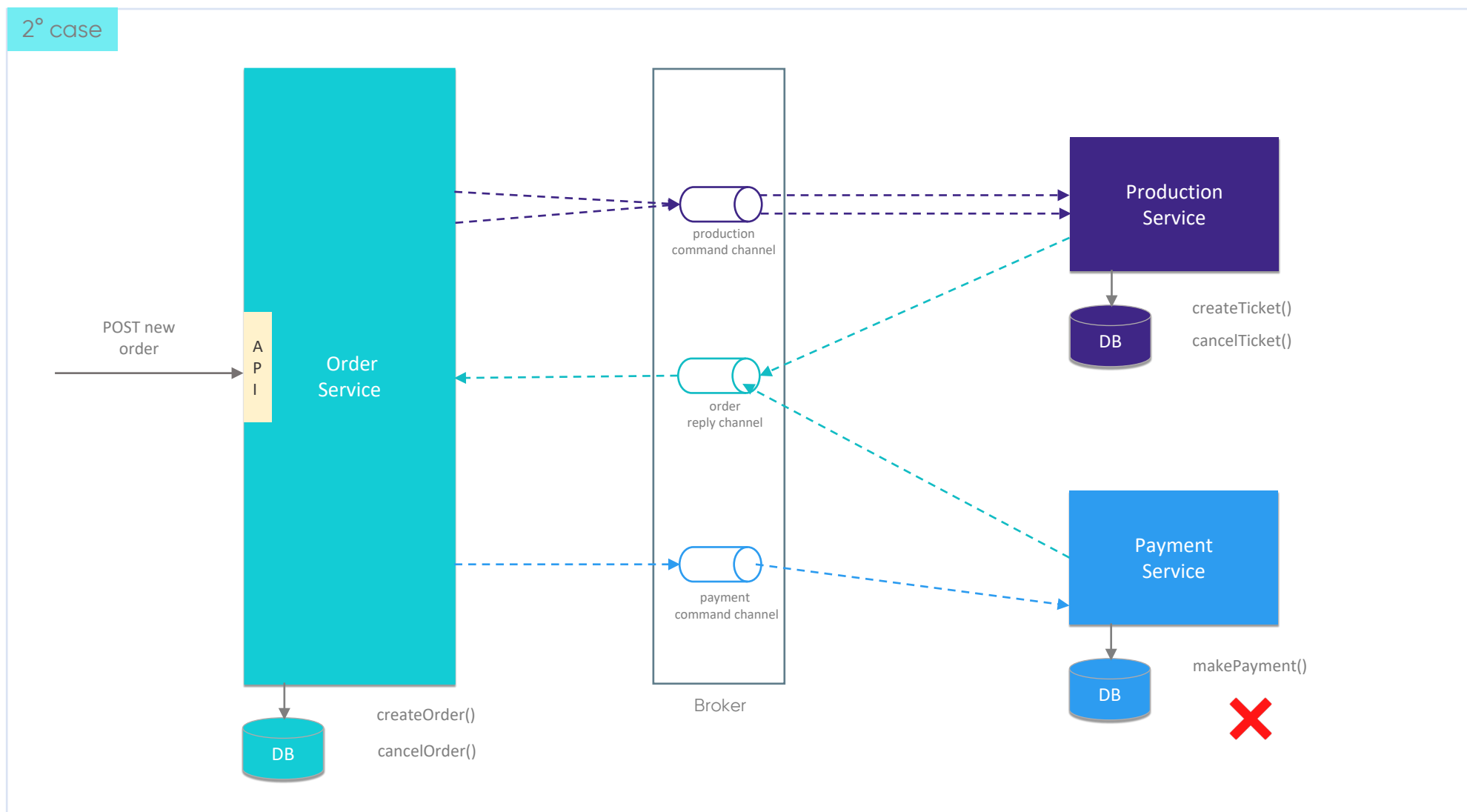




# Saga Pattern – Orquestração



# Saga Pattern – Orquestração



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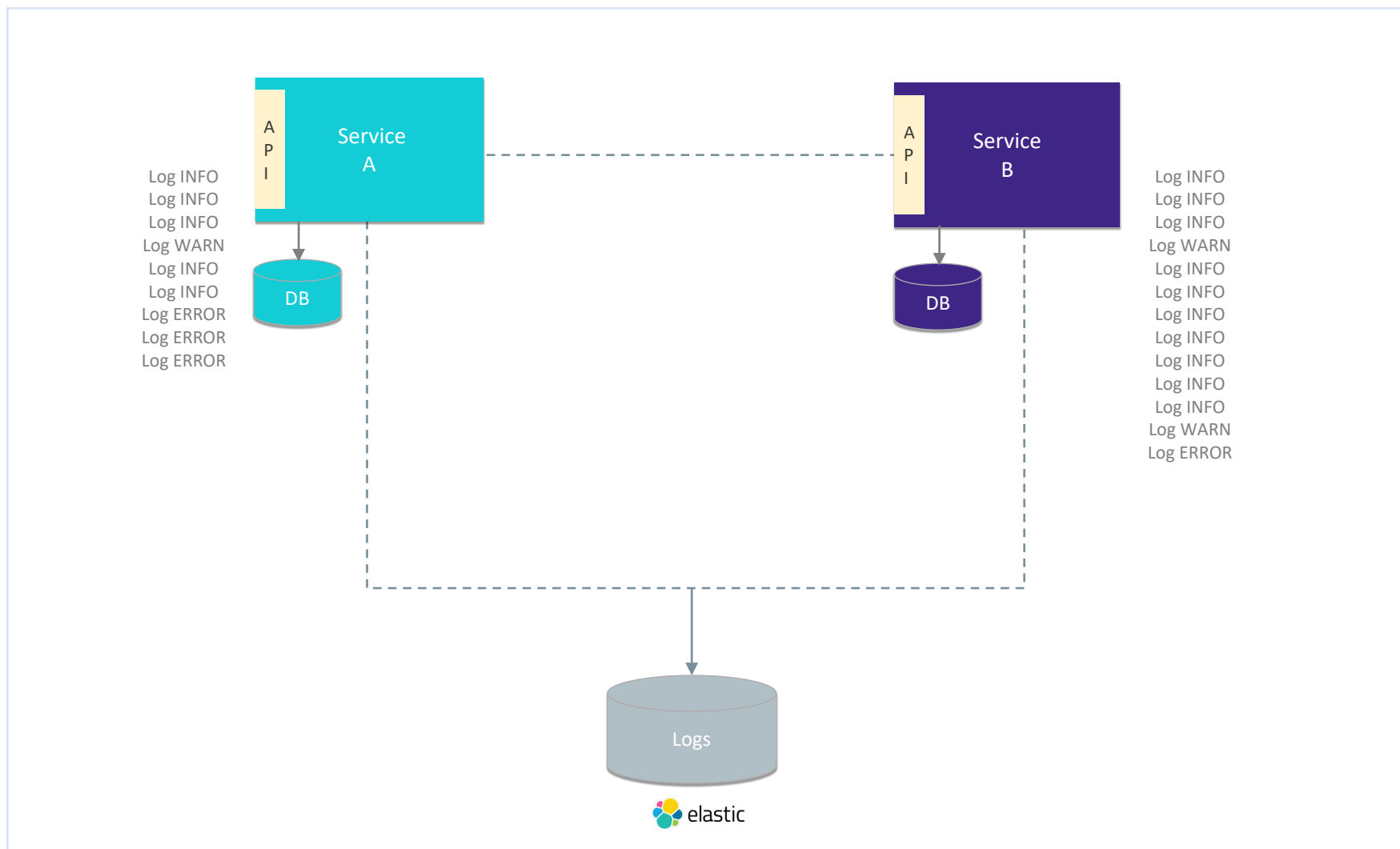
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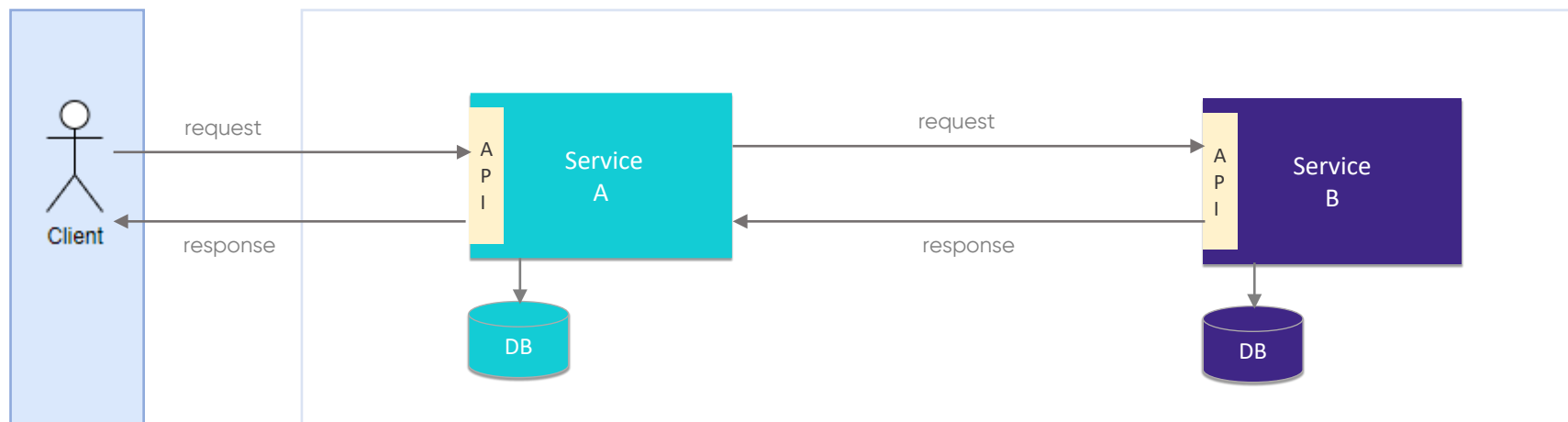


The diagram illustrates a Microservices Architecture. A Client (represented by a stick figure) connects to an API Gateway (labeled 'Port 8080') via a solid arrow. The API Gateway is connected to four services (Service A, Service B, Service C, and Service D) via dashed lines, all within a 'Private Network'. Each service has its own database (DB) and is connected to a central monitoring and logging infrastructure. Service A and Service B are connected to a shared database (DB) and a shared monitoring tool (Elastic). Service C and Service D are connected to their own databases (DB) and a shared monitoring tool (Zipkin). The monitoring and logging infrastructure is represented by a green dashed box containing 'Logs' (Elastic) and 'IDs' (Zipkin). The diagram also shows a 'Eureka Server' and a 'Config Server' (with a red icon) connected to the API Gateway via dashed lines.

# Observability: Log Aggregation



# Observability: Distributed Tracing



Tempo Total Request = A + B



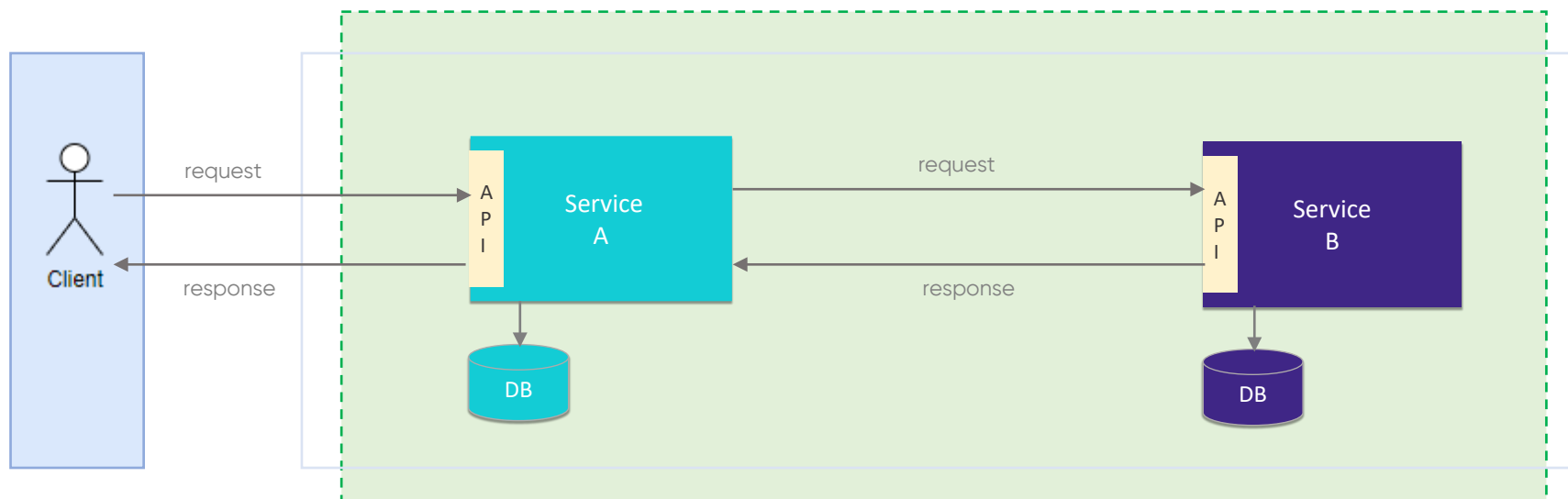
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# Observability: Distributed Tracing



Tempo Total Request = A + B

Identificadores Trace ID



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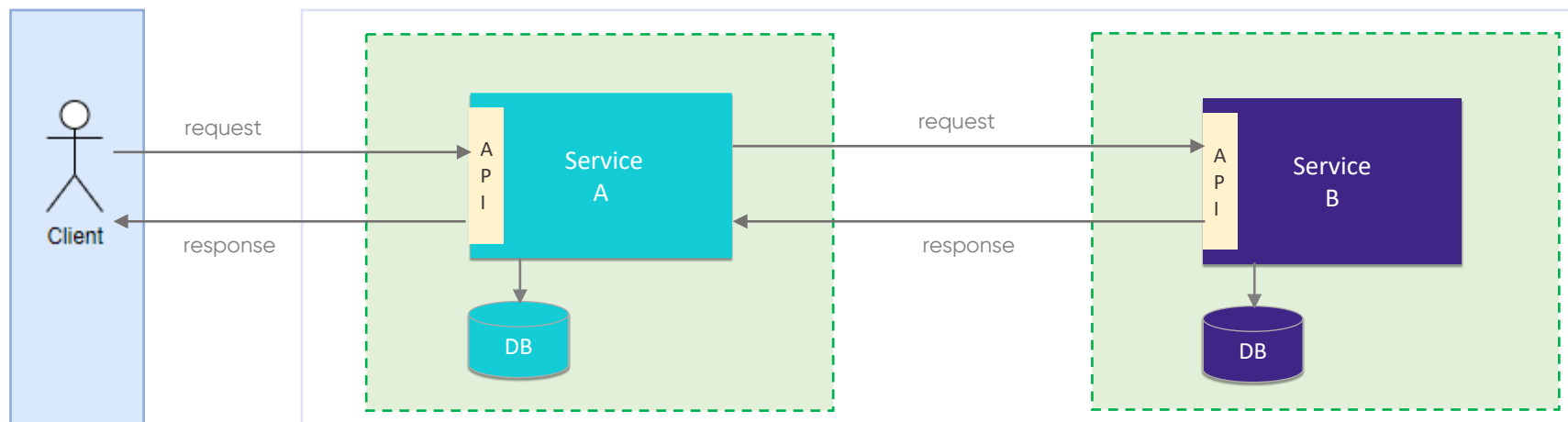
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# Observability: Distributed Tracing



Tempo Total Request = A + B

Identificadores Span ID



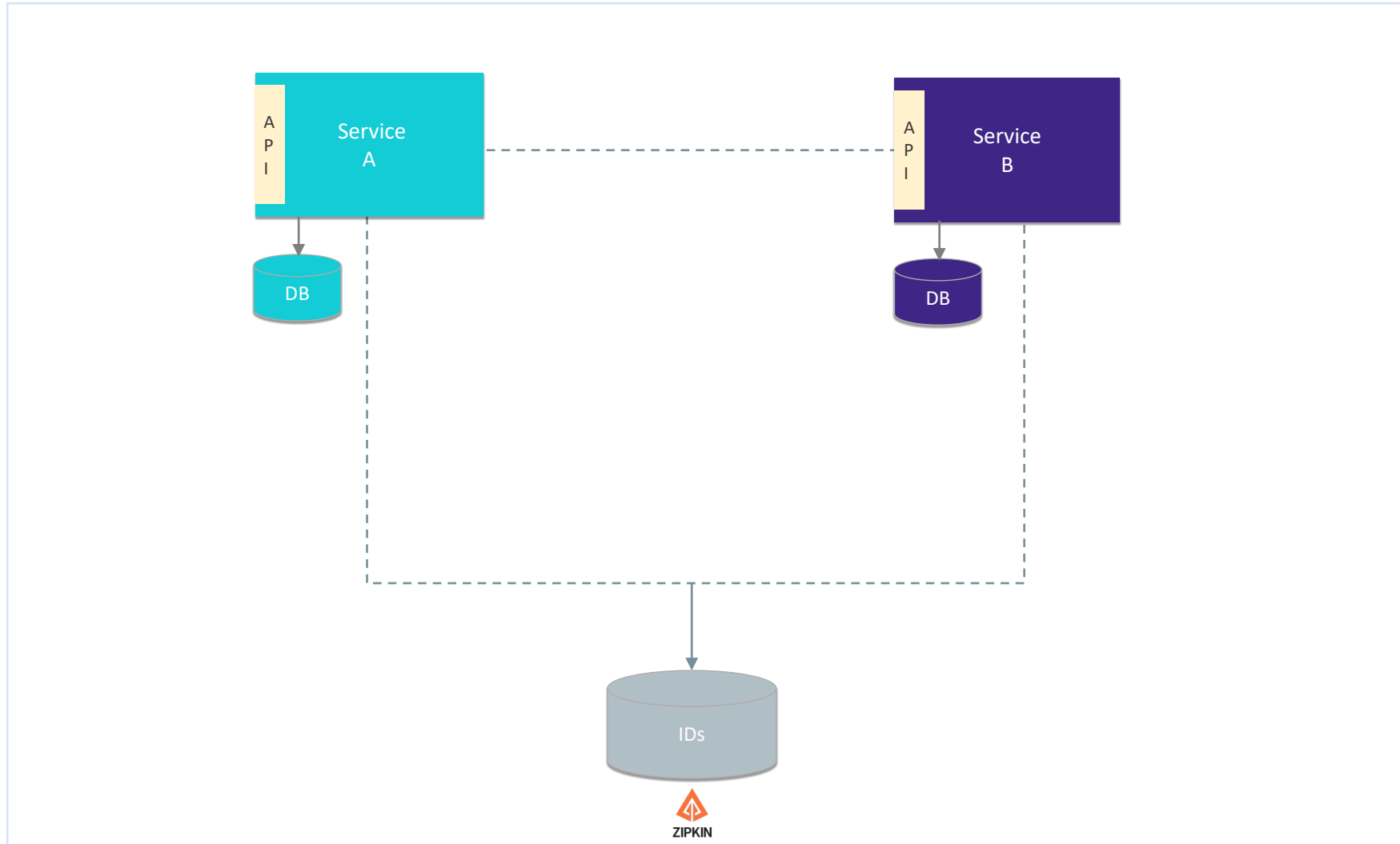
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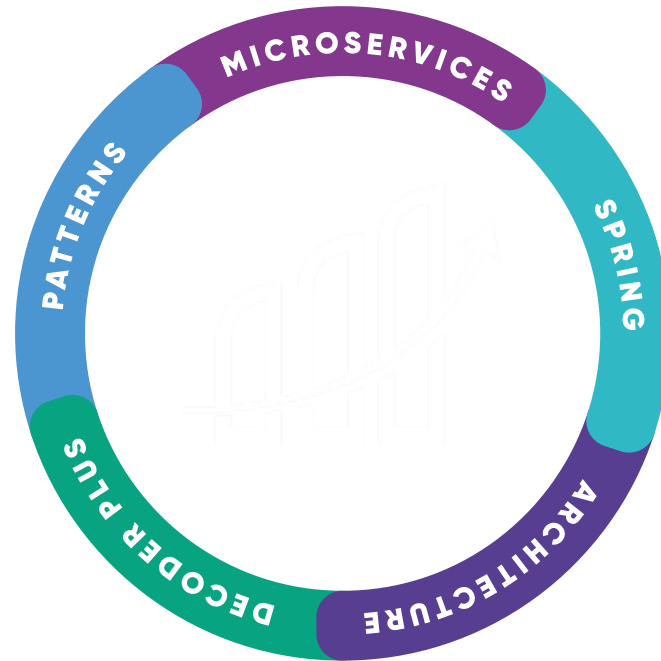


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