API Composition Pattern

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API Composition Pattern

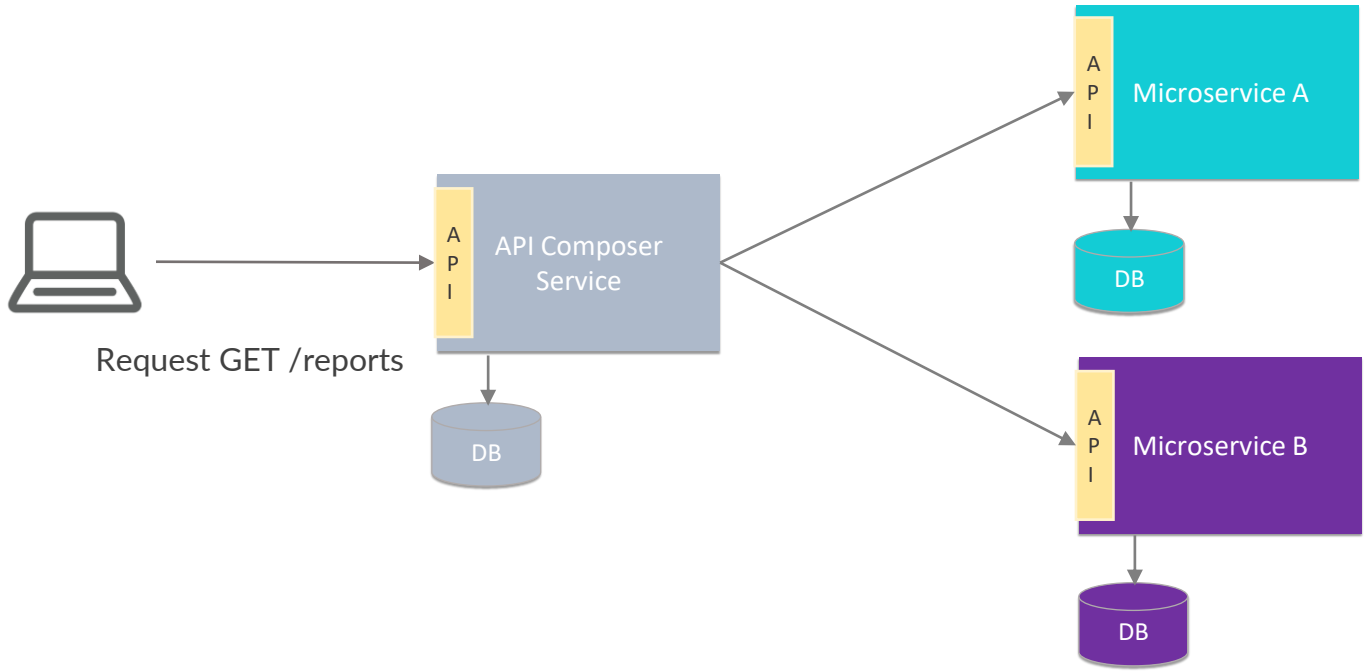
Implementação de consultas que recuperam dados de vários Microservices, consultando cada um deles através de suas respectivas APIs, combinando esses resultados.

Prós

- Ideal para consultas em uma Arquitetura Microservices
- Maneira simples de consultar e combinar dados de vários serviços
- Diferentes maneiras de implementar esse Pattern

Contras

- Maior acoplamento entre os Microservices
- Disponibilidade reduzida
- Consistência dos dados pode ser afetada



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How to implement API Composition Pattern?

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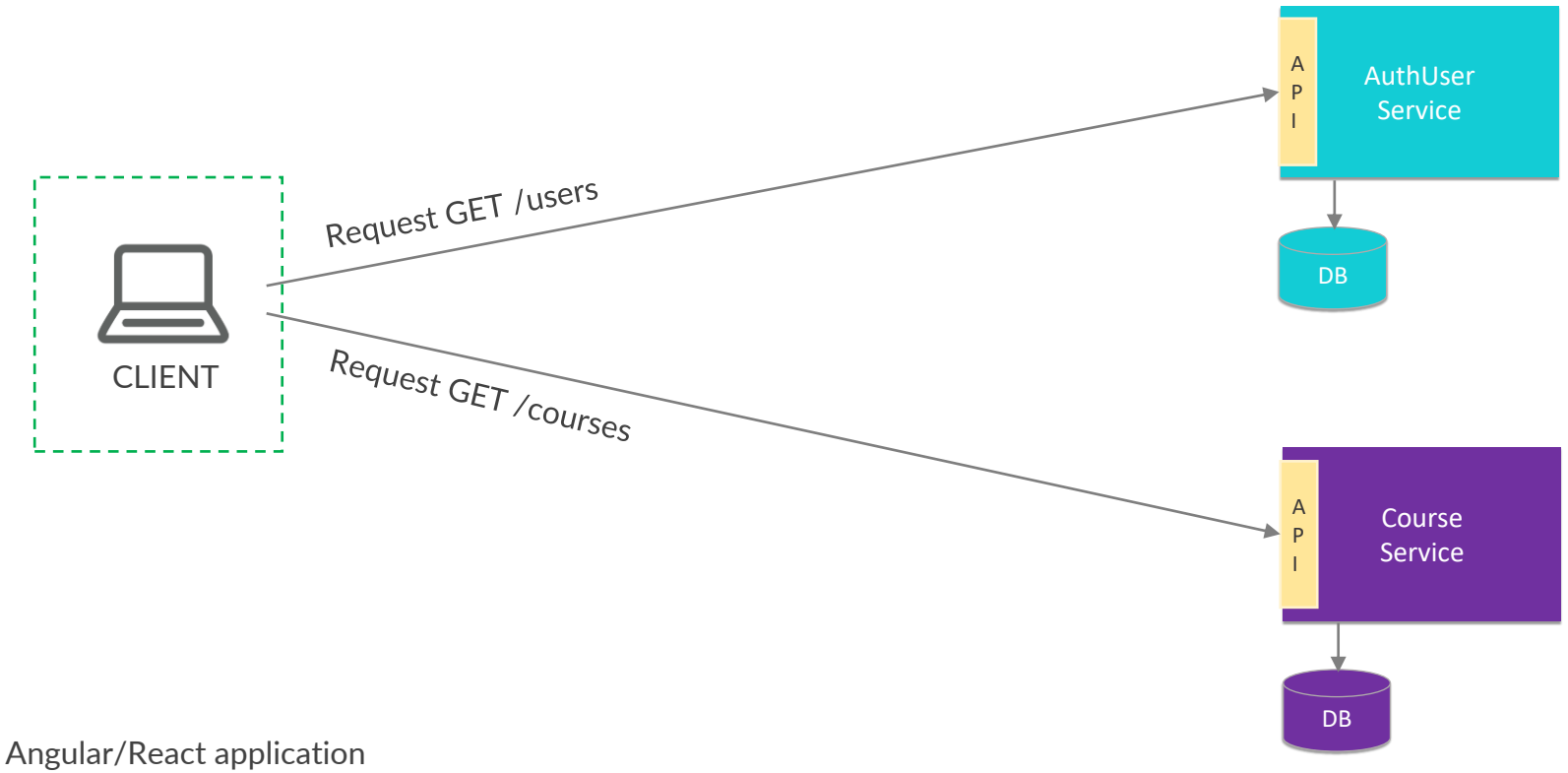
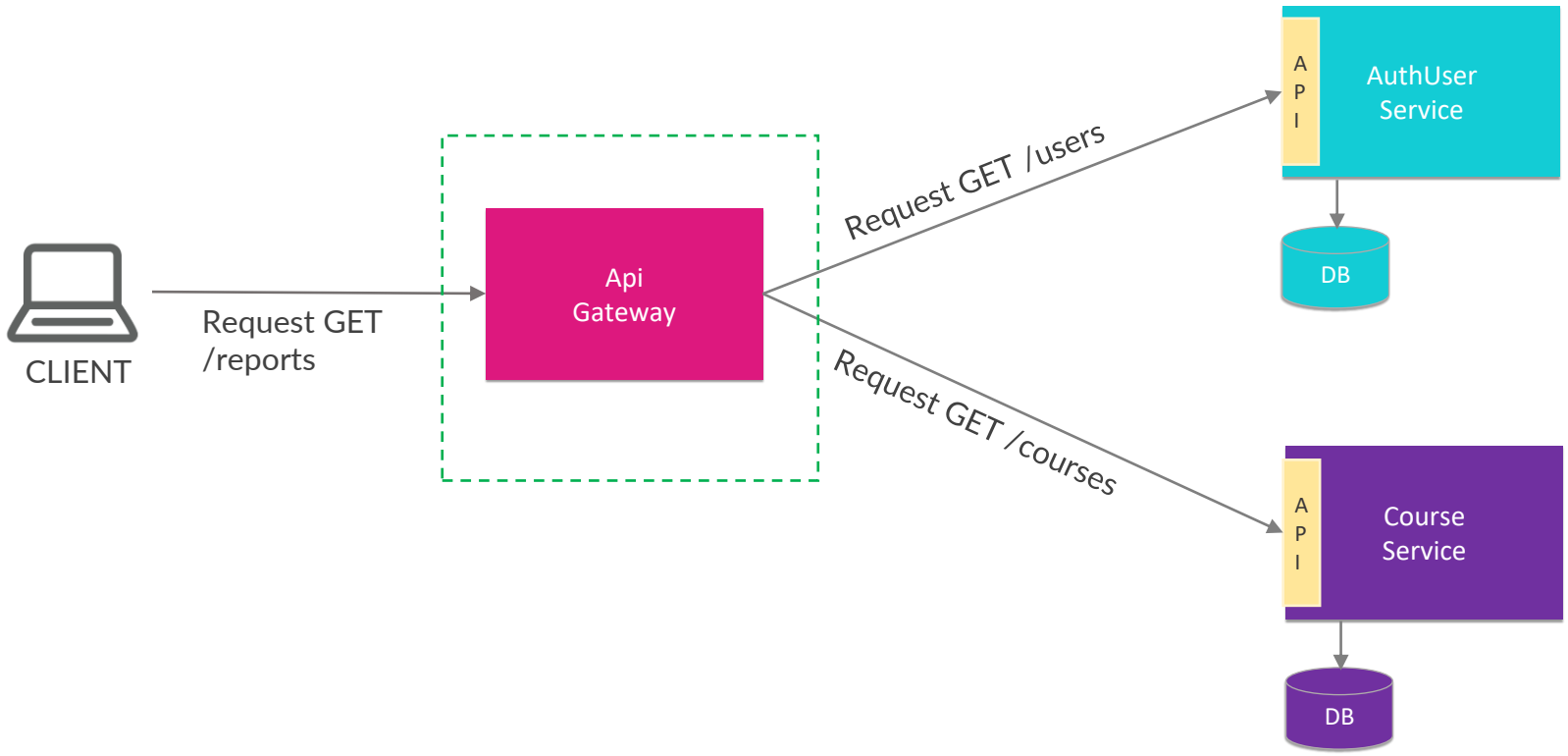
API Composition in a Client

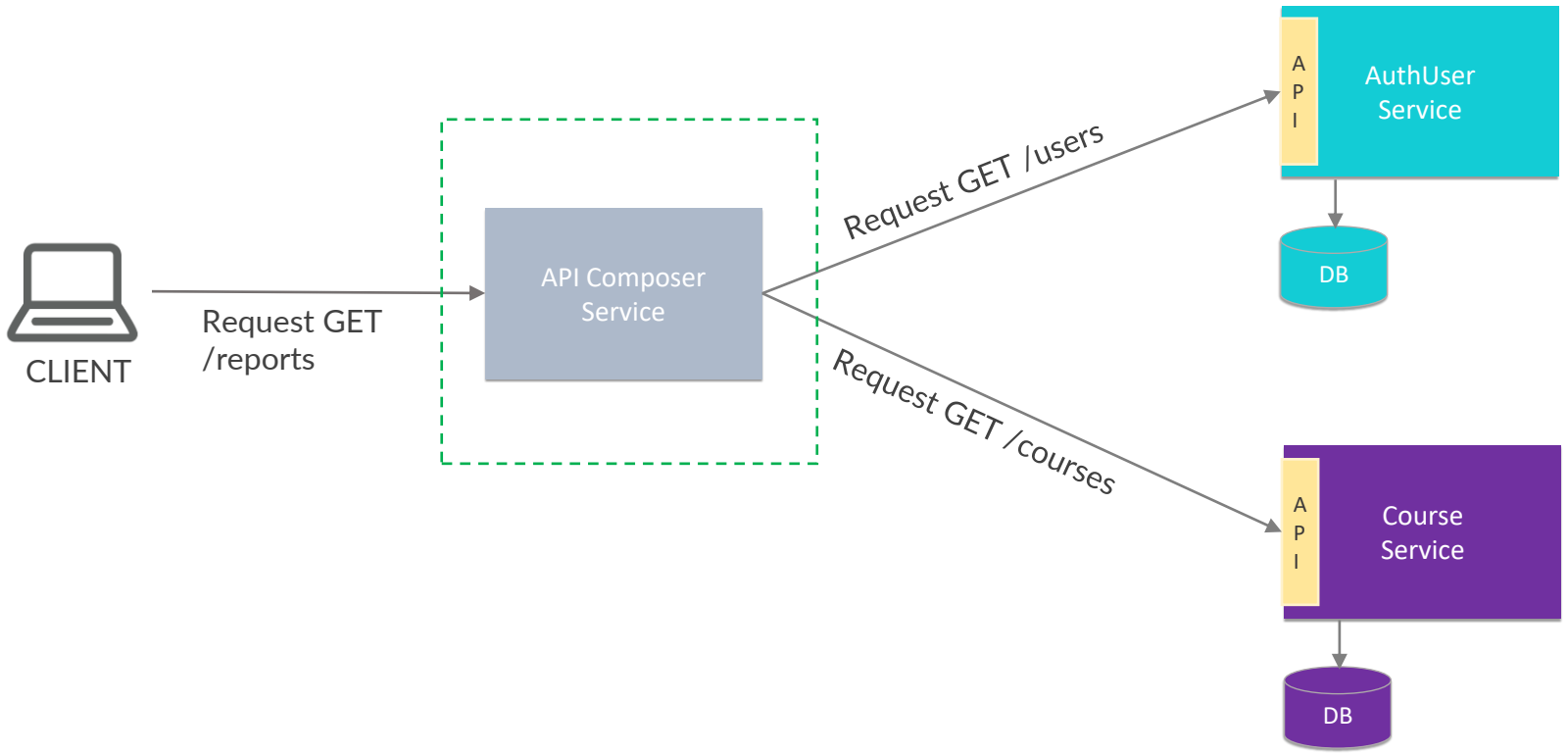


Client -> Angular/React application

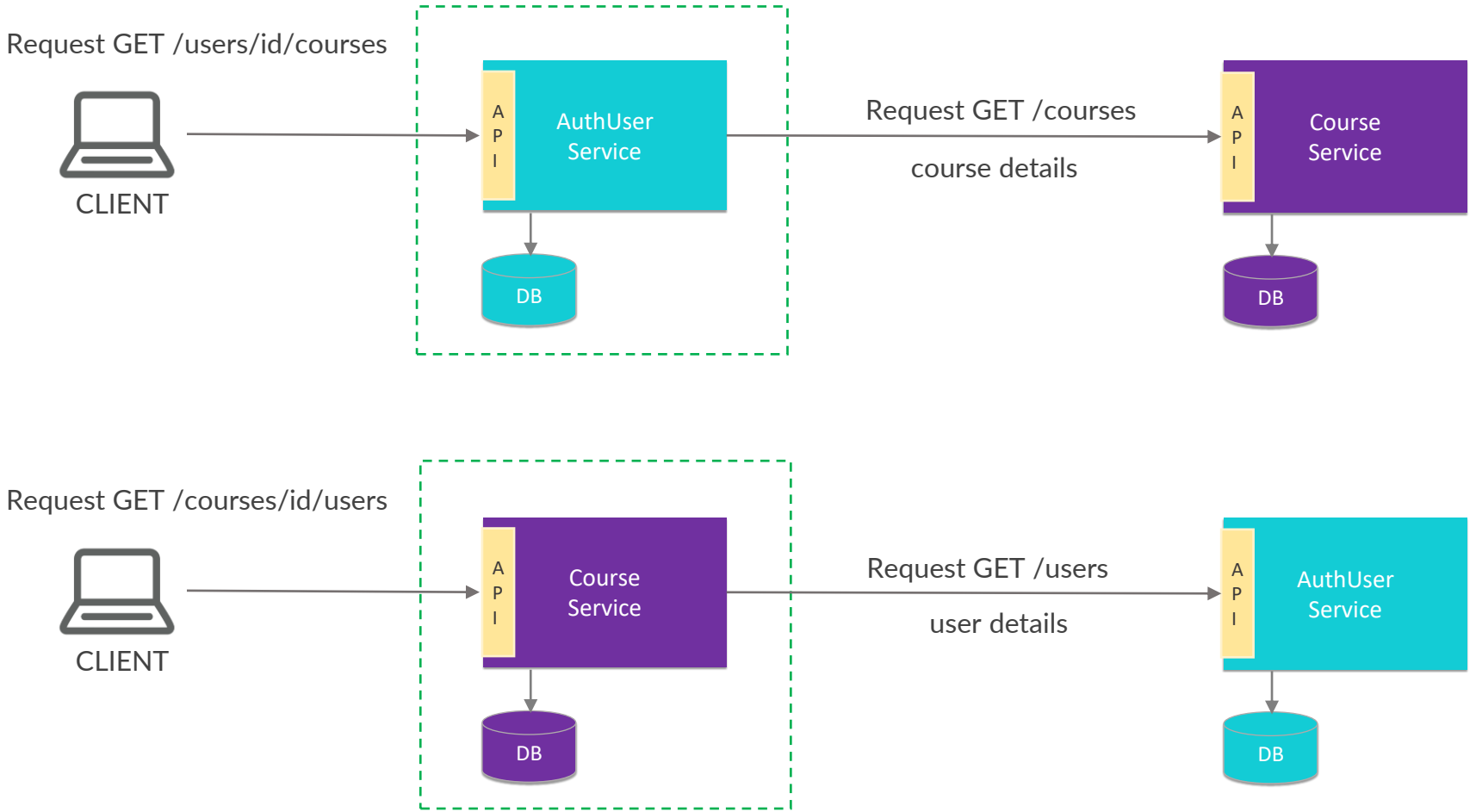
API Composition in the API Gateway



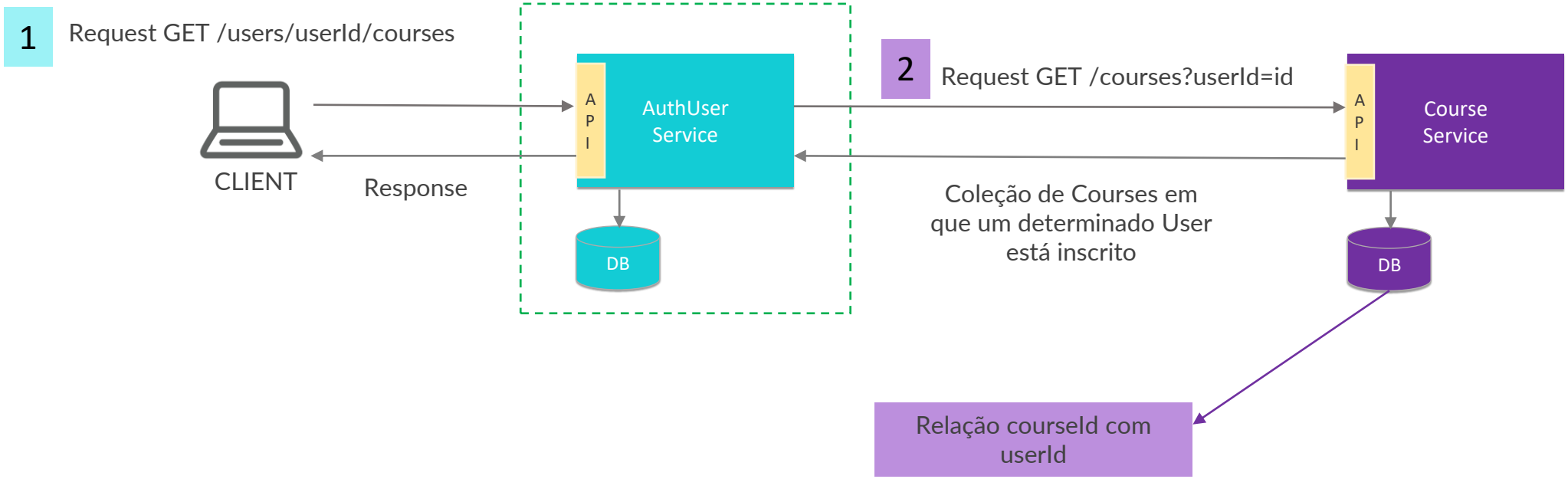
API Composition in Isolated Service Composer



API Composition in a Service



GET All Courses By User – API Composition



1 GET http://localhost:8087/users/ed235441-89e3-4de5-87af-0cfb2ac8a9d8/courses

2 GET http://localhost:8082/courses?userId=287ba167-44c9-4670-8dda-0404e0ff60db

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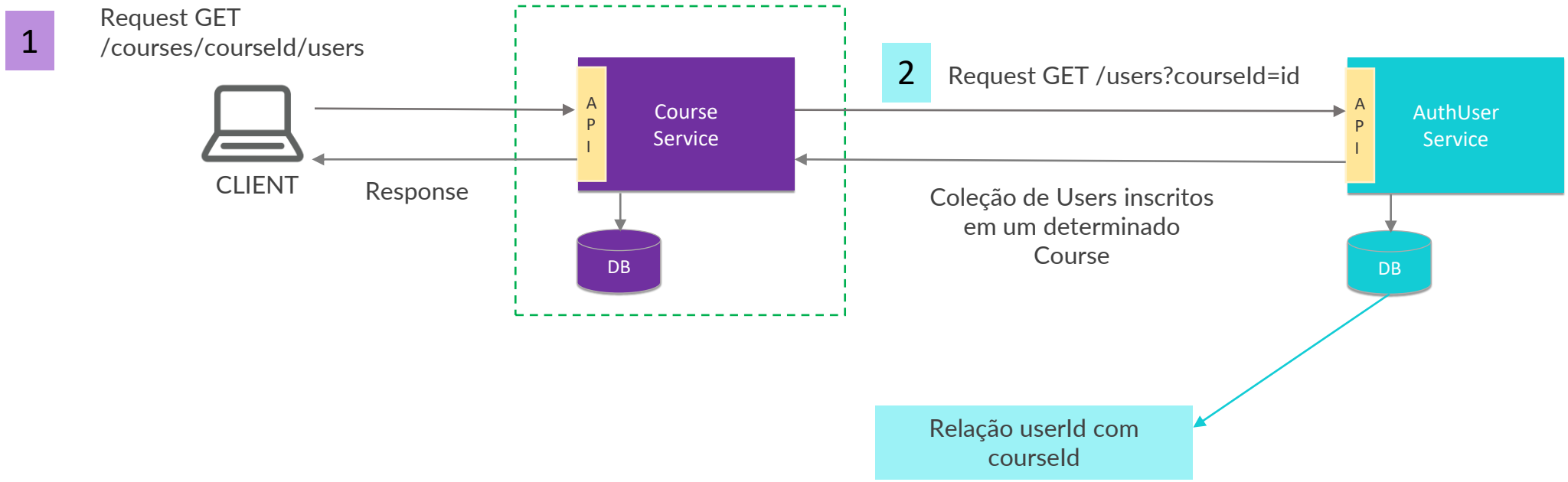
GET All Users By Course – API Composition



1 GET http://localhost:8082/courses/32e36682-8b0e-4816-b566-cb03b9e7ceb9/users

2 GET http://localhost:8087/users?courseId=06c2985c-376d-43fe-bfe5-c586e0d6f233

Next Steps

- Criar mapeamento entre userId e courseId em AuthUser Microservice;

- Criar mapeamento entre courseId e userId em Course Microservice;

- Preparar métodos GET ALL (getAllUsers e getAllCourses) para receber os parâmetros courseId e userId respectivamente;

- Implementar API Composition através da comunicação síncrona via HTTP REST entre os Microservices para obter os detalhes necessários dos recursos e retornar para o cliente.