Pattern: API Composition

Context

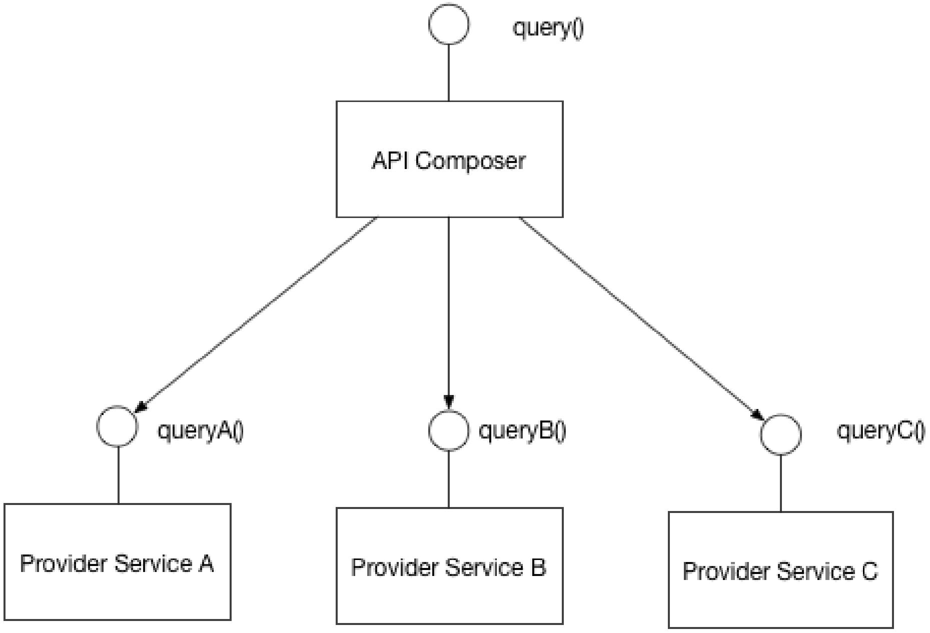
You have applied the Microservices architecture pattern (../microservices.html) and the Database per service pattern (database-per-service.html). As a result, it is no longer straightforward to implement queries that join data from multiple services.

Problem

How to implement queries in a microservice architecture?

Solution

Implement a query by defining an *API Composer*, which invoking the services that own the data and performs an in-memory join of the results.



Example

An API Gateway (../apigateway.html) often does API composition.

Resulting context

This pattern has the following benefits:

- It a simple way to query data in a microservice architecture

This pattern has the following drawbacks:

- Some queries would result in inefficient, in-memory joins of large datasets.

Related patterns

- The Database per Service pattern (database-per-service.html) creates the need for this pattern
- The CQRS pattern (cqrs.html) is an alternative solution

See also

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