

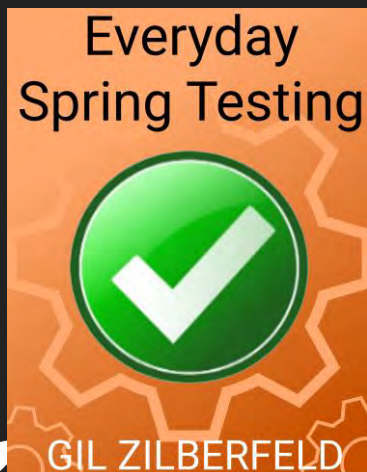
Microservices: Refactoring to patterns





Hello!

I AM GIL ZILBERFELD



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Code

That works

Over and over again



WHEN YOU NEED TO FIX BUGS

IN YOUR MICROSERVICE. AGAIN.

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**REFACTOR
THE CODE**



**USE IT
AS A TRAP**

We want the code to be

- Easy to change

- Cohesion
- Separation of concerns

- Easy to test

- Reduce dependencies
- Loosely coupled interfaces and events



Cohesion

The degree to which the elements inside a module belong together

Wikipedia



Separation of concerns

Each module addresses a separate concern, a set of information that affects the code.

Wikipedia



Loose coupling

Each of the components has, or makes use of, little or no knowledge of the definitions of other separate components

Wikipedia



THE TOOL



FOR THE JOB

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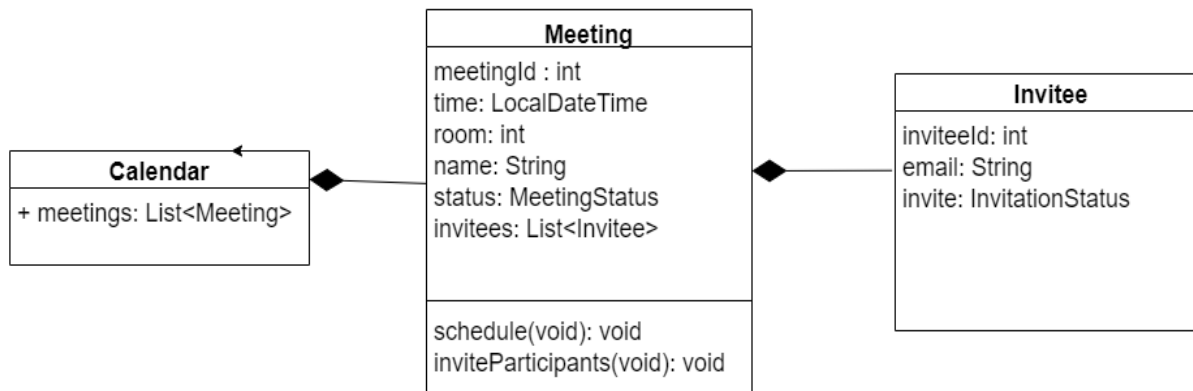
I SHOULD SCHEDULE

A MEETING

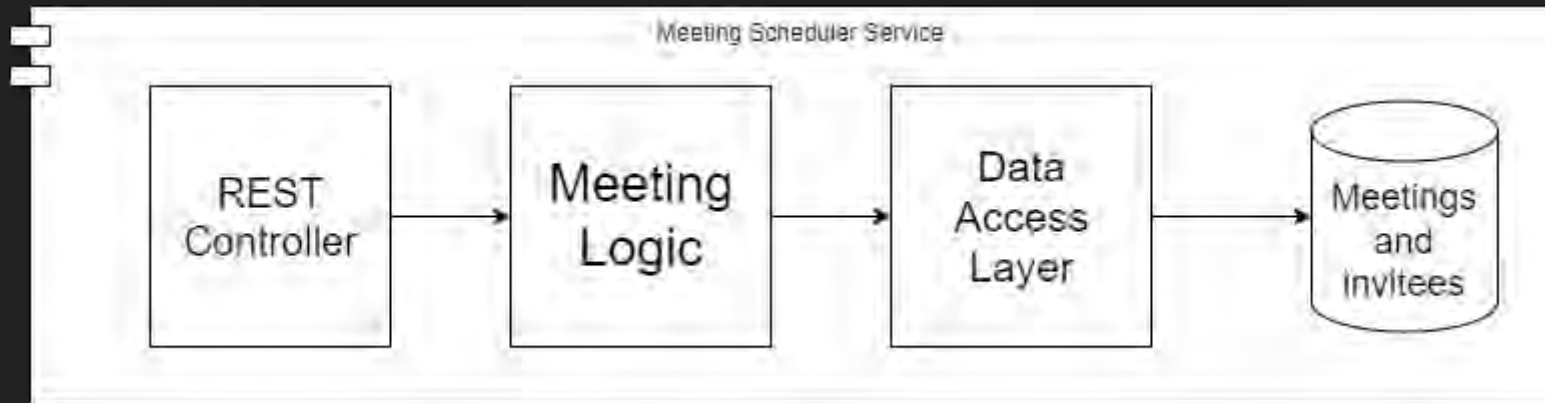
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Entities



Architecture



The API

POST /meetings/schedule

```
{  
  "emails": ["gil@testingil.com"],  
  "dateAndTime": "2023-01-21T13:03:12.851609400",  
  "topic": "meeting_topic",  
  "roomId": 3  
}
```



Problems

- It's a mess
- API doesn't allow testing the state by itself
- Can't test (easily) parts of the code





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**WE NEED
TO ORGANIZE**



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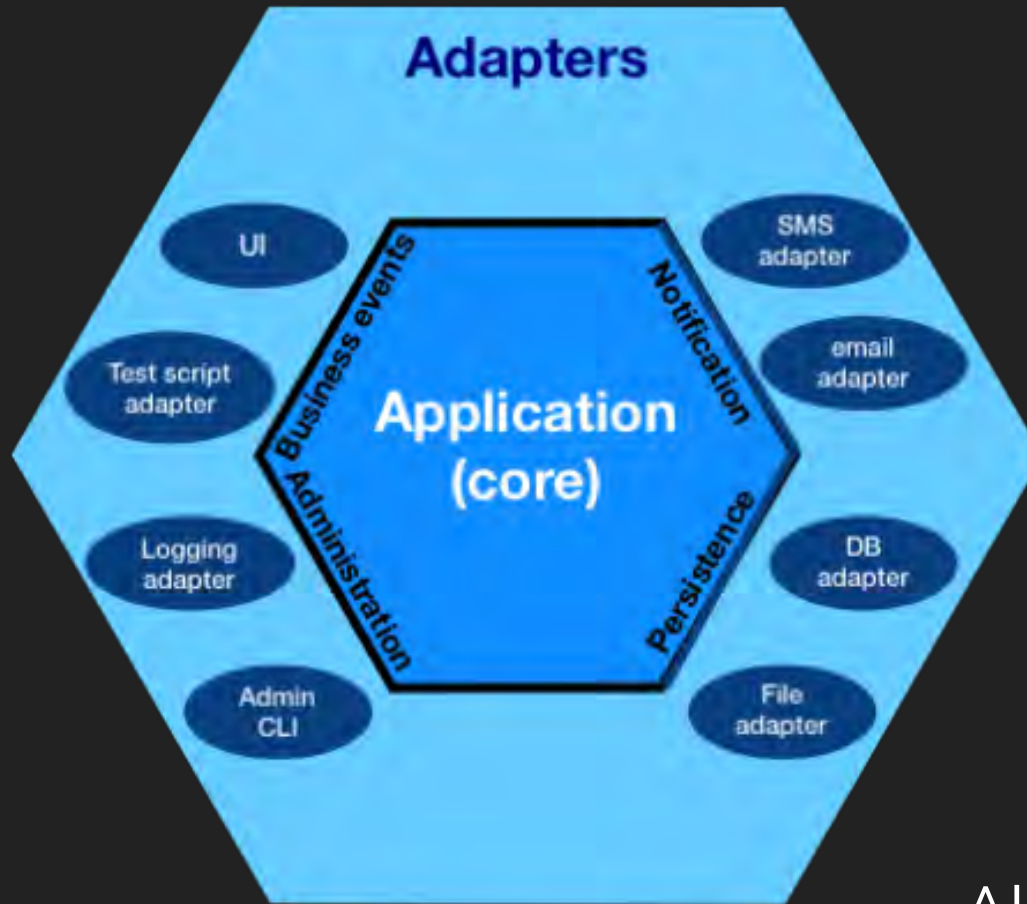


TO THE CODE!

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Ports and Adapters




Alistair Cockburn

Anti-corruption layer


Adapters that insulate the bounded context and enforce correct and consistent translation

Domain-driven design





Has a topic
Has at least one invitee
Is in the future



That's a
good meeting

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TO THE CODE!

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Repository

Mechanism for encapsulating storage, retrieval, and search behavior which emulates a collection of objects.

Domain driven design







TO THE CODE!

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ADAPTER WIN



EPIC FAILS



Adapter

A software design pattern that allows the interface of an existing class to be used as another interface

Wikipedia





TO THE CODE!

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WELCOME TO THE FACTORY

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Factory

A mechanism for encapsulating complex creation logic and abstracting the type of the object for the sake of the client

Domain driven design



Singleton

A class that allows only a single instance of itself to be created and gives access to that created instance

Wikipedia





TO THE CODE!

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Organization
Separation
Flexibility
Testability
Maintainability

**AFTER A LONG
REFACTORING SESSION**



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Thanks!

ANY QUESTIONS?

Email: Gil@TestinGil.com

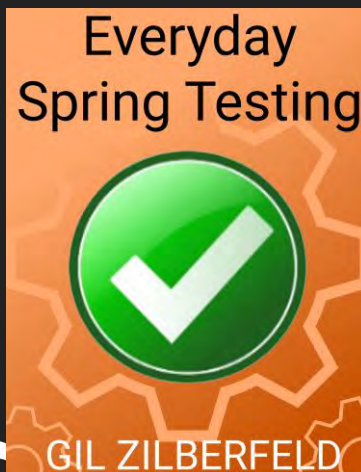
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