Contract Testing

Toni Masotti
masotti@bikeleasing.de
Bikeleasing-Service

November 25, 2023

Outline

1. Problem statement
   - How to test microservices?
2. Testing complex distributed architectures
   - Contract Testing
3. Demo Time
4. Worth thinking about

Let's start

Everybody loves microservices

(Ian Robinson)

- Big promise: Independent deployability
- Fast feedback loops
- Small teams, ideally crossfunctional,
- Loosely coupled architecture
- **But**: How to test them?

1 Problem statement
- How to test microservices?

2 Testing complex distributed architectures
- Contract Testing

3 Demo Time

4 Worth thinking about

A company growth...

- Show here the rapid growth of Leasing Object

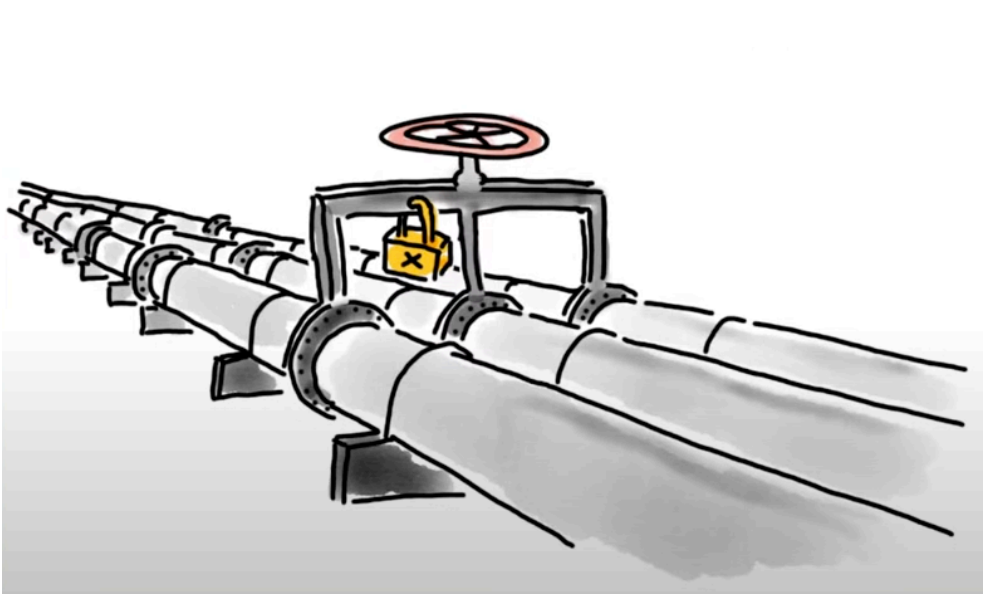
The Problem...

- Devs don't have confidence in deploying changes
- Also... what happens if we want to introduce a change in an existing service?

The Problem...

> *Every time we touch one service, all the others break :(*

Loosely coupled architecture... tightly coupled teams



Updating a microservice: the sad Atlassian case

```
{
"user": "Mike",
"address": "Something"
}
```

Mocks

- Mocking

Problem Statement

When organizations grow and so do the number of services

- How can we know, that the **whole** system works, when I publish changes?
- How can I avoid dependency on E2E tests for deployment and still be confident?
  - Testing microservices in isolation is not enough

Many hops...

- Show here what it would mean for us to have pure e2e tests

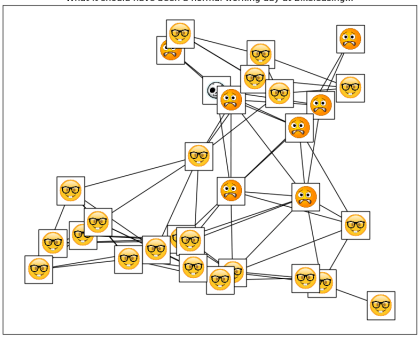
Problems

- Local changes, even if tested, do not assure that the system as whole is working

Problems

- Local changes, even if tested, do not assure that the system as whole is working
- Loosely coupled architecture but tightly coupled teams. Such systems are - no matter the architecture - still monolithic from a CD perspective

Embedded Animation



perl: warning: Setting locale failed.

1 Problem statement
- How to test microservices?

2 Testing complex distributed architectures
- Contract Testing

3 Demo Time

4 Worth thinking about

Hintergrund

- ja, something

Pacts

Pact

A formal agreement between parties or individual. Synonyms: agreement, protocol, deal
— Oxford English Dictionary

1 Problem statement
- How to test microservices?

2 Testing complex distributed architectures
- Contract Testing

3 Demo Time

4 Worth thinking about

Hintergrund

- ja, something

1 Problem statement
- How to test microservices?

2 Testing complex distributed architectures
- Contract Testing

3 Demo Time

4 Worth thinking about

Hintergrund

- ja, something