

Railway Oriented Programming

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- Software Entwickler / Architekt
- Beruflich: C#
- Interessen:
 - Software Crafting
 - Domain-Driven-Design
 - Funktionale Programmierung

Demo

- @drechsler



https://pixabay.com/users/Larisa-K-1107275/?utm_source=link-attribution&utm_medium=referral&utm_campaign=image&utm_content=163518

MEIN ZIEL

A photograph of a railway track receding into the distance under a cloudy sky. The tracks are made of brown steel rails and wooden sleepers, resting on a bed of grey gravel. The sky is filled with white and grey clouds, with the sun setting or rising behind them, casting a warm glow. In the background, there are some trees and power lines.

NULL IS A PAIN

```
public void Foo(string s)
{
    if (string.IsNullOrWhiteSpace(s))
    {
        // ...
    }
}
```

```
public void Foo(List<string> someStringCollection)
{
    if (someStringCollection != null && someStringCollection.Any())
    {
        // ...
    }
}
```

```
public void Foo(Customer customer)
{
    if (customer?.Address?.ZipCode != null)
    {
        // ..
    }
    else
    {
        // ..
    }
}
```



ANTIPATTERN: PRIMITIVE OBSESSION

*Like most other [code] smells, primitive obsessions are born in moments of weakness. "**Just a field for storing some data!**" the programmer said. Creating a primitive field is so much easier than **making a whole new class**, right?*

BILLION DOLLAR MISTAKE

Tony Hoare introduced Null references in ALGOL W back in 1965 "simply because it was so easy to implement", says Mr. Hoare. He talks about that decision considering it "my billion-dollar mistake".

ERRORS ARE A PAIN

ARITHMETIC ERRORS

```
int Add(int a, int b) => a + b;  
  
var i1 = Int32.MaxValue;  
var i2 = 1;  
  
var result = Add(i1, i2);
```

INFRASTRUCTURE ERRORS

```
Customer GetById(Guid id)
{
    return db.GetById(id);
}
```

IMHO

- using Exception-Handling as control flow is bad practice
 - (unless you are performance optimizing)

Anticipate Exceptions!

LOG LIKE A PRO

ELK

- elastic
- logstash
- kibana

What is the ELK Stack?

Why, it's the Elastic Stack.

LOG LIKE A PRO

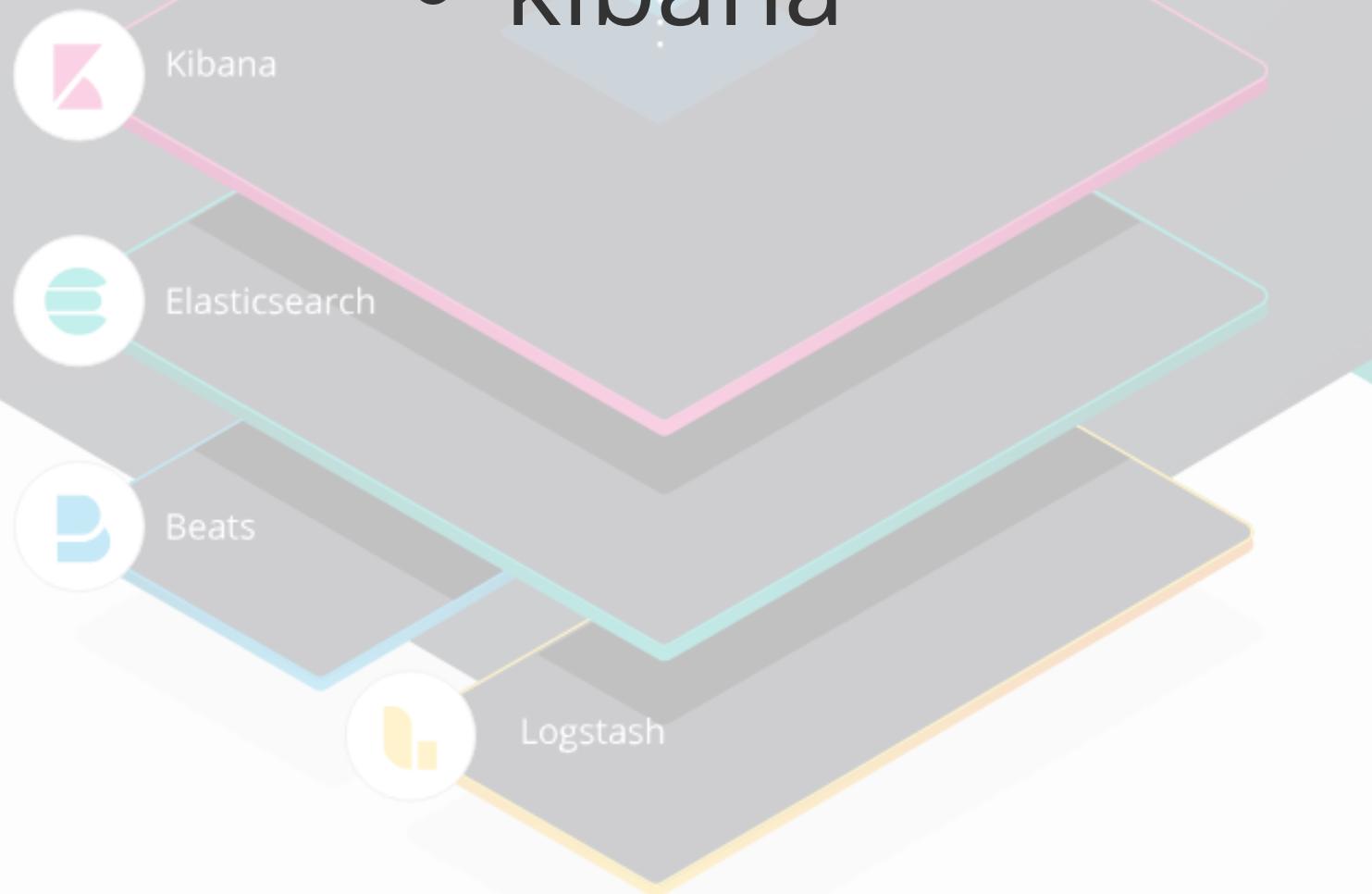
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check out our [getting started video](#).

ELK

- elastic
- logstash
- kibana



OPS

...will thank you

Code with default syntax highlighting in C#

```
public void Add(int a, int b)
{
    return a + b;
}

// expression body syntax
public void Add(int a, int b) => a + b;
```

```
public async Task<int> AddAsync(int a, int b)
{
    var result = Task.FromResult(a + b);
    return result;
}
```

Code with additional syntax highlighting (i.e. focus on some parts of the code) requires pure HTML code

- no markdown
- escape everything

Example 1: custom styling on certain elements

```
// expression body syntax
public void Add(int a, int b) => a + b;
```

```
var averageIncomeAbove25 = people
    .Where(p => p.Age > 25) // "Filter"
    .Select(p => p.Income) // "Map"
    .Average();             // "Reduce"
```

Example 2: styling per line using fragments

```
var averageIncomeAbove25 = people
    .Where(p => p.Age > 25) // "Filter"
    .Select(p => p.Income) // "Map"
    .Average(); // "Reduce"
```