



ArchUnit

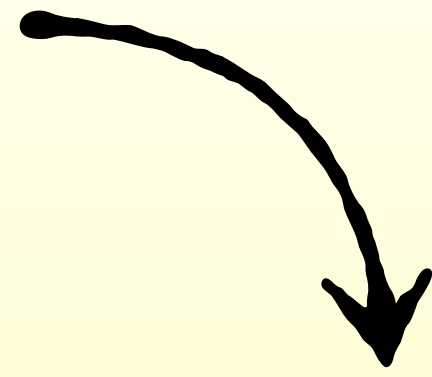
Testen von Architektur und Design

Thomas Much

 @thmuch

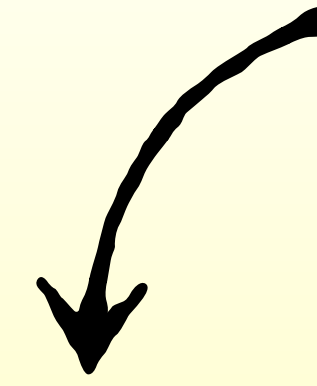
08.05.2019

Autor



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@codecholeric
@archtests

glücklicher Anwender



Thomas Much
@thmuch



Architektur und Design automatisiert prüfen –

Warum?

Microservices & SCS



Customer

Product

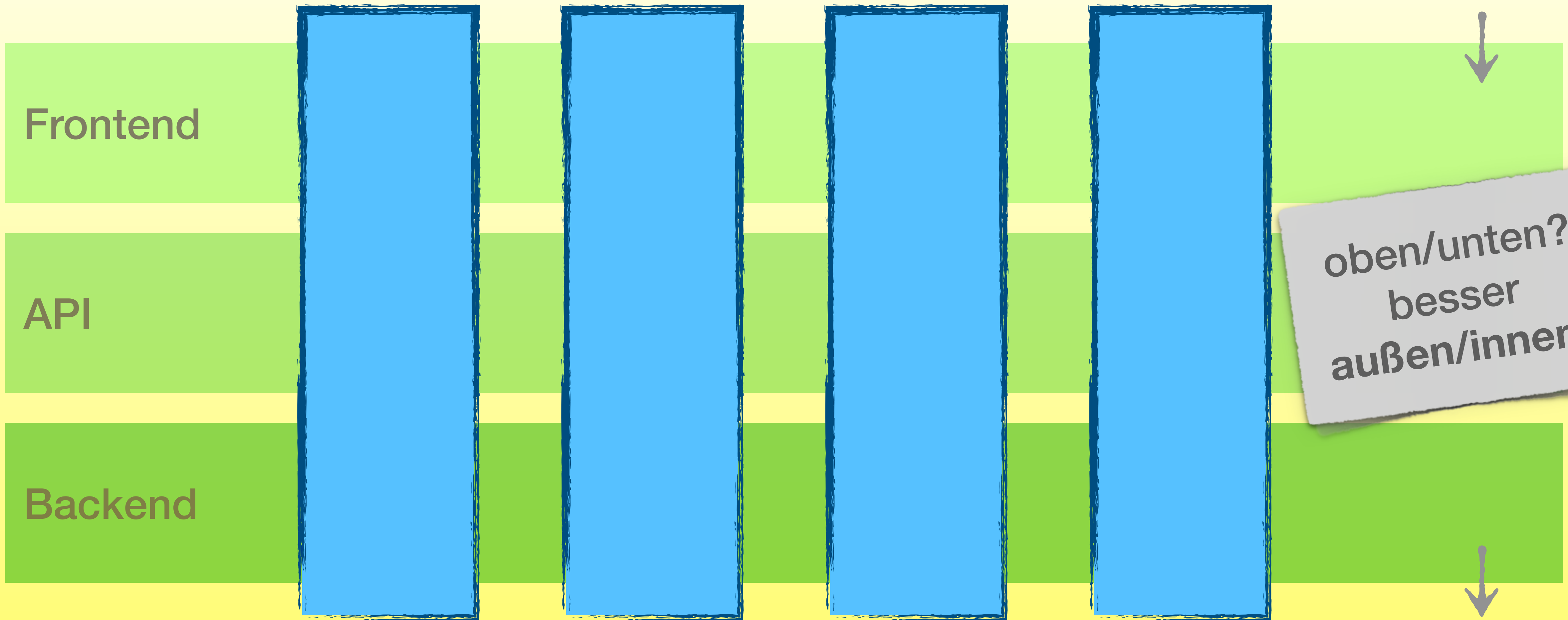
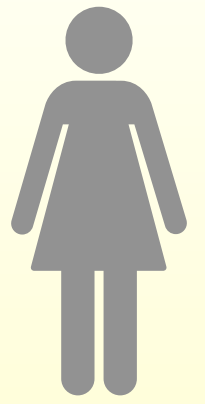
Order

Search

Monolithen



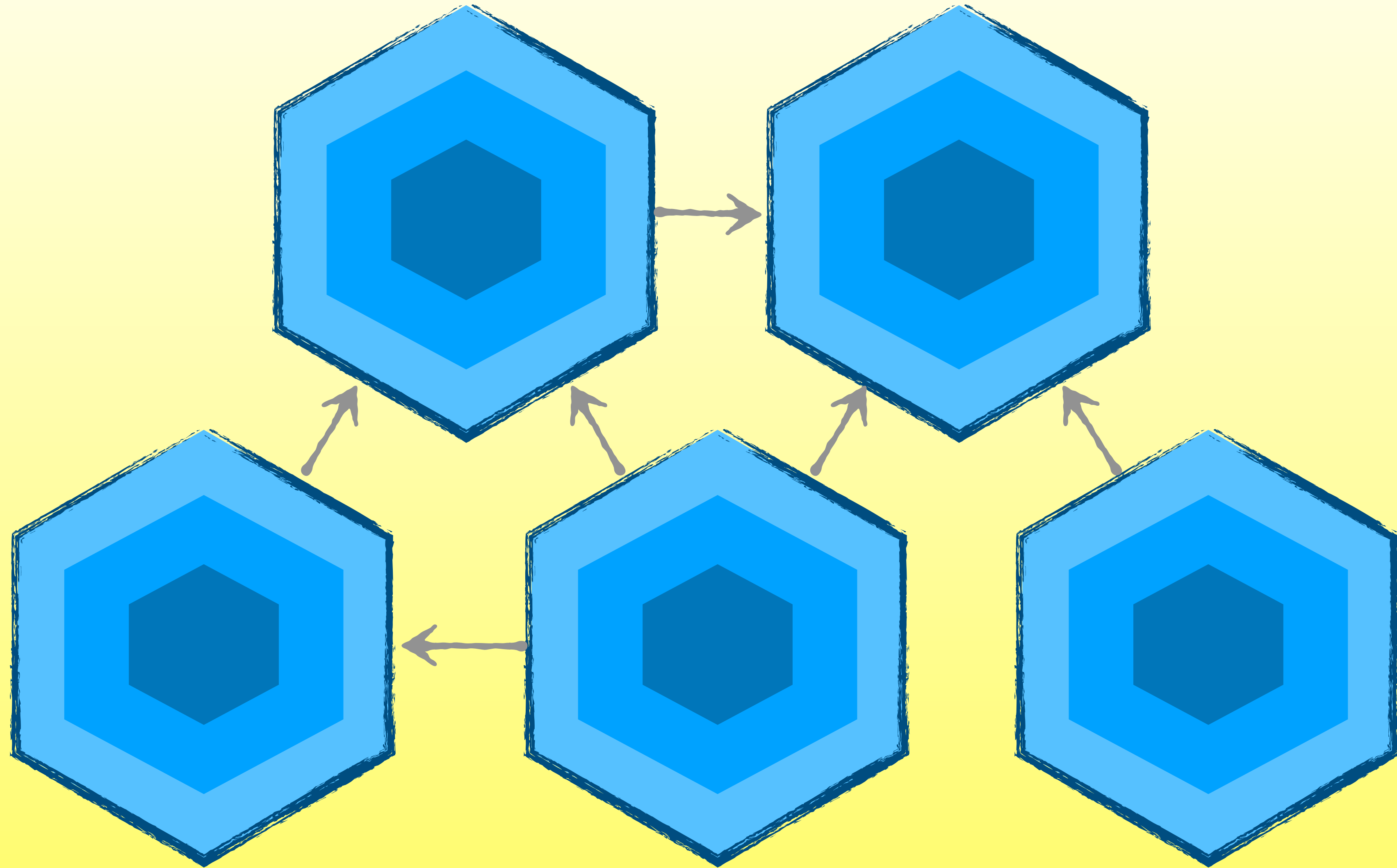
Microservices / Schichten?



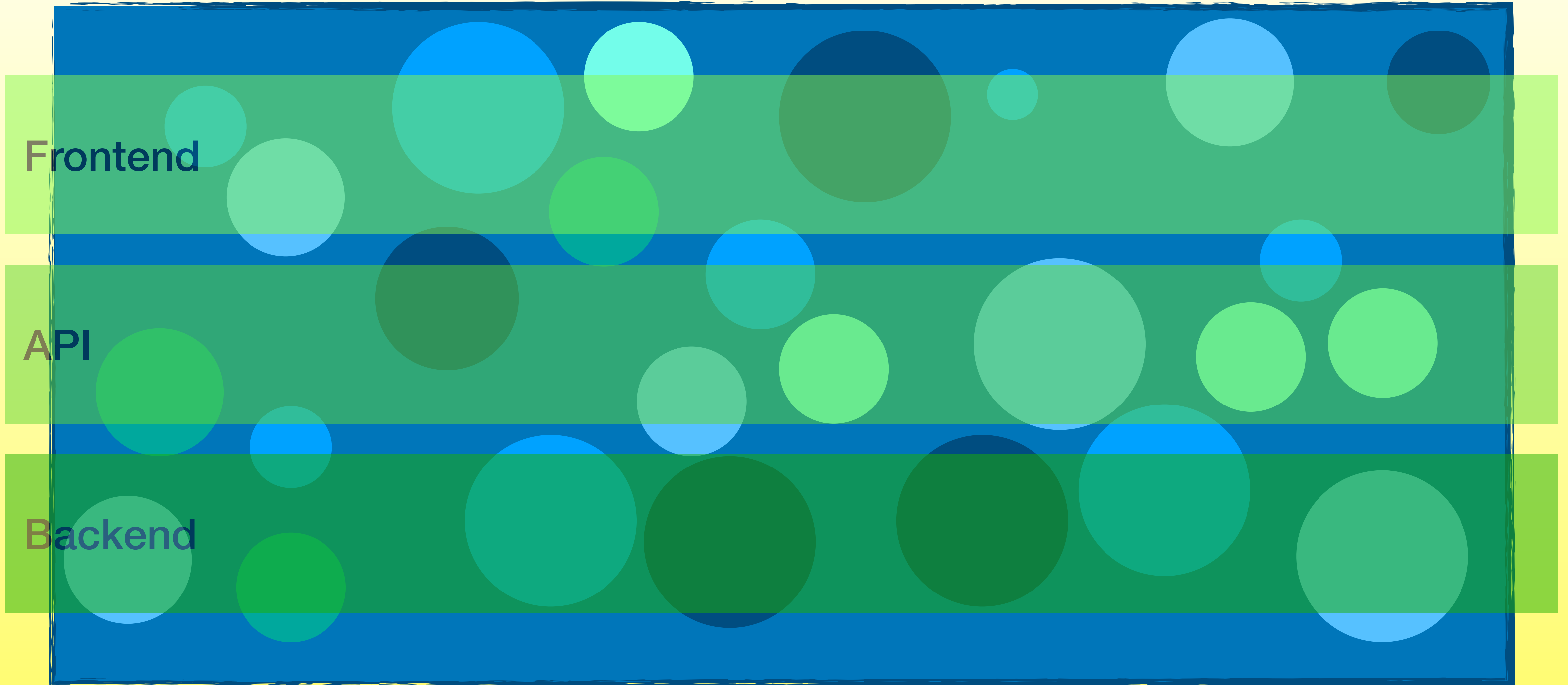
oben/unten?
besser
außen/innen!



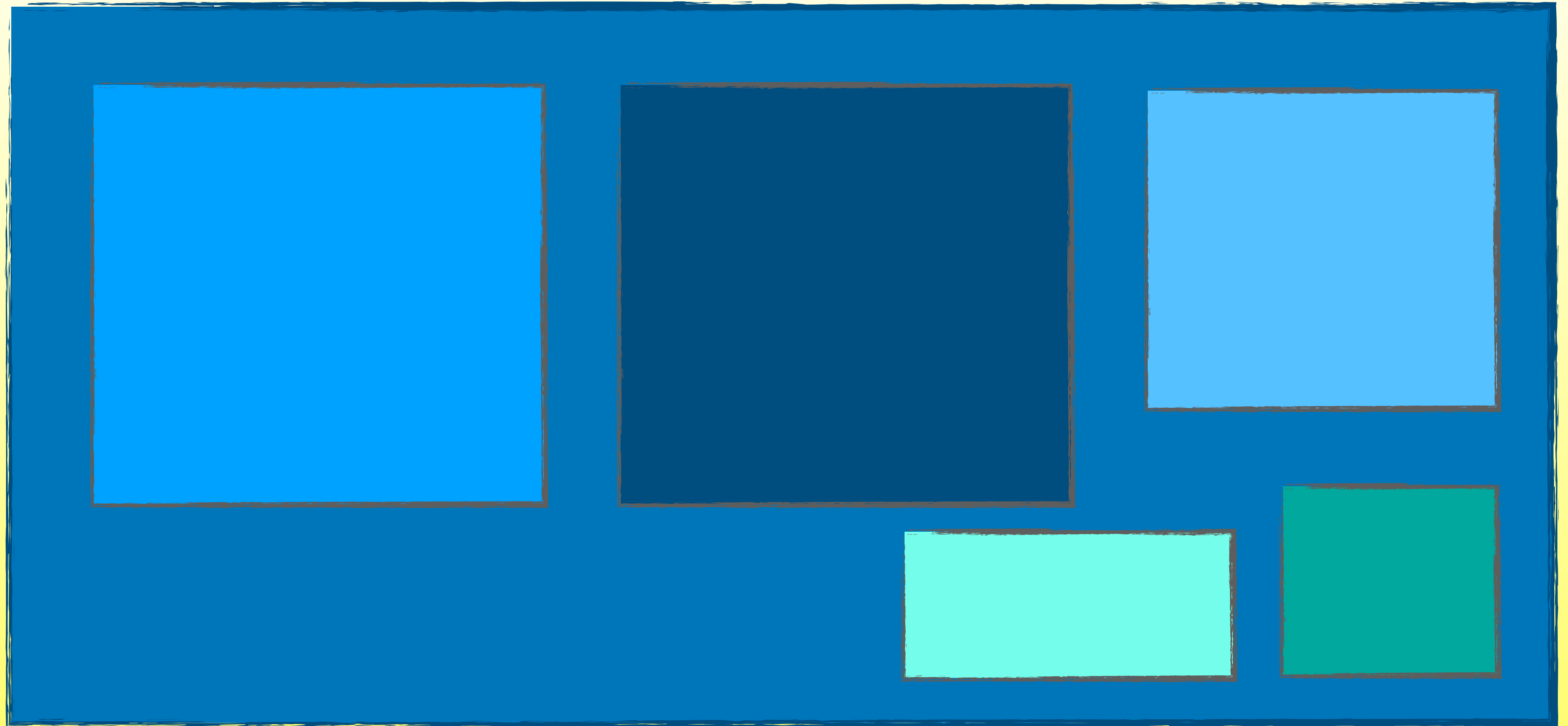
Microservices / DDD



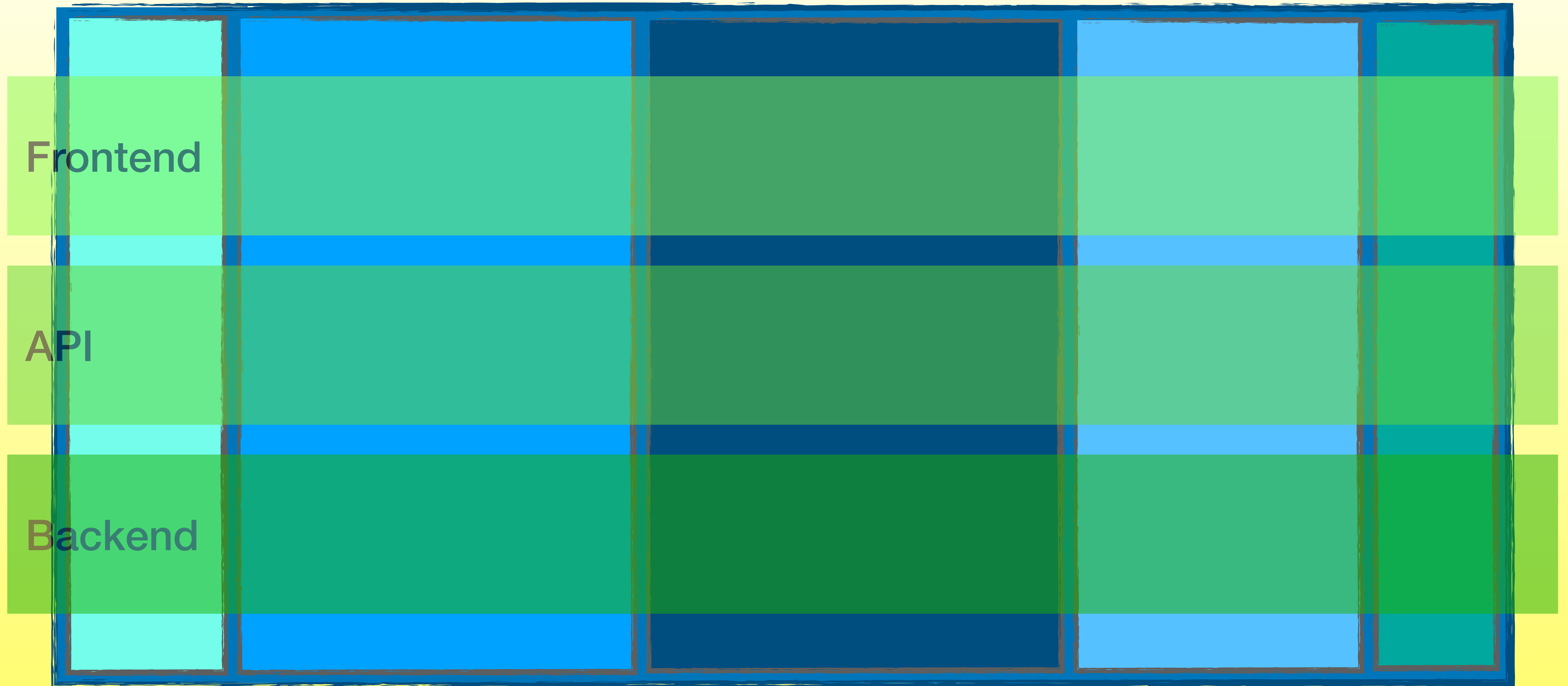
Monolithen



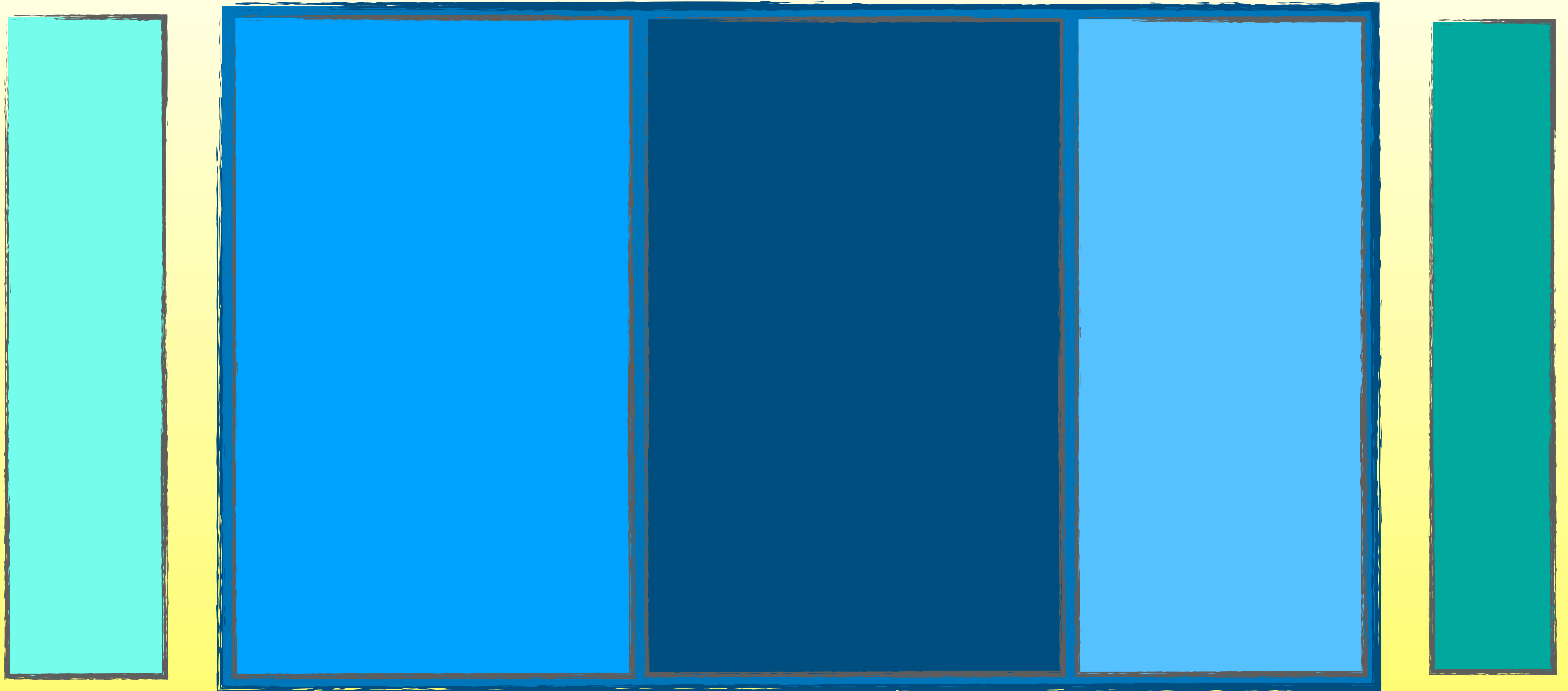
Freundliche Monolithen



Noch freundlichere Monolithen



Abgespeckte Monolithen



Architektur testen – warum?

Wartbarkeit

Ersetzbarkeit

Code-Conventions

Verständlichkeit

Dokumentation

Kommunikation

Wir
sind
ein
Team!

Architektur testen

Abhängigkeiten, Kohäsion & Kopplung

Konventionen & Patterns

Unser Weg zu ArchUnit

JDepend

Degrath

jQAssistant

Classycle
Checkstyle

~~kommerziell~~

veraltet
oder
nicht flexibel genug
oder
eigene (Konfigurations-)Sprache



Ende 2017
„ArchUnit 0.4“



Architektur-Prüfungen als Unit-Tests

Normaler Java-Code!

Flexibel erweiterbar – auch Design-Prüfungen realisierbar

Prüfung auf Bytecode-Ebene

ArchUnit einbinden

Group ID	Artifact ID	Latest Version		Updated
com.tngtech.archunit	archunit-junit5-engine-api	0.10.2	(7)	31-Mar-2019
com.tngtech.archunit	archunit-junit5-engine	0.10.2	(7)	31-Mar-2019
com.tngtech.archunit	archunit-junit5-api	0.10.2	(7)	31-Mar-2019
com.tngtech.archunit	archunit-junit4	0.10.2	(7)	31-Mar-2019
com.tngtech.archunit	archunit	0.10.2	(13)	31-Mar-2019
com.tngtech.archunit	archunit-junit	0.8.3	(6)	20-Jul-2018


```
<dependency>
  <groupId>com.tngtech.archunit</groupId>
  <artifactId>archunit</artifactId>
  <version>0.10.2</version>
  <scope>test</scope>
</dependency>
```


ArchUnit ausführen

Mit jedem Unit-Test-Framework nutzbar

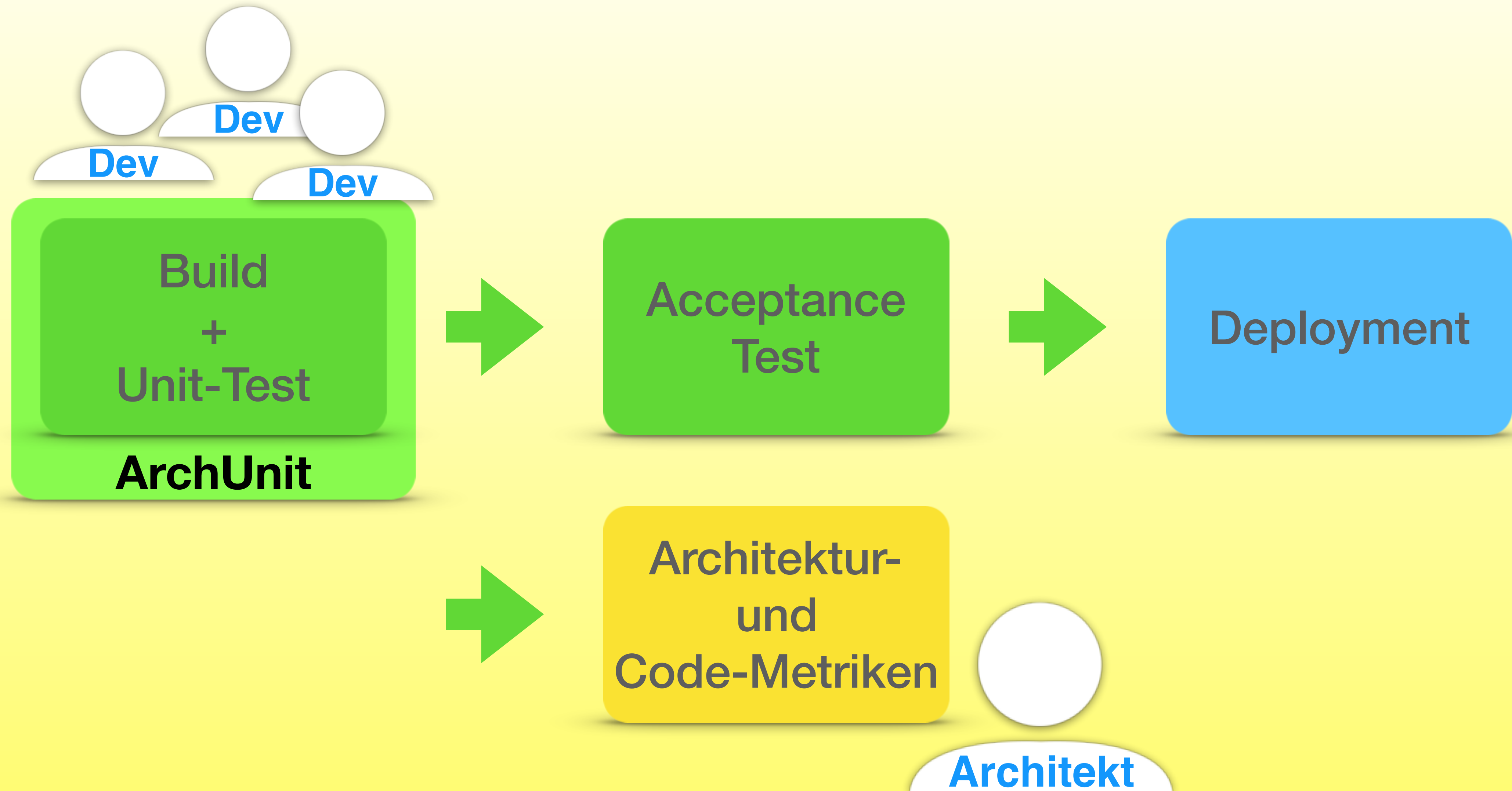
Spezielle Unterstützung für JUnit 4 / 5

Java & Kotlin

Maven-Plugin 

Live-Demo

Warum ArchUnit?

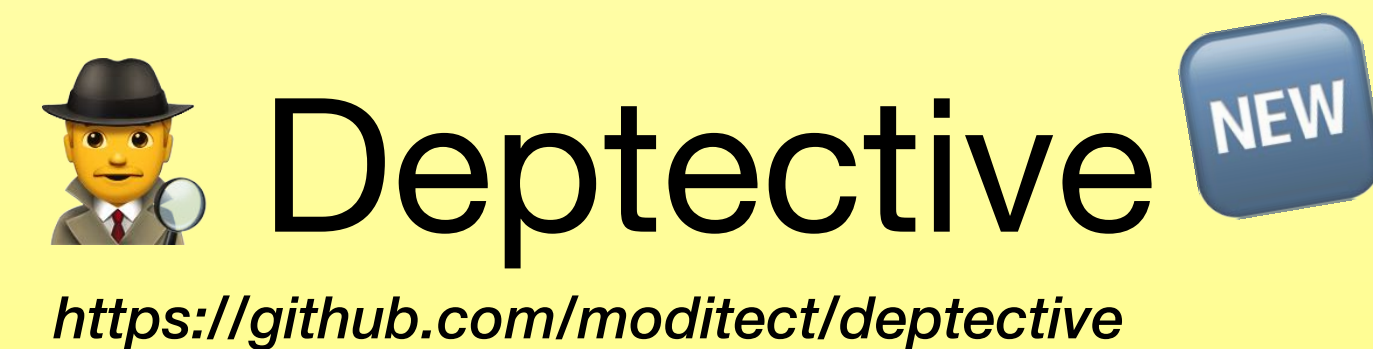


Alternativen

The logo for jQAAssistant features a green checkmark over a stylized 'j' followed by the text 'QAAssistant' in a bold, dark grey font.

The logo for structure101 consists of the text 'structure101' in a bold, dark blue font.

The logo for sonarqube features the text 'sonarqube' in a bold, dark grey font, followed by three blue curved lines representing sound waves.

The logo for Deptective includes a detective emoji wearing a hat and holding a magnifying glass, followed by the text 'Deptective' in a bold, black font. A blue rounded square badge with the word 'NEW' in white is positioned to the right of the text. Below the logo is the URL <https://github.com/moditect/deptective>.

u.a.

https://www.archunit.org

[Getting Started](#)[Motivation](#)[News](#)[User Guide](#)[API](#)[About](#)

Unit test your Java architecture

Start enforcing your architecture within 30 minutes using the test setup you already have.

[Start Now](#)

ArchUnit is a free, simple and extensible library for checking the architecture of your Java code using any plain Java unit test framework. That is, ArchUnit can check dependencies between packages and classes, layers and slices, check for cyclic dependencies and more. It does so by analyzing given Java bytecode, importing all classes into a Java code structure. You can find examples for the current release at [ArchUnit Examples](#) and the sources on [GitHub](#).



<https://github.com/TNG/ArchUnit-Examples>

<https://github.com/thmuch/archunit-demos>



Schichten

Architektur

Slices

Design

Vertikalen

Konventionen

Module

Fragen?

Monolithen

Abhängigkeiten

SCS

Microservices

Kopplung

Kohäsion



ArchUnit

Danke!



Thomas Much

 @thmuch