Validating Data

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Previous Module

Tested our application

Unit vs integration tests

JUnit and then Arquillian

Code is managed by an application server

Java EE has mostly integration tests

Overview

Understanding Validation

Constraining data

Bean Validation

Built-in annotations

Enrich our integration tests

What Is Validation?

Processing, storing, and retrieving valid data is crucial

Constraining our model

Ensure the data is correct

If data is invalid, send feedback so it can corrected

What Is a Constraint?

Business rule

More or less complex

- Is the address valid?
- Is the email well formed?
- Is the customer's name null?
- Is the birth date in the past?
- Total amount > previous quarter?
- Annual revenue has 10% growth?

What Is Bean Validation?

Can be used in all the Java EE components

Defines a set of constraints

Using annotations

Validates the set of constraints

Built-in commons constraints

APIs to create our own
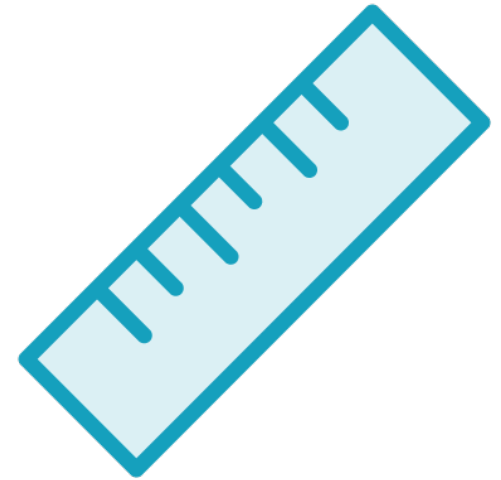
Boolean

@AssertFalse

@AssertTrue

Size

@Size

@Digits

@Max, @Min

@DecimalMax, @DecimalMin

Date

@Future

@Past

Object

@Null

@NotNull

Regular Expression

@Pattern

^[0-9]+abc$

Applying Constraints to the Book Entity

```java
@Entity
public class Book {

    @NotNull
    private String title;

    @Size(min = 1, max = 10000)
    private String description;

    @NotNull @Min(1)
    private Float unitCost;

    @Past
    private Date publicationDate;
    // ...
}
```

Applying Constraints to the Book Repository

```java
@Transactional(SUPPORTS)
public class BookRepository {

    public Book find(                           Long id) { ... }

    @Transactional(REQUIRED)
    public Book create(           Book book) { ... }

    @Transactional(REQUIRED)
    public void delete(                             Long id) { ... }
}
```
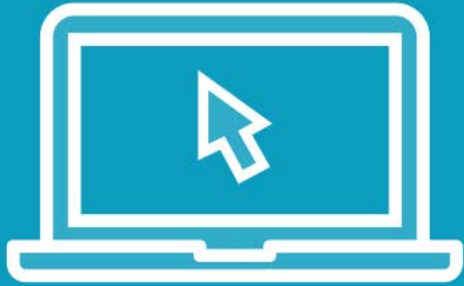
Demo

Constrain our code

Insert and process valid data

Add constraints to the book entity
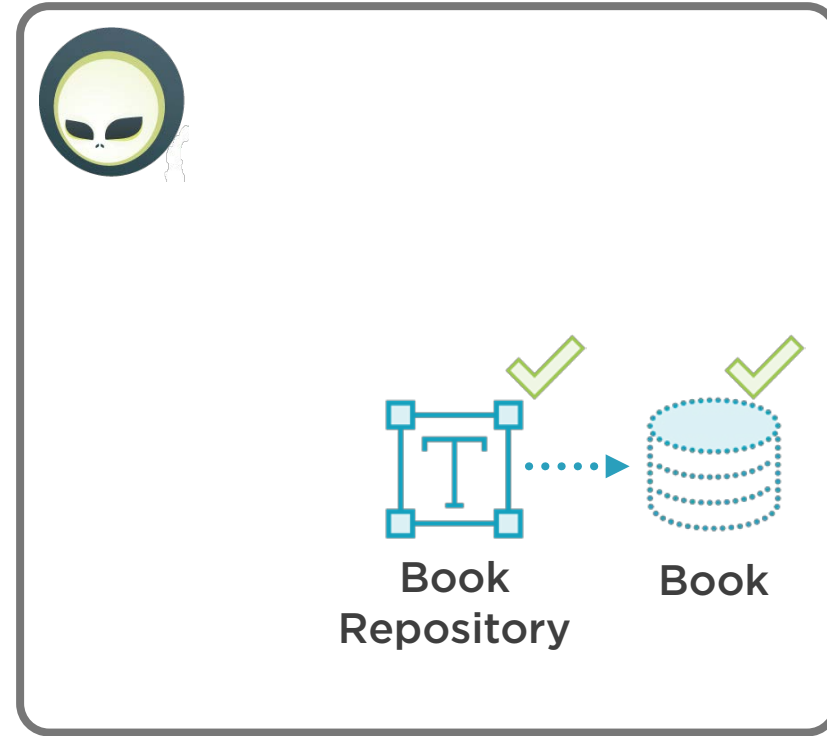
Book repository method parameters

Change our tests

Anatomy of the BookStore Application

Angular

Java EE

Book Repository

Book

JDBC

Database

Summary

What validation is

Why it is so important

Bean Validation

Constraints

- Attributes

- Method parameters

Next Module

Add utility classes

Manage dependencies

Do not use Java constructors

Context and Dependency Injection

Injection