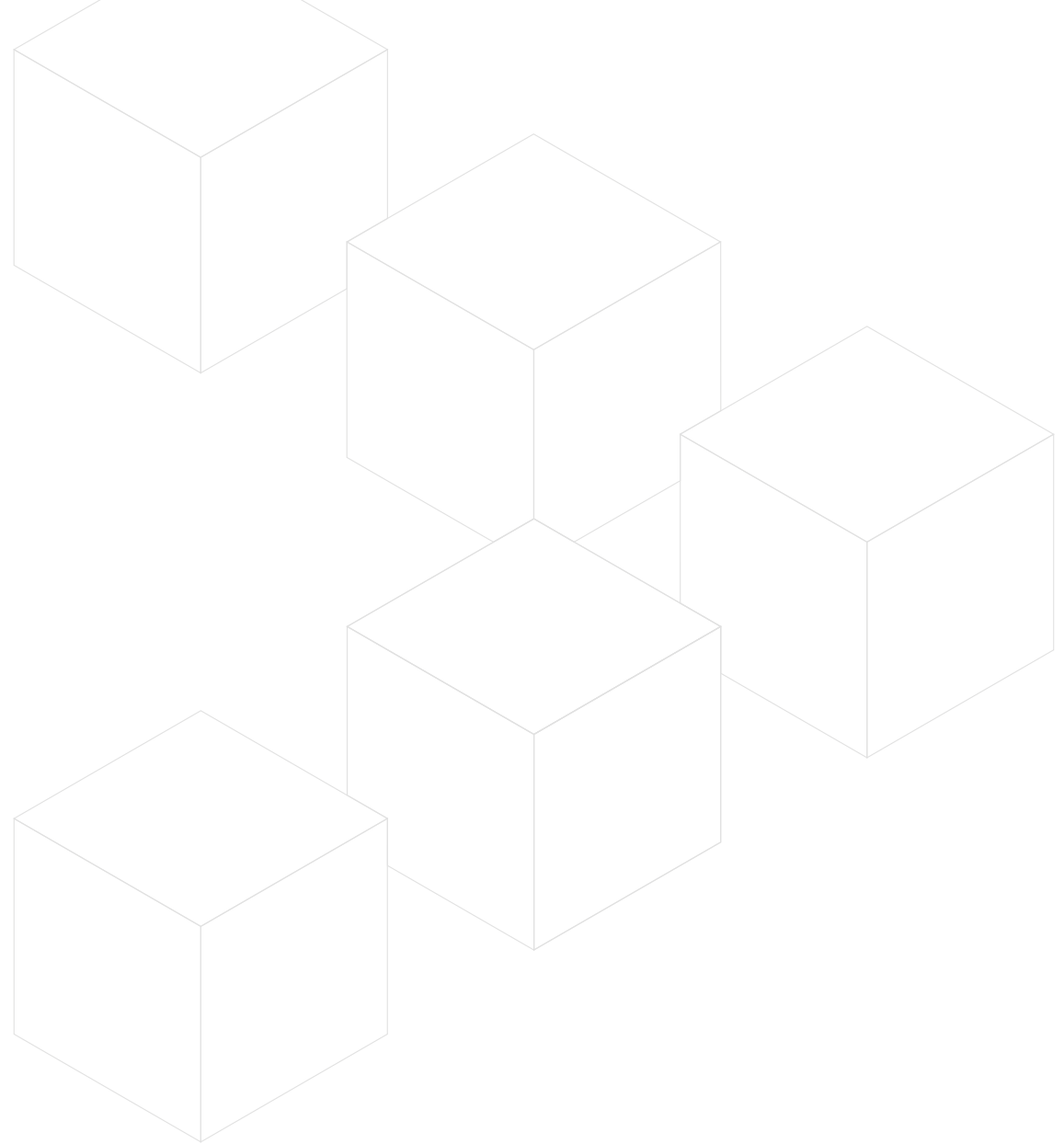# Webengineering

2017-06-12

Dr. Michael Lesniak

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Roadmap 2017-06-12

- What is a frontend?
- Other approaches
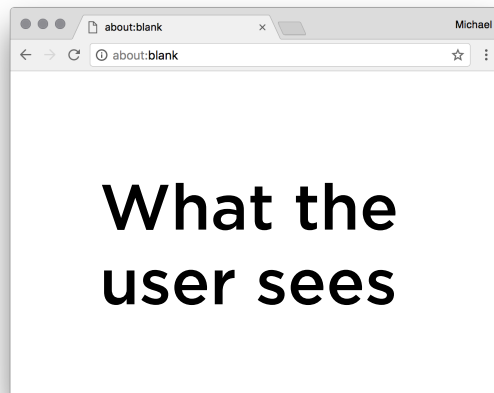- What I expect

- Introduction
    - React
    - Our pipeline

- Code

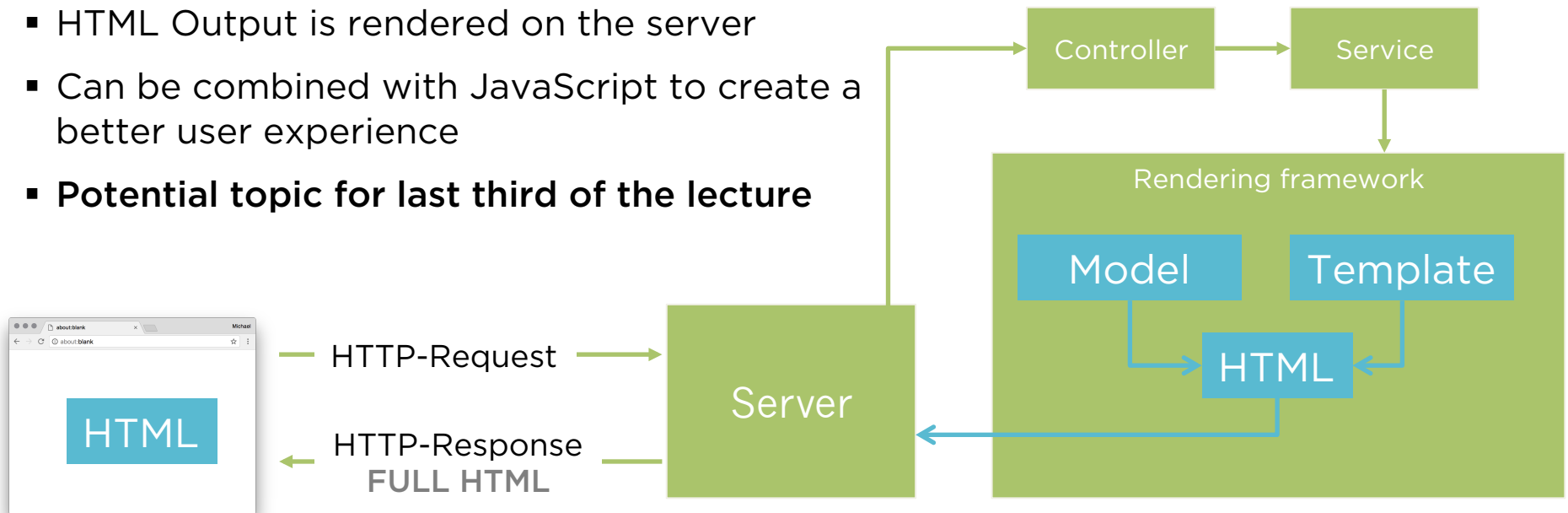- Exercises

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What is a frontend?

- Component of application
- Execution environment Webbrowser
  - HTML
  - CSS
  - JavaScript

What the user sees

HTTP-Request

HTTP-Response
(with JWT-Token)

Server

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Other approaches

- In Java with Spring or JavaEE

- Examples

  - Wicket

  - Thymeleaf and co.

- HTML Output is rendered on the server

- Can be combined with JavaScript to create a better user experience

- **Potential topic for last third of the lecture**

Thymeleaf

APACHEWICKET

Controller → Service

Rendering framework

Model   Template

HTML

Server

HTTP-Request →
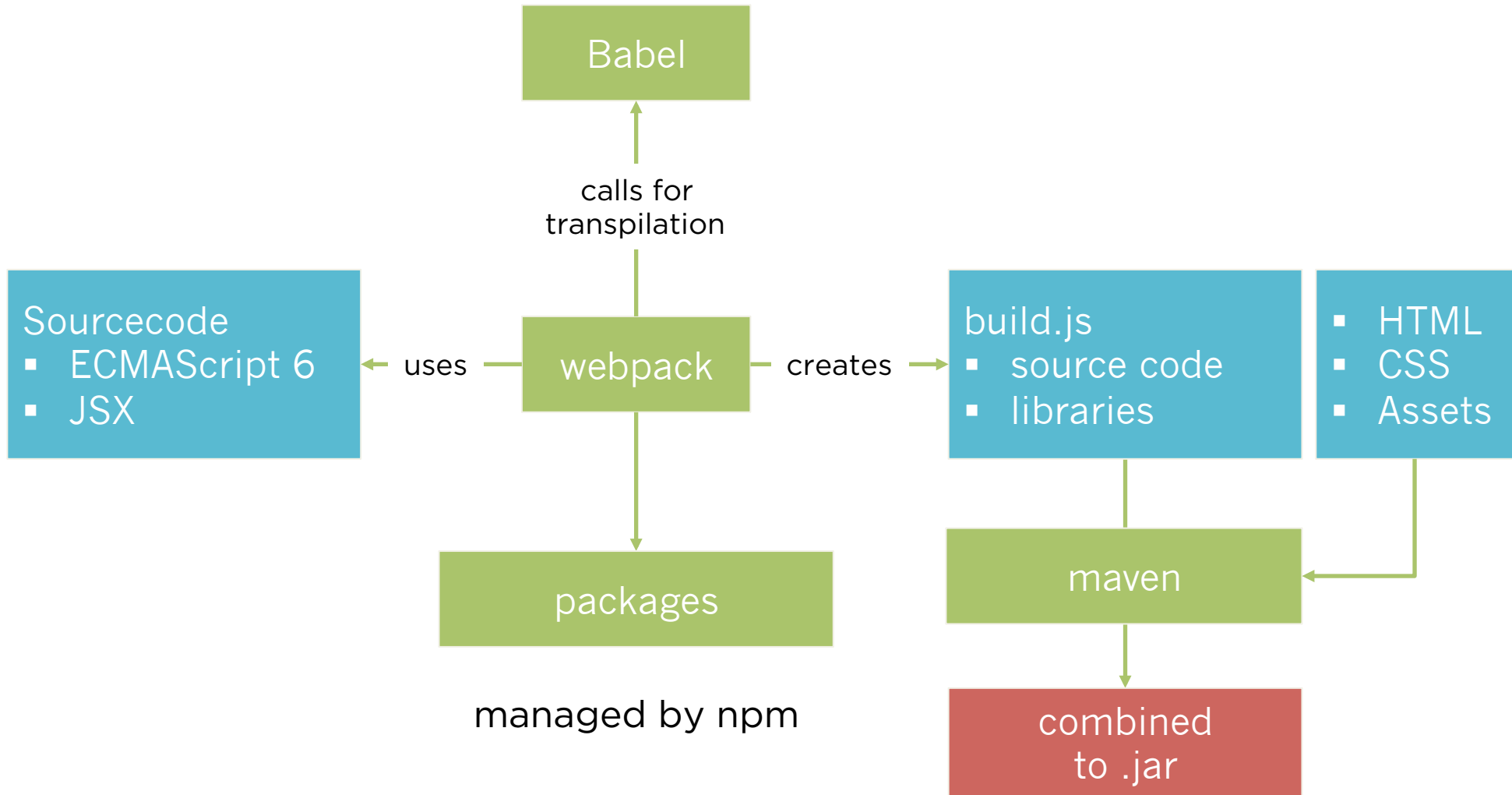
← HTTP-Response
FULL HTML

HTML

What I expect

- This lecture is not a language tutorial

- Reading tutorials aloud or showing you introductionary topics is boring ;-)

- I expect that you learn additional topics by yourself

- (This is what happens in reality)

- As in Java & Spring, I'm going to show you examples

    - HTML

    - JavaScript

    - CSS

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React

- Virtual DOM

- Components

- Handles generating of HTML from data

- Simple support for state

    - Later: redux

- A lot of existing additional libraries

- **JSX**

    - JavaScript syntax extension

    - Write HTML in your JavaScript code

    - Advantages and disadvantages (**as always**)

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A primer of our pipeline

Babel

calls for
transpilation

Sourcecode
▪ ECMAScript 6
▪ JSX

← uses — webpack — creates →

build.js
▪ source code
▪ libraries

▪ HTML
▪ CSS
▪ Assets

packages

managed by npm

maven

combined
to .jar

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Exercises

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First and foremost

- While researching solutions…

- …think about your strategy

  - looking around the internet (what terms? why these?)

  - reading tutorials

  - talking to your fellow students – how do you explain your problem

  - What is your alternative strategy when you feel stuck?

Motivation and goals

Webengineering
24. April 17
Dr. Michael Lesniak

- Real world knowledge
- Best practices
- Learning to …

- Reference project
  - full-stack
  - deployed
  - code online (improved)
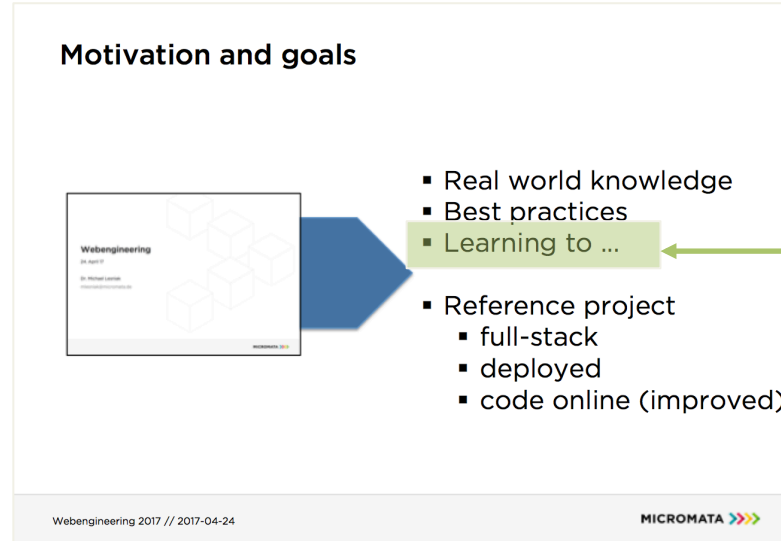
This is your job, I'm simply here to support you :-P

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Functional components

- What is a functional component?

- What is the difference between a functional and a class-based component?

    - Syntactically

    - Semantically

- Modify the greeter example to be a functional component

    - free-form // play-time

Add axios to your project

- What the heck is axios?

- Add it to your project

- How can you test that it works

  - Think about the simplest approach

  - When testing and playing around with libraries, quick and dirty is ok

  - …but do not forget to clean up afterwards ;-)

Play around with axios

- Use axios to
    - create a new post
    - retrieve the list of posts

- Since we are still playing around, think again about the simplest way possible

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Posts

- Create a component to show the list of existing posts
- Remove the example code
- Add your component

The fun begins :-)

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