

CONSULTING
enpit

SESSION 1

EINFÜHRUNG UND GRUNDLAGEN COOKBOOK & TOOLCHAIN

AGENDA

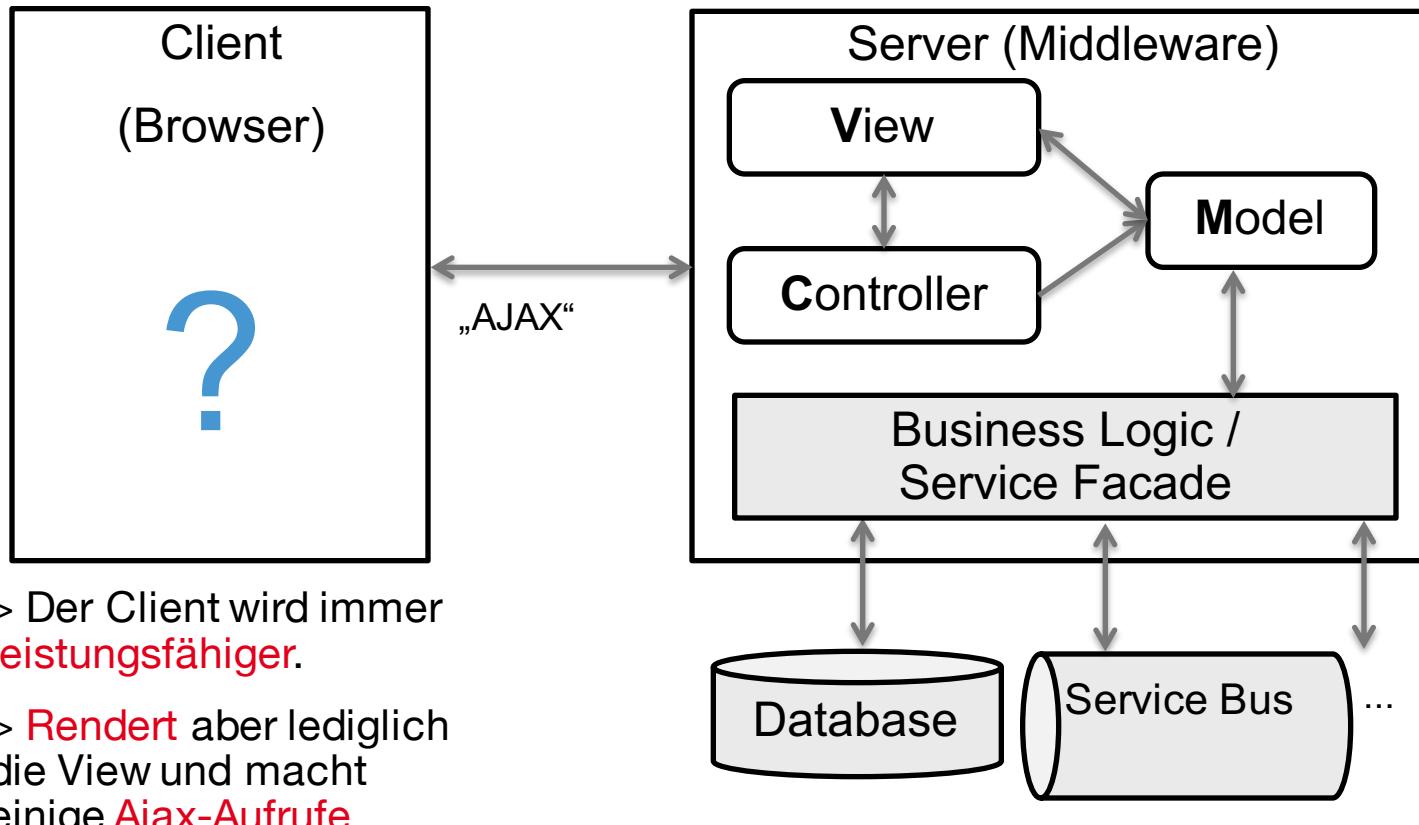
Oracle JET - Motivation, Architektur, Technologien

Cookbook & Toolchain

Projekt & IDE Setup

Hands-On #1

„TRADITIONELLE WEB ARCHITEKTUR“



ember



BACKBONE.JS

QUnit
js unit testing

Knockout.



ANGULARJS
by Google

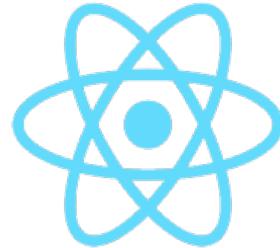
METEOR

Jasmine



browserify

prototype



node.js™

npm

 jQuery
write less, do more.

 Protractor
end to end testing for AngularJS

cucumber

 GRUNT

 Gulp

 Brunch

ENTERPRISE ANFORDERUNGEN

- **Zukunftssicherheit: Stabiles, bewährtes Toolset, Standards**
- **Fokus auf Business / Fachlichkeit**
- **Barrierefreiheit & Internationalisierbarkeit**
- **Security**
- **Performance-Optimierung**
- **Responsive Design, Mobile Unterstützung**
- **Dokumentation & Support**

ORACLE JET

JAVASCRIPT EXTENSION TOOLKIT

- Ein Toolkit, bestehend aus populären Open Source JavaScript-Bibliotheken
- Theme (CSS / SASS) implementiert „Alta UI Design“
- Zahlreiche UI-Komponenten unter Berücksichtigung von Barrierefreiheit, I18N, Skinning, Hybrid Mobile App Support

JavaScript
Komfort



jQuery

Reichhaltige
UI Widgets



Jquery UI

Binding
MVVM



Knockout

Modulari-
sierung



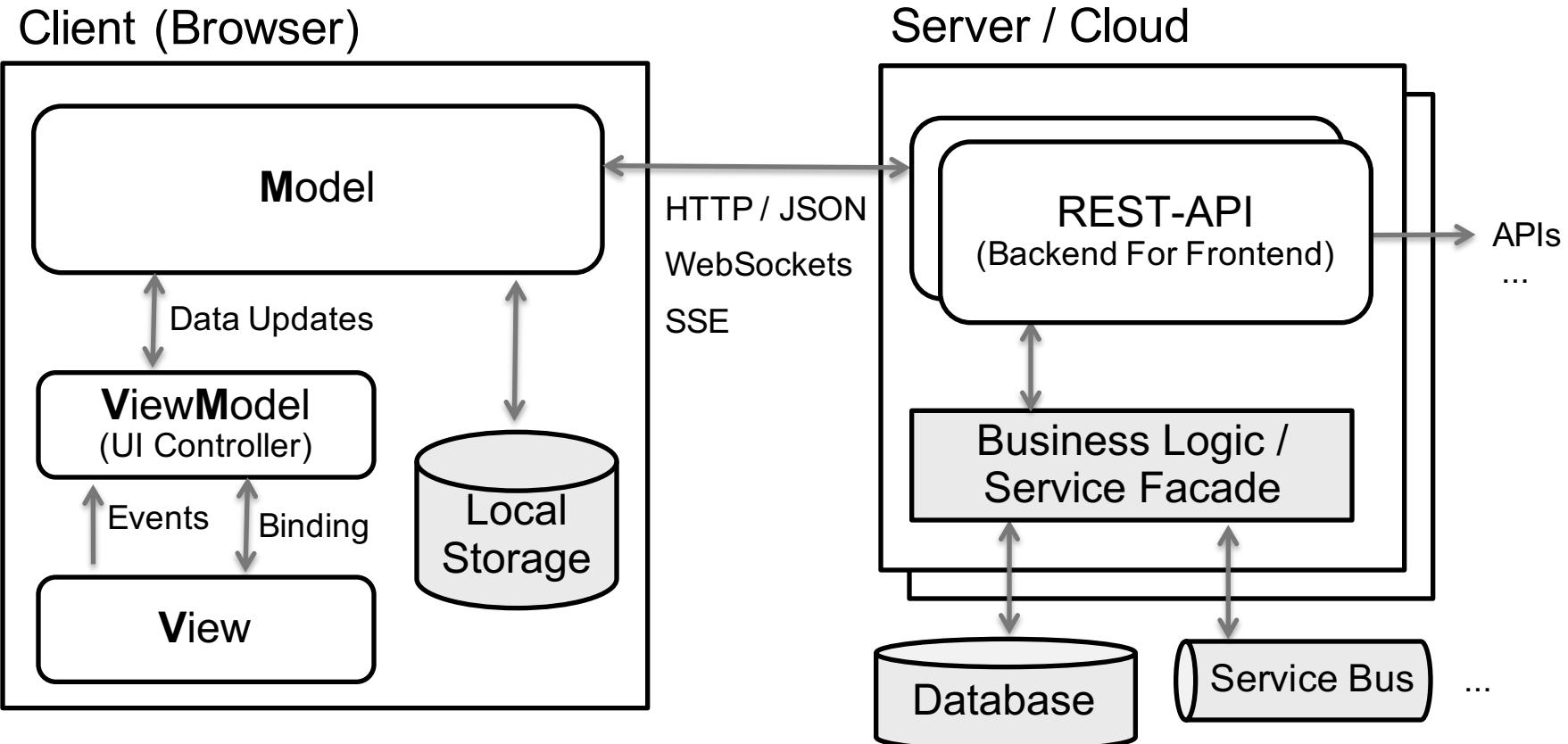
RequireJS

Touch/Gesten
Support

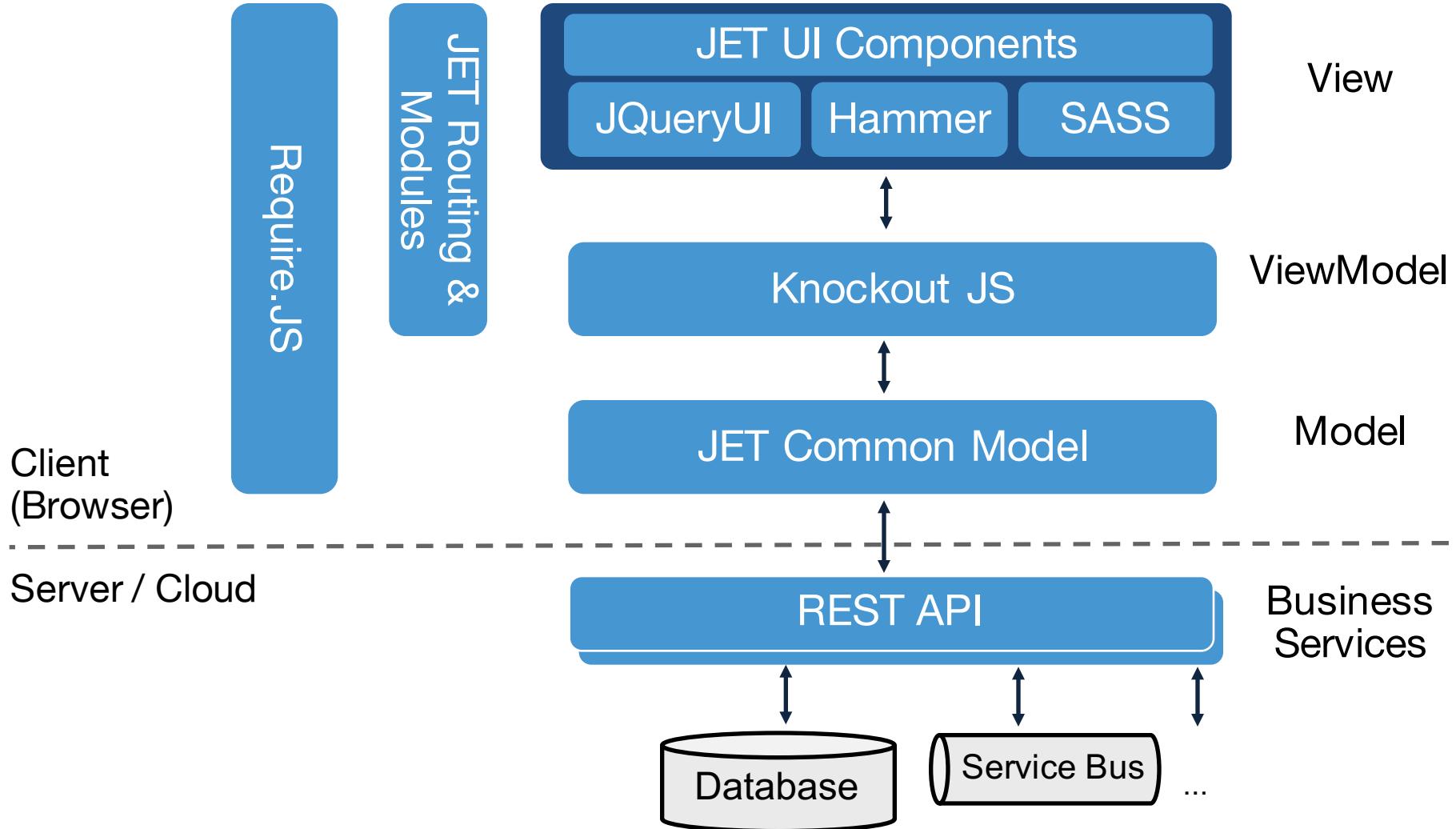


Hammer

MODEL VIEW – VIEWMODEL ARCHITEKTUR



ORACLE JET ARCHITEKTUR



BARRIEREFREIHEIT EINGEBAUT

gemäß WCAG 2.0 & WAI-ARIA 1.0

UI Widget

Input Date

11/27/2015 

```
<label for="format">Input Date</label>
<input id="format" data-bind="ojComponent: {component: 'ojInputDate',
datePicker: {
...
},
value: dateValue, ...}">
```

Resulting HTML5-Code, augmented by WAI-ARIA attributes

```
1 <input id="inputDate" data-bind="...." type="text" placeholder="mm/dd/yyyy" ...
2     aria-describedby="7_inputHelp" aria-invalid="false" />
3 <span class="oj-inputdatetime-input-trigger">
4     <span title="Select Date" class=".. oj-enabled oj-default" />
5     <div class="oj-helper-hidden-accessible" id="7_inputHelp">
6         Press Key down or Key up for access to Calendar
7     </div>
8 </span>
```

DATA BINDING SAMPLE MIT KNOCKOUT

HTML (Knockout) UI Template

Editing employee: Steven Kin

First name:

Last name:

```
<h2>Editing employee: <span data-bind='text: fullName' /></h2>
<p>First name: <input data-bind='value: firstName' /></p>
<p>Last name: <input data-bind='value: lastName' /></p>
```

JavaScript – View Model Definition

```
1 // Define the view model
2 var Employee = function(pFirstName, pLastName) {
3     this.firstName = ko.observable(pFirstName);
4     this.lastName = ko.observable(pLastName);
5     // Tells that fullName depends on firstName and lastName,
6     // evaluates as needed
7     this.fullName = ko.computed(function() {
8         return this.firstName() + " " + this.lastName();
9     }, this);
10 };
11 // Tells Knockout to bind the "Employee" view model
12 ko.applyBindings(new Employee("Steven", "K"));
```

KNOCKOUT – MVVM PATTERN IN JAVASCRIPT EINFACH GEMACHT

- **Implementiert Model-View-ViewModel Pattern**
- **Haupt Features**
 - **2-Way Data-Binding –
HTML DOM (View) <-> JavaScript (ViewModel)**
 - **Dependency-Tracking**
 - **HTML-Templates**

KNOCKOUT – CODE BEISPIEL

```
// Observables erstellen (JS) :  
  
self.message = ko.observable('Hello  
World!');  
  
<!-- Zugriff auf Observable (HTML) -->  
<span data-bind="text: message">
```

KNOCKOUT – ERKLÄRT

- **View-Model (JavaScript)**
 - Observable *message* enthält Datum (z.B. Text)
- **Data-binding an Observable:**
 - Element setzt **data-bind** Attribut → konsumiert aktuellen Wert aus Observable

ORACLE JET BESTICHT DURCH RIESIGE UI KOMPONENTEN BIBLIOTHEK

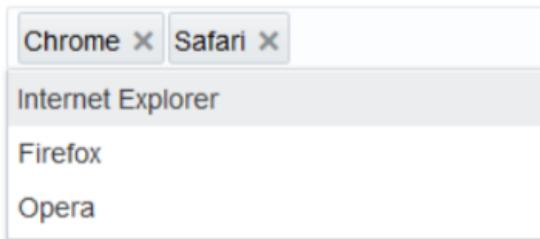
Switch



inkl. Touch-Gesten
Unterstützung

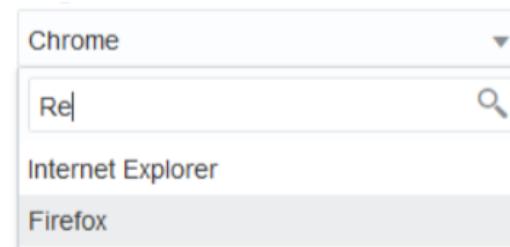
Combobox

Multi-Select



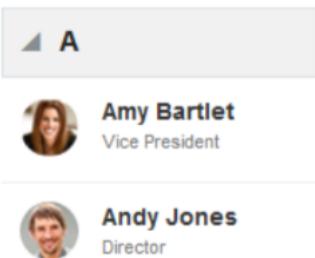
Combobox

With search box

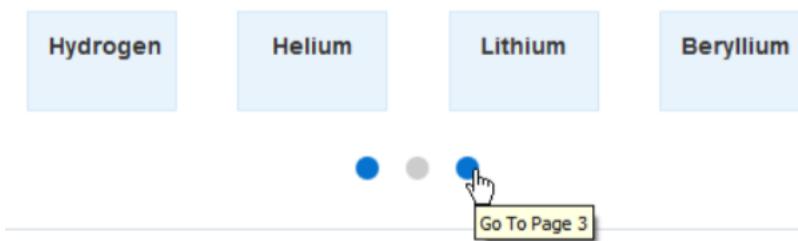


Auswahl einiger
UI-Komponenten

List View



Filmstrip



DATA COLLECTIONS

Id	Name	Room
556	Sales	201
10	Admin	300
50	HR	125

Table

Id	Name	Room
556	Sales	201
10	Admin	300
50	HR	125

Data Grid

Amy Bartlet
Vice President

Andy Jones
Director

List View

- Home
- News
- Blogs
 - Today
 - Archive

Tree

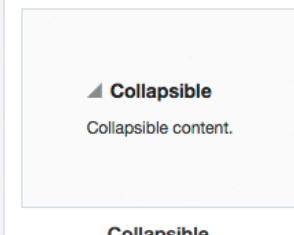
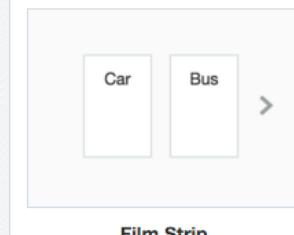
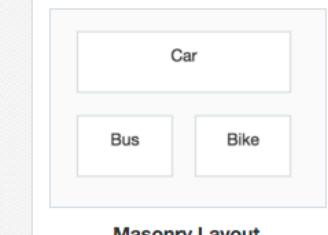
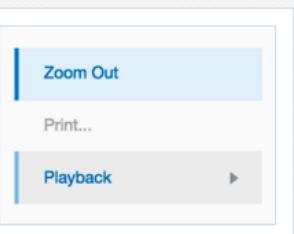
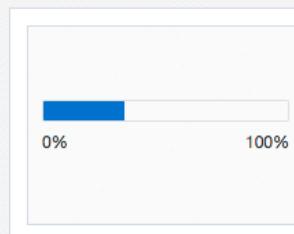
Task Name	Resource
▲ T1	Amy
▶ T1-1	Amy
▶ T1-2	Larry

Row Expander

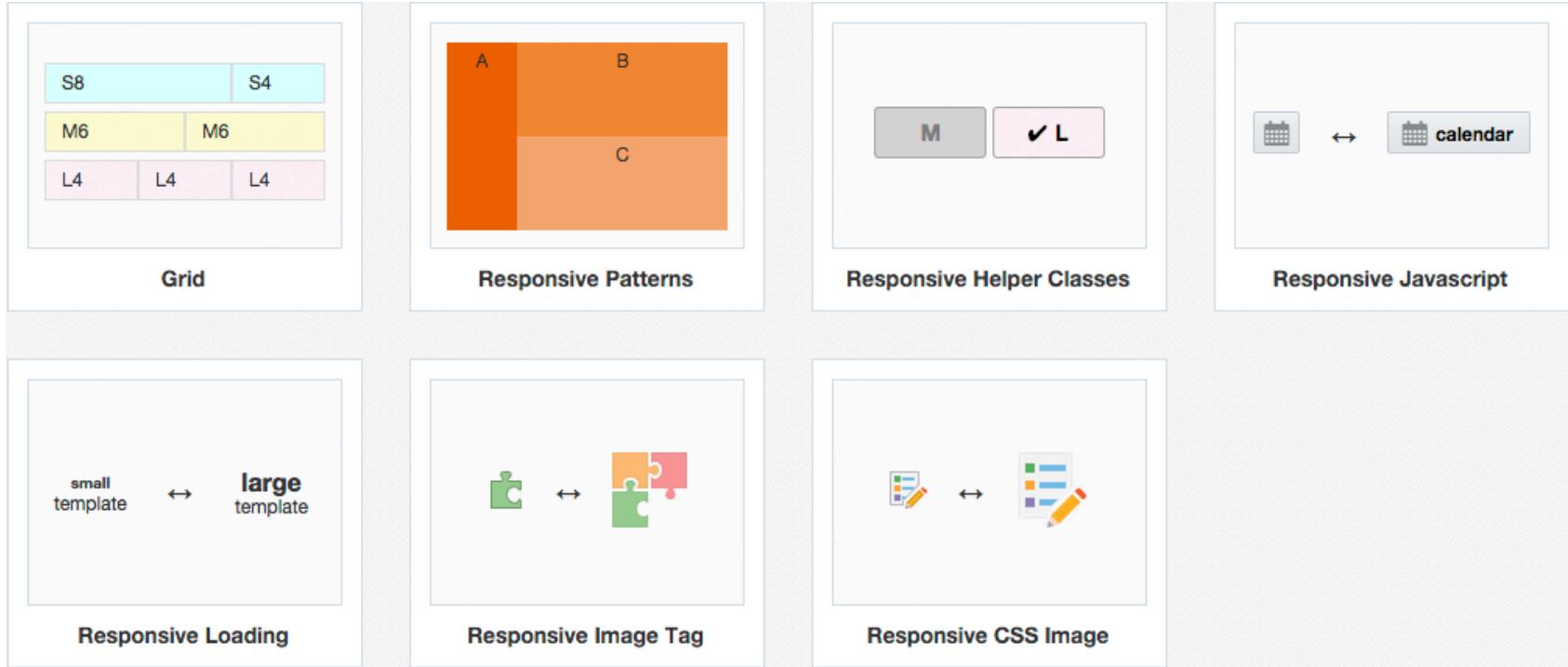
Page 1 of 5

Paging Control

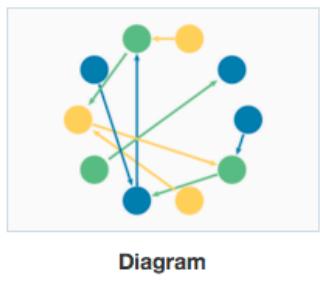
LAYOUT & NAVIGATION

 <p>▶ Header 1 ◀ Header 2 Content 2</p> <p>Accordion</p>	 <p>◀ Collapsible Collapsible content.</p> <p>Collapsible</p>	 <p>Carbon Helium Lithi ></p> <p>Conveyor Belt</p>	 <p>Car Bus ></p> <p>Film Strip</p>	 <p>Car Bus Bike</p> <p>Masonry Layout</p>
 <p>Zoom Out Print... Playback ▶</p> <p>Navigation List</p>	 <p>Offcanvas content</p> <p>Offcanvas</p>	 <p>Panel content.</p> <p>Panel</p>	 <p>0% 100%</p> <p>Progress Bar</p>	 <p>Tech Sports U.S. JET is fun!</p> <p>Tabs</p>

GRIDS & RESPONSIVE PATTERNS



DATA VISUALIZATION



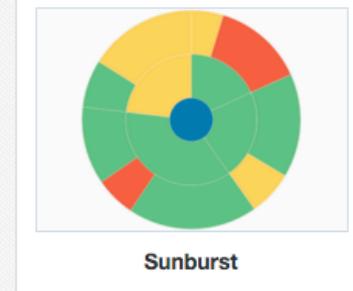
Diagram



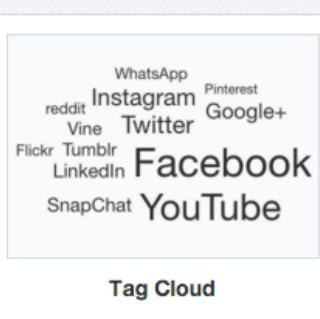
Legend



NBox



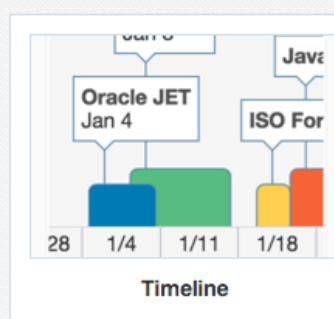
Sunburst



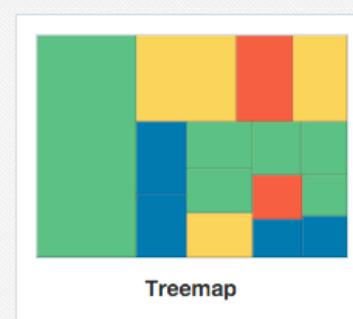
Tag Cloud



Thematic Map



Timeline



Treemap

AGENDA

Oracle JET - Motivation, Architektur, Technologien

Cookbook & Toolchain

Projekt & IDE Setup

Hands-On #1

ORACLE JET - COOKBOOK

Code-Vorlagen
Apply Changes
Mobile Preview

The screenshot displays a collection of Oracle JET UI components:

- Data Grid:** A table with columns Id, Name, and Room. Data rows include (556, Sales, 201), (10, Admin, 300), and (50, HR, 125).
- Indexer:** A search interface with a dropdown menu (A-E, I-M, Q) and results for Amy Bartlet (Vice President) and Andy Jones (Director).
- List View:** A list of contacts: Amy Bartlet (Vice President) and Andy Jones (Director).
- Swipe To Reveal (Touch):** A card showing Amy Bartlet's details and a horizontal menu with items One, Two, Three.
- Table:** A table with columns Id, Name, and Room. Data rows include (556, Sales, 201), (10, Admin, 300), and (50, HR, 125).
- Tree:** A hierarchical tree view with nodes like Home, New, Block, etc.
- Mobile Preview:** A smartphone screen showing a network graph with nodes and connections, with controls for Panning and Zooming.

COOKBOOK – BEISPIEL SLIDER

ojSlider component



Raw Value: 100
Value: 100

INFO JS HTML ALL

SliderRawValue

```
1 require(['ajs/ajcore', 'knockout', 'jquery', 'ajs/ajknockout'],
2 function(aj, ko, $)
3 {
4     function SliderModel()
5     {
6         var self = this;
7         self.max = ko.observable(200);
8         self.min = ko.observable(0);
9         self.value = ko.observable(100);
10        self.rawValue = ko.observable();
11        self.step = ko.observable(10);
12    }
13    var sliderModel = new SliderModel();
14    $(document).ready(
15        function()
16        {
17            ko.applyBindings(sliderModel, document.getElementById('slider-container'));
18        }
19    );
20 });
21 );
```

INFO JS HTML ALL

SliderRawValue

More ▾ JS Doc ✓

```
1 <div id="slider-container">
2     <label id="slider-label" for="slider-id">
3         ojSlider component
4     </label>
5
6     <input id="slider-id"
7         data-bind="ojComponent: {
8             component: 'ojSlider',
9             max:max,
10            min:min,
11            step:step,
12            value:value,
13            rawValue:rawValue
14        }"/>
15
16     <br>
17     <span> Raw Value: </span>
18     <span id="rawValue" data-bind="text: rawValue"></span>
19
20     <br>
21     <span> Value: </span>
22     <span id="value" data-bind="text: value"></span>
23 </div>
```

COOKBOOK- / CODEZENTRIERT

Cookbook für eine UI Komponente

ojSlider component



HTML5 UI Template

```
<input id="slider-id"
       data-bind="ojComponent: { component: 'ojSlider', max:max, min:min, step:step,
                  value:currentValue}"/>
<span> Current Value: </span><span id="curr-value" data-bind="text: currentValue">
</span>
```

JavaScript (Model, Event-Handling)

```
require(['ajs/ojcore', 'knockout', 'jquery', 'ajs/ojknockout', 'ajs/ojslider'],
function(oj, ko, $)
{
    function SliderModel()
    {
        var self = this;
        self.max = ko.observable(200);
        self.min = ko.observable(0);
        self.currentValue = ko.observable(100);
        self.step = ko.observable(10);
    }
});
});
```

RICHTIGE COOKBOOK VERWENDUNG

- **define statt require verwenden (ojModule Komponenten)**
- **Keine applyBindings Calls (das übernimmt der ojRouter)**
- **Stattdessen den ViewModel Konstruktor returnen**

BASIS TOOLS FÜR ORACLE JET ENTWICKLUNG

- **Node.JS (npm), Git**
- `npm -g install yo bower grunt-cli`
- `npm -g install generator-oraclejet`

BUILD-TOOLCHAIN

```
$ yo oracljet  
--template . . .
```

npm install

bower install

grunt bowercopy

grunt build (build:release)

grunt serve (serve:release)

BUILD HYBRID MOBILE APPS

```
$ npm -g install cordova
```

```
$ yo oraclejet:hybrid --platforms=ios, .
```

AGENDA

Oracle JET - Motivation, Architektur, Technologien

Cookbook & Toolchain

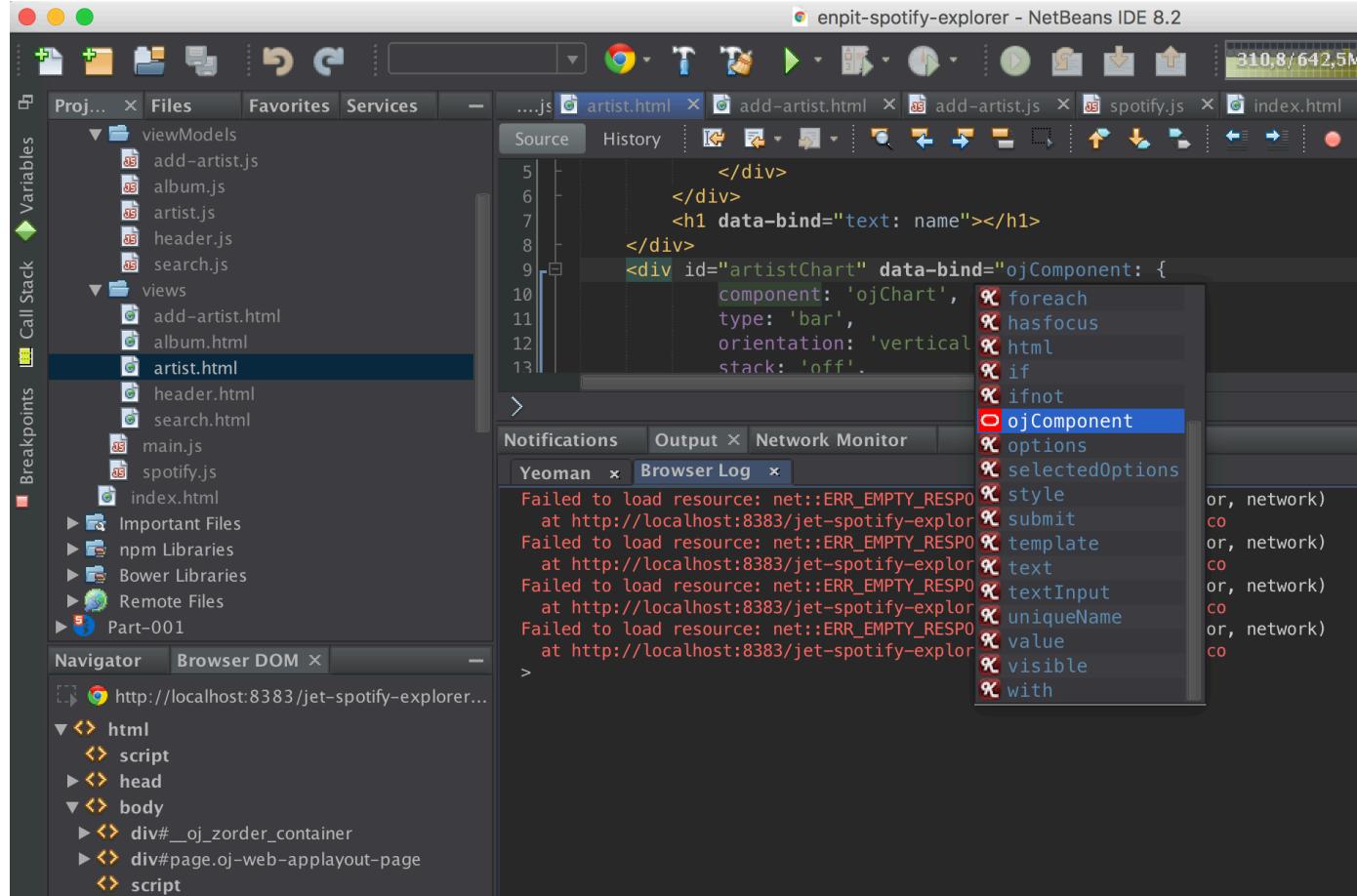
Projekt & IDE Setup

Hands-On #1

ENTWICKLUNGSUMGEBUNGEN (IDE) FÜR ORACLE JET

- **Netbeans 8.2**
 - Oracle JET Plugin by Default
 - Netbeans Connector! -> Debugging made easy
- **Visual Studio Code / Atom / WebStorm – sehr gute JavaScript / TypeScript Editoren und IDEs (jedoch keine explizite JET Unterstützung)**

NETBEANS



NETBEANS

ORACLE JET OPEN SOURCE PLUGINS

- **YoOracleJET (by Geertjan)**
- **Oracle JET Code Templates (by Geertjan)**

AGENDA

Oracle JET - Motivation, Architektur, Technologien

Cookbook & Toolchain

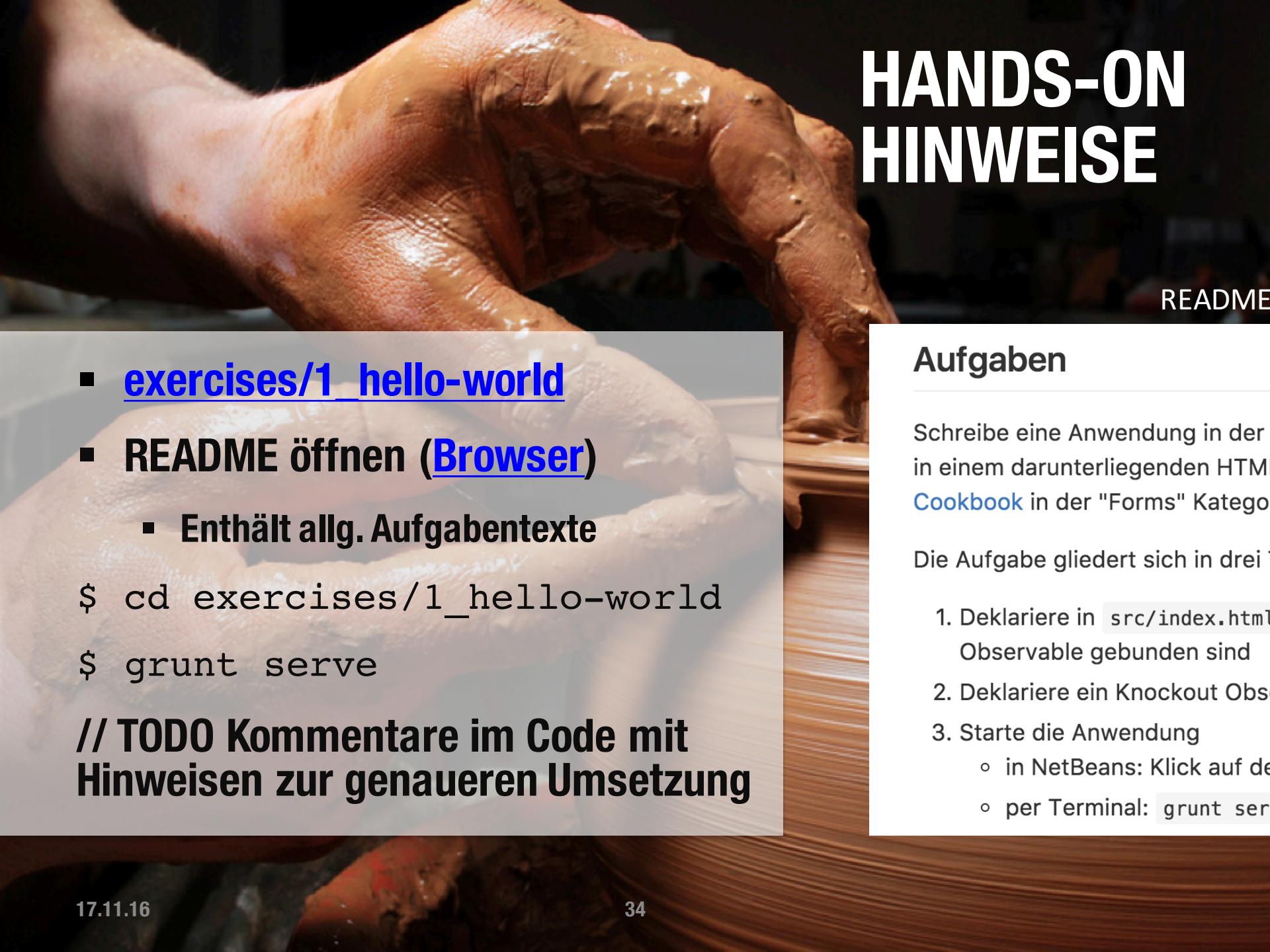
Projekt & IDE Setup

Hands-On #1



Hands On #1

HELLO WORLD – DATA BINDING, GETTING STARTED



HANDS-ON HINWEISE

README

- [exercises/1_hello-world](#)
- README öffnen ([Browser](#))
 - Enthält allg. Aufgabentexte

```
$ cd exercises/1_hello-world  
$ grunt serve
```

// TODO Kommentare im Code mit Hinweisen zur genaueren Umsetzung

Aufgaben

Schreibe eine Anwendung in der in einem darunterliegenden HTML [Cookbook](#) in der "Forms" Katego

Die Aufgabe gliedert sich in drei Teile:

1. Deklariere in `src/index.html` die Observable gebunden sind
2. Deklariere ein Knockout Observable
3. Starte die Anwendung
 - in NetBeans: Klick auf den grünen Pfeil
 - per Terminal: `grunt serve`

HABEN SIE NOCH FRAGEN?

**VIELEN DANK FÜR IHRE
AUFMERKSAMKEIT**

CONSULTING
enpit