AngularJS for OpenEdge Developers

Marko Rüterbories, Consultingwerk Ltd.
marko.rueterbories@consultingwerk.de
Consultingwerk Ltd.

- Independent IT consulting organization
- Focusing on **OpenEdge** and related technology
- Located in Cologne, Germany
- Customers in Europe, North America, Australia and South Africa
- Vendor of tools and consulting programs
- 26 years of Progress experience (V5 … OE11)
- Specialized in GUI for .NET, OO, Software Architecture, Application Integration

http://www.consultingwerk.de/
Agenda

- HTML
  - CSS
  - Bootstrap
  - AngularJS
  - Kendo UI
  - JSDO
HTML

- First definition public 3 November 1992 (CERN)
- HTML is a **markup** language for **describing** web documents (web pages).
- HTML stands for **Hyper Text Markup Language**
- A markup language is a set of **markup tags**
- HTML documents are described by **HTML tags**
- Each HTML tag **describes** different document content

http://www.w3schools.com/html/default.asp
Demo

- Sample 1 Show the obvious 😊
Agenda

- HTML
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CSS

- **CSS** stands for *Cascading Style Sheets*
- CSS describes **how HTML elements are to be displayed on screen, paper, or in other media**
- CSS **saves a lot of work**. It can control the layout of multiple web pages all at once
- External stylesheets are stored in **CSS files**
Demo

- Sample 2 Enhance the obvious a bit
Agenda

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Bootstrap

- Bootstrap is the most popular HTML, CSS, and JavaScript framework for developing responsive, mobile-first web sites.
- Bootstrap is completely free to download and use!
Demo

- Show responsiveness on Navigation Page
- Show code of the page
Agenda

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AngularJS

- AngularJS is a structural framework for dynamic web apps
- AngularJS extends HTML with new attributes.
- AngularJS is perfect for Single Page Applications (SPAs).
- AngularJS is “kind of” easy to learn.
- It’s all about DOM
AngularJS

- When a web page is loaded, the browser creates a **Document Object Model** of the page.

![Diagram showing Document Object Model](image-url)
AngularJS

- Data binding, as in {{}}.
- DOM control structures for repeating, showing and hiding DOM fragments.
- Support for forms and form validation.
- Attaching new behavior to DOM elements, such as DOM event handling.
- Grouping of HTML into reusable components.
AngularJS

- **App (Module)**
  The application to be executed

- **Controller**
  Defines the behavior of parts of the App
  Sets initial state of $scope

- **Directive**
  Attaches specific behavior to a DOM element
  (event listener, datasources, …)
AngularJS

DISPLAY statement

Moves data to a screen buffer and displays the data on the screen or other output destination. The AVM uses frames to display data. A frame describes how constant and variable data is arranged for display and data entry. You can let ABL construct default frames or you can explicitly describe frames and their characteristics.

Data movement

![Diagram of data movement](Diagram.png)
AngularJS

ASSIGN statement

Moves data previously placed in the screen buffer by a data input statement or moves data specified within the ASSIGN statement by an expression to the corresponding fields and variables in the record buffer.

Data movement
Demo

- Sample 4 Shopping list with static JSON Datasource
- Sample 5 Ability to add items to the list
Agenda

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Kendo UI

- JQuery and HTML5 based Widgets for browser based and mobile applications
- 70+ Widgets
- Integrates with AngularJS (MVVM Framework) and Bootstrap (responsive UI)
- Optimized for Performance and Resource Usage
- Themable and Localizable
- Server Side Wrappers for ASP.NET, JSP, PHP
Telerik Online Demos


- Access to Documentation (API reference) from demos
JavaScript?

- Kendo UI can be used without deep JavaScript knowledge – as long as you are not starting to write single-page-applications
- Lots of documentation and great forums
- Widgets are initialized using standard code pattern (JQuery widget constructor)
- Widgets are customized using JSON representation of properties
- Data can be provided using properties (arrays)
- Data can be accessed by calling into web server
Kendo UI Core – open source

- Subset of Controls released as open source
- 40+ Controls
- Apache 2.0 license
- No support
Controls not included in open source

- BarCode
- **Charts**
- Editor
- Gauges
- **Grid**
- Map
- QRCodes
- Scheduler
- StockChart
- Treeview
- Upload
Kendo is used by Progress Software
Kendo UI async Data Access

- Allows to read data in separate http request
- Possibly from a different server, using different caching settings
- Supports for server side filtering, sorting, paging without need to reload page
- Starting point for single-page-application (SPA)
Demo

- Sample 6 / 7
- Kendo UI Controls in action
- AngularJS for Data Binding
Agenda

- HTML
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- Kendo UI
- **JS DO**
Kendo UI and JSDO

- **JSDO:**
  - Open-Source JavaScript Library from PSC
  - Mimics ProDatasets in JavaScript

- [https://github.com/CloudDataObject/JSDO](https://github.com/CloudDataObject/JSDO)

- Initially designed for AppServer and REST Adapter
- Open for other data provider – including WebSpeed
- It’s just using a http protocol
Demo

- Kendo UI Grid
- JSDO / REST Adapter / AppServer
- Server side filtering, sorting paging
- 200,000 customer records

- Chrome Developer Tools
Async Data Access for WebSpeed

- WebSpeed app could be combined with AppServer/REST Adapter
- Possible to implement JSDO protocol using WebSpeed (We did it for PASOE 11.6)
  - Requires JSON Catalog generation
    - Meta schema of ProDataset response
- Alternative: simple JSON Data Source, does also support server side filtering, sorting, paging
Questions