Angular Primer

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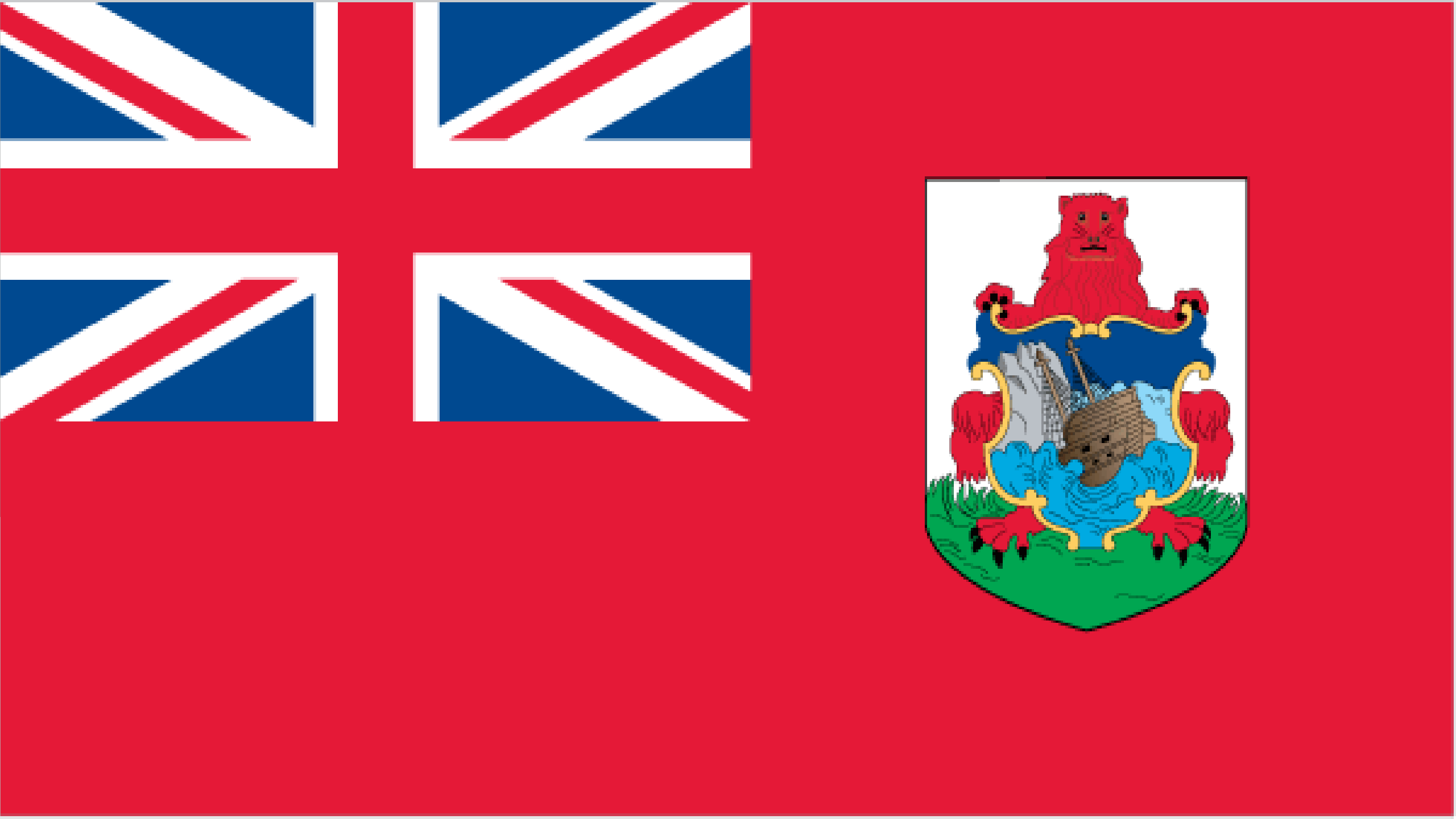


PLVS
VLTRA

Who am I

- Tiberiu ’Tibi’ Covaci
- Software engineer, 20 years experience
- Teaching about Web & .NET Development since 2004
- Senior Trainer & Mentor Living in Tenerife
- MVP for ASP.NET/IIS
- Father & Geek
- Twitter: @tibor19 / #devday / @devday

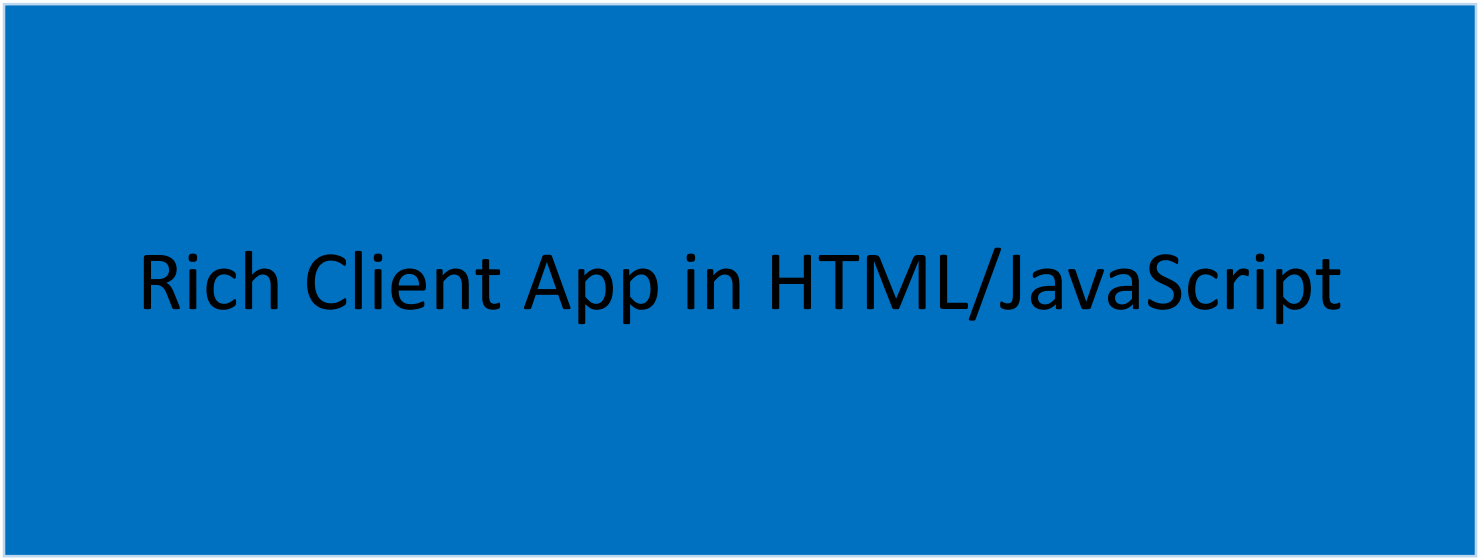
What did I said we will do

- In this workshop we will develop a SPA from scratch using Angular.js, Breeze.js
- The resulting application will be yours to take home and to continue work with it, and learn from it
- For best experience I recommend that you bring your own device with any modern text editor installed on it(vi included).

Agenda

- What is SPA?
- Hello Angular
- Controllers
- OOTB Directives
- OOTB Services
- Creating Services
- Creating Directives
- Breeze.js

Single Page Application



Why SPA?

What is Angular?

- A MV* framework
- HTML on steroids
- Makes it easy to organize your JS code
- Makes your JS code testable
- Offers two way data binding
- Open source

MVC

- Model View Controller
  - **Model** - the Business
  - **View** - the Application
  - **Controller** – the Glue

MVVM

- Model View View-Model
  - **Model** – still the Business
  - **View** – still the Application
  - **View-Model** – another kind of Glue

Angular.js

Hello Angular

- Add an ngApp directive
  - Every page must have at least one
  - If there are several, only the first one is auto bootstrapped
  - They cannot be nested
  - May specify a module

Directives

- Element <ng-something></ng-something >
- Attribute <div ng-something >
- Class
- Comment <!-- directive: ng-something -->

Event Directives

- ngClick
- ngDblClick
- ngMousedown
- ngMouseenter
- ngMouseleave
- ngMousemove
- ngMouseover
- ngMouseup
- ngChange

Other Directives

- ngApp
- ngBind
- ngBindTemplate
- ngBindHtml
- ngBindHtmlUnsafe
- ngIf
- ngSwitch
- ngHide
- ngShow
- ngCloak
- ngStyle
- ngClass
- ngClassEven
- ngClassOdd
- ngDisabled
- ngChecked
- ngReadonly
- ngSelected
- ngForm
- ngSubmit
- ngHref
- ngSrc
- ngNonBindable

Expressions

- Inline code snippets
- Specified with **{{ }}**

Filters

- A filter formats the value of an expression for display to the user
- Usage: {{ expression | filter }}
- Following filters are predefined :
  - uppercase/lowercase
  - number/currency/date
  - json
  - orderBy
  - limitTo
  - filter

Modules

- A collection of controllers, services, directives, and filters
- Can have dependencies on other modules

Controllers

- Every module can have several Controllers
- There are two ways of specifying a Controller
  - Directly by name (uses $scope to send data to the view)
  - Controller as (the controller itself transports the data)
- $scope offers prototypal inheritance
- $rootScope is The one that rules them all

Demo

Creating a controller

Services

- Used to encapsulate functionality
- Two ways of creating services
  - Via service method
  - Via factory method
  - There is a third one (provider)
- Two additional kind of services
  - value
  - constant

$log Service

- Used for logging
- Has the following methods:
  - log
  - info
  - warn
  - error

DOM Services

- $window
- $document
- $rootElement

$timeout Service

- An alternative to setTimeout that is Angular aware
- Offers cancel functionality as well

$locale Service

- A service that offers localization
- Used to offer formatting information

$q Service

- A promise/deferred implementation inspired by Q (by Kris Kowal)
- A promise as an interface for interacting with an object that represents the result of an action that is performed asynchronously, and may or may not be finished at any given point in time.

$http Service

- Provides methods to interact directly with an service via http
- You can call directly the method like this:
  - $http({method: ‘get’,…})
- Or use one of the shortcuts
  - $http.get(…).success(successfn).error(errorfn)
  - And post/put/delete/head/jsonp

$resource Service

- Defined in the ngResource module and depends on $http
- Is a factory that lets you interact with RESTFul services
- $resource(url, paramDefaults, actions);
- Methods available
  - get [GET]
  - query [GET isArray]
  - save [POST]
  - remove/delete [DELETE]

Demo

Creating a custom service

Directives

- Markers on a DOM element that tells $compile to attach a behavior
- In JavaScript they are named using camel case
- In Html they use **-**, **:**, and **_** as separators
  - The compiler strips **x** and **data** from the name
- Are created via **directive** method
- They have restrictions on which elements
  - Attribute (A), default
  - Element (E)
  - Class (C)
  - Comment (M)

Demo

Creating a custom directive

Custom Filters

- A filter formats the value of an expression for display to the user
- Are created via **filter** method

```
filter(name, function() {
            return function(input, uppercase) {
               return ‘changed_input’;
    }
}
```

Demo

Creating a custom filter

Breeze.js

Rich data

- Client Queries
- Caching
- Change Tracking
- Validation
- Batch Save

Roll Your Own

Free

Open Source (GitHub)

MIT License

Technical Support

Professional Services

Demo

learn more

t

breezejs.com

Summary

- SPA is a good alternative
- Angular makes HTML bearable
- Angular makes the MV* easy
- SPA is Breezy with Angular
- GitHub is your friend

Thank you!

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