

NoBackend in the Java World

Presentation by [Jörg Herbst](#) / 10m

What Technology do you use?

- Applets
- Server Side Java
- Client Javascript
- Groovy,Scala..
- Rhino,Nashorn
- Node.js IO.js

Jörg Herbst

Java since JDK 0.92

Professional since 2002

JavaScript since 2014

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A word of warning

The grass is always greener...

Short round trips

None blocking IO with node

Present on low cost hosting

Deployment und compilation

Servlet API

Heavy application server

What Java has to offer

Great **stable** core libraries

Professional managed frameworks

Great virtual machine

An **awesome** community

What happend before

1. We don't need no JavaScript
2. Extending Servlet based approach
3. Compile JavaScript
4. Java Backend - JavaScript Frontend

No Javascript

Poor useability

Slow interaction

Lots of **roundtrips**

Search engine visible

Extending Servlets

Better useability

Lots of roundtrips

Difficult to **maintain**

Search engine visible

Compile JavaScript

Better useability

Good interaction

Few roundtrips

Difficult beside the basics

Vendor lock in (GWT or Vaadin)

Java Backend - JavaScript Frontend

- Javascript Frontend (i.e. AngularJS)
- REST based JSON API
- Java Backend (i.e. Ratpack.io)

The Challenge

Maintainable Frontend

Testable Code

Performance and Scalability

Vendor independence

The world has changed

JavaScript is on every major site

There is Standard Comitee **ECMA**

There is **npm** as a Package Manager

There are build systems like **Grunt**

Testing frameworks exists **Karma** and **Jasmine**

Why AngularJS

- Clear declarative code
- Structure code with MVC
- Testable
- IDE Integration
- Great tools and support

AngularJS

```
<div ng-controller="BookListCtrl">
<ul>
  <li ng-repeat="book in books">
    <a href="" ng-click="showBook(book.isbn)">{{book.title}}</a>
  </li>
</ul>
</div>

<script src="./js/angular.min.js"></script>
<script src="./js/AppsController.js"></script>
```

AngularJS

```
function BookListCtrl($scope, $http, $templateCache) {
  $scope.listBooks = function() {
    $http({method: 'GET', url: './api/book', cache: $templateCache}).
    success(function(data, status, headers, config) {
      $scope.books = data; //set view model
      $scope.view = './Partials/list.html'; //set to list view
    }).
    error(function(data, status, headers, config) {
      $scope.books = data || "Request failed";
      $scope.status = status;
      $scope.view = './Partials/list.html';
    });
  }
}
BookListCtrl.$inject = ['$scope', '$http', '$templateCache'];
```

Testing with Karma

```
describe('myApp.view2 module', function() {  
  
  beforeEach(module('myApp.view2'));  
  
  describe('view2 controller', function(){  
  
    it('should ...', inject(function($controller) {  
      //spec body  
      var view2Ctrl = $controller('View2Ctrl');  
      expect(view2Ctrl).toBeDefined();  
    }));  
  
  });  
});
```

Source: [Angular Seed](#)

Simple Karma Demo

A Java Backend

JVM ist more than Java

No more Pets in the store

Java Web is more than servlets

Ratpack

Async IO using **netty**

Fast roundtrip using **groovy**

Gradle for easy builds

Hystrix for managing micro services

Jackson for JSON

Not related to any type on Frontend

Simple Ratpack REST Demo

```
handler("talk/:id") {
  def query = pathTokens["id"]
  byMethod {
    get {
      render json (talks.find { talk -> talk.id = query})
    }
    put {
      def talk = parse (fromJson(Talk))
      talks.put(query,talk)
    }
    delete {
      talks.remove(query)
    }
  }
}
```

Source: [Ratpack REST](#)

Conclusion

- Development processes are language independent
- Build a state of the art server side Java Application
- Define a stable API
- Use professional JavaScript at the client

Further Talks at JavaLand

- Rapid Web Application Development with groovy Ratpack (Tue 2:00pm by Andrey Adamovich)
- Robuste Anwendungen mit Hystrix (Wed 12:00am by Alexander Schartz)

Links

- [Functional Programming](#)
- [Ratpack Framework](#)
- [AngularJS](#)
- [AngularJS sample app](#)
- [Groovy, Angular, Mongo all together](#)
- [My Company](#)
- [My Blog](#)

Optional Demo: Ratpack Books

Source: [Ratpack with AngularJS](#)