A Brief Introduction

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What is AngularJS?

Not (only) a library

"AngularJS is a structural framework for dynamic web apps" (AngularJS' official website)

Philosophy

"Angular is what HTML would have been, had it been designed for applications" (AngularJS' official website)

"Angular is built around the belief that declarative code is better than imperative when it comes to building UIs and wiring software components together," (AngularJS' official website)

Key Concepts

Directives

Two-way data binding

Scopes

Dependency Injection

Filters

Expressions

Templating

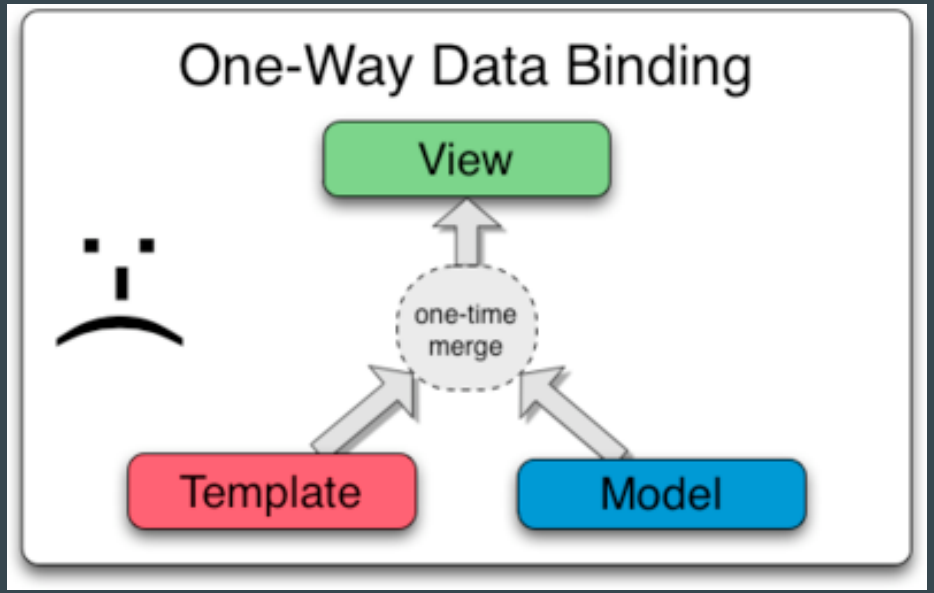
Services

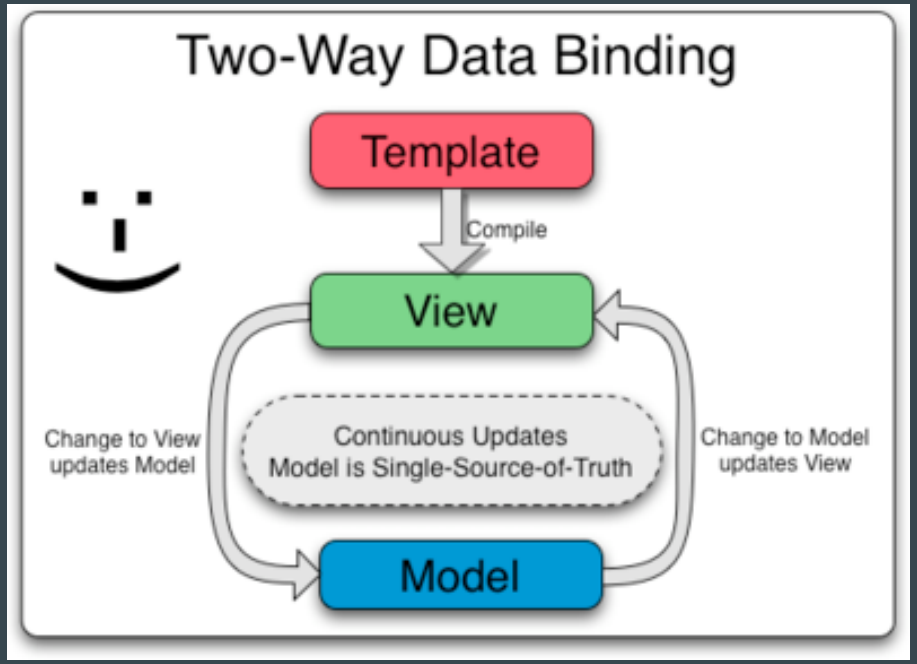
Key Concepts - Directives

```
<div ng-controller="Controller">
  <div my-customer></div>
</div>
```

```
angular.module('docsSimpleDirective', [])
.controller('Controller', ['$scope', function($scope) {
  $scope.customer = {
    name: 'Naomi',
    address: '1600 Amphitheatre'
  };
}])
.directive('myCustomer', function() {
  return {
    template: 'Name: {{customer.name}} Address: {{customer.address}}'
  };
});
```

Key Concepts - Two-way Data Binding





Key Concepts - Scopes

```
<div ng-controller="MyController">
  Your name:
    <input type="text" ng-model="username">
    <button ng-click='sayHello()'>greet</button>
  <hr>
  {{greeting}}
</div>
```

```
angular.module('scopeExample', [])
.controller('MyController', ['$scope', function($scope) {
  $scope.username = 'World';

  $scope.sayHello = function() {
    $scope.greeting = 'Hello ' + $scope.username + '!';
  };
}]);
```

Key Concepts - Dependency Injection

```
someModule.controller('MyController', ['$scope', 'dep1', 'dep2', function($scope, dep1, dep2) {
  ...
  $scope.aMethod = function() {
    ...
  }
  ...
}]);
```

Key Concepts - Filters

```
<div ng-controller="FilterController as ctrl">
  <div>
    All entries:
    <span ng-repeat="entry in ctrl.array">{{entry.name}} </span>
  </div>
  <div>
    Entries that contain an "a":
    <span ng-repeat="entry in ctrl.filteredArray">{{entry.name}} </span>
  </div>
</div>
```

```
angular.module('FilterInControllerModule', []).
controller('FilterController', ['filterFilter', function(filterFilter) {
  this.array = [
    {name: 'Tobias'},
    {name: 'Jeff'},
    {name: 'Brian'},
    {name: 'Igor'},
    {name: 'James'},
    {name: 'Brad'}
  ];
  this.filteredArray = filterFilter(this.array, 'a');
}]);
```

Key Concepts - Expressions

Angular expressions are JavaScript-like code snippets that are usually placed in bindings such as {{ expression }}.

For example, these are valid expressions in Angular:

1+2

a+b

user.name

items[index]

Key Concepts - Templating

```
<html ng-app>
 <!-- Body tag augmented with ngController directive  -->
 <body ng-controller="MyController">
   <input ng-model="foo" value="bar">
   <!-- Button tag with ng-click directive, and
          string expression 'buttonText'
          wrapped in "{{ }}" markup -->
   <button ng-click="changeFoo()">{{buttonText}}</button>
   <script src="angular.js">
 </body>
</html>
```

Key Concepts - Services

```
<div id="simple" ng-controller="MyController">
  <p>Let's try this simple notify service, injected into the controller...</p>
  <input ng-init="message='test'" ng-model="message" >
  <button ng-click="callNotify(message);">NOTIFY</button>
  <p>(you have to click 3 times to see an alert)</p>
</div>
```

```
angular.
module('myServiceModule', []).
 controller('MyController', ['$scope','notify', function ($scope, notify) {
   $scope.callNotify = function(msg) {
     notify(msg);
   };
 }]).
factory('notify', ['$window', function(win) {
   var msgs = [];
   return function(msg) {
     msgs.push(msg);
     if (msgs.length == 3) {
       win.alert(msgs.join("\n"));
       msgs = [];
     }
   };
 }]);
```

Why AngularJS?

Uses and extends HTML

Declarative templating

Easily testable

Encourages the use of MVC/MVVM design pattern

Reusable

Single-page applications

When NOT to use AngularJS?

Intensive or tricky DOM manipulations → poor performance

- GUI editors and games

Useful Sources

https://angularjs.org/

https://github.com/angular/angular.js

http://campus.codeschool.com/courses/shaping-up-with-angular-js/intro

https://www.codecademy.com/en/courses/learn-angularjs

Thanks!