Consuming a RESTful Web Service with AngularJS

This guide walks you through writing a simple AngularJS client that consumes a Spring MVC-based RESTful web service.

What you'll build

You will build an AngularJS client that consumes a Spring-based RESTful web service. Specifically, the client will consume the service created in Building a RESTful Web Service with CORS.

The AngularJS client will be accessed by opening the `index.html` file in your browser, and will consume the service accepting requests at:

```
http://rest-service.guides.spring.io/greeting
```

The service will respond with a JSON representation of a greeting:

```
{"id":1,"content":"Hello, World!"}
```

The AngularJS client will render the ID and content into the DOM.

The service at rest-service.guides.spring.io is running the code from the CORS guide with small modifications: there is open access to the `/greeting` endpoint because the app is using `@CrossOrigin` with no domain.

What you'll need

- About 15 minutes
- A favorite text editor
- A modern web browser
- An internet connection

Create an AngularJS Controller

First, you will create the AngularJS controller module that will consume the REST service:

`public/hello.js`

```
angular.module('demo', [])

.controller('Hello', function($scope, $http) {

    $http.get('http://rest-service.guides.spring.io/greeting').

        then(function(response) {

            $scope.greeting = response.data;

        });

});
```

This controller module is represented as a simple JavaScript function that is given AngularJS's `$scope` and `$http` components. It uses the `$http` component to consume the REST service at "/greeting".

If successful, it will assign the JSON returned back from the service to `$scope.greeting`, effectively setting a model object named "greeting". By setting that model object, AngularJS can bind it to the application page's DOM, rendering it for the user to see.

Create the Application Page

Now that you have an AngularJS controller, you will create the HTML page that will load the controller into the user's web browser:

`public/index.html`

```
<!doctype html>

<html ng-app="demo">

        <head>

                <title>Hello AngularJS</title>

                <script
src="https://ajax.googleapis.com/ajax/libs/angularjs/1.4.3/angular.min.js
"></script>

        <script src="hello.js"></script>
        </head>



        <body>

                <div ng-controller="Hello">

                        <p>The ID is {{greeting.id}}</p>

                        <p>The content is {{greeting.content}}</p>

                </div>

        </body>

</html>
```

Note the following two script tags within the `head` section.

```
<script
src="https://ajax.googleapis.com/ajax/libs/angularjs/1.4.3/angular.min.js
"></script>

<script src="hello.js"></script>
```

The first script tag loads the minified AngularJS library (**angular.min.js**) from a content delivery network (CDN) so that you don't have to download AngularJS and place it in your project. It also loads the controller code (**hello.js**) from the application's path.

The AngularJS library enables several custom attributes for use with standard HTML tags. In index.html, two such attributes are in play:

- The `<html>` tag has the `ng-app` attribute to indicate that this page is an AngularJS application.
- The `<div>` tag has the `ng-controller` attribute set to reference `Hello`, the controller module.

Also note the two `<p>` tags which use placeholders (identified by double-curly-braces).

```
<p>The ID is {{greeting.id}}</p>
```

```
<p>The content is {{greeting.content}}</p>
```

The placeholders reference the `id` and `content` properties of the `greeting` model object which will be set upon successfully consuming the REST service.

Run the client

To run the client, you'll need to serve it from a web server to your browser. The Spring Boot CLI (Command Line Interface) includes an embedded Tomcat server, which offers a simple approach to serving web content. See Building an Application with Spring Boot for more information about installing and using the CLI.

In order to serve static content from Spring Boot's embedded Tomcat server, you'll also need to create a minimal amount of web application code so that Spring Boot knows to start Tomcat. The following `app.groovy` script is sufficient for letting Spring Boot know that you want to run Tomcat:

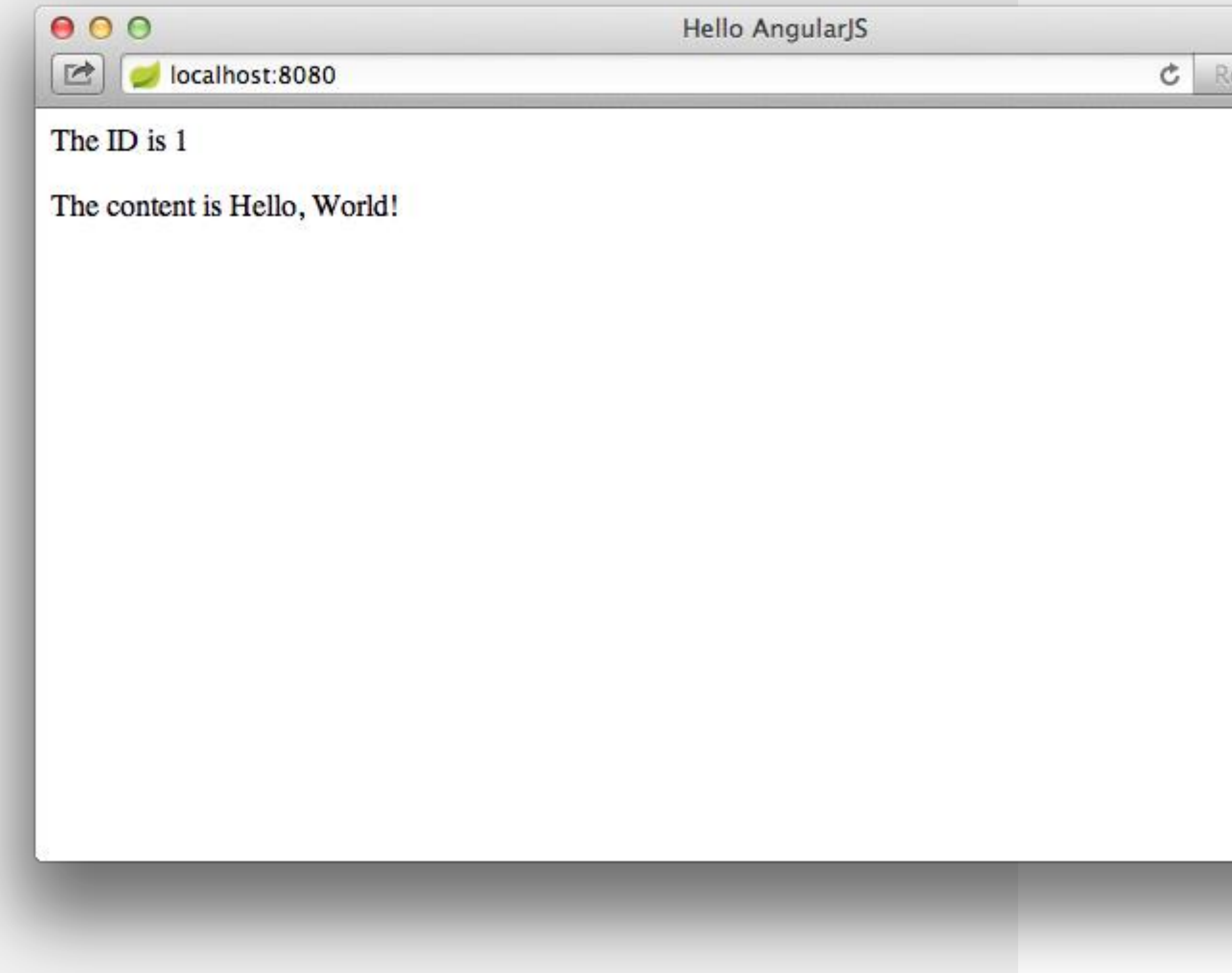
`app.groovy`

```
@Controller class JsApp { }
```

You can now run the app using the Spring Boot CLI:

```
spring run app.groovy
```

Once the app starts, open http://localhost:8080 in your browser, where you see:



The ID is 1

The content is Hello, World!

The ID value will increment each time you refresh the page.

Summary

Congratulations! You’ve just developed an AngularJS client that consumes a Spring-based RESTful web service.

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