Exercise (Instructions): Introduction to AngularJS

Objectives and Outcomes

This first exercise introduces you to the basics of AngularJS. In this exercise, you will explore how to use various AngularJS directives within a web application. At the end of this exercise, you will be able to:

- Use Angular directives like ng-app, ng-init, ng-model and ng-repeat
- Use Angular expressions in constructing a web template.

NOTE: If you are continuing this course from the second course of the specialization about Bootstrap, you would have created a folder named *conFusion* that stored your web site that you were developing for the exercises and assignments. You may wish to save a copy of this folder elsewhere on your computer before you proceed further. You should then delete the existing conFusion folder because we will set up a new *conFusion* folder that is appropriately configured for this course in the next step.

Setting up for the Exercises

conFusion.zip (https://d18ky98rnyall9.cloudfront.net/_3a...

- Download the *conFusion.zip* file (shown above) that we provide for you to a convenient location on your computer and unzip it. This will create a folder named *conFusion* at that location.
- Browse the folder to see the contents therein.

The Power of Bower

- Open a terminal window and go to the *conFusion* folder. Then at the prompt type:

```
    bower install
```

This will result in Bower fetching Bootstrap, JQuery, Font Awesome and Angular files for us and putting them into the *bower_components* folder.

- Once Bower completes the installation, your project folder is now all set to go forward with the exercise.

Examining menu.html

- Open the *conFusion* folder in your favorite text editor, and then open *menu.html* file to view its contents.
- You will note that the file is already configured to include the Bootstrap CSS files and other CSS files from the folder. Also the body contains some empty divs. We will introduce the restaurant's menu into these divs.

Adding Angular to the File

- We will now set up the page to use Angular by including the Angular JavaScript files into the menu.html page by adding the following code to the bottom of the page, just before the closing body tag:

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

Note that we are using the Angular files that Bower has downloaded for us.

Configuring the Angular Application

- Next we configure our web page to be an Angular application. Go to the ***<html>*** tag at the top of the page and then add the *ng-app* angular directive to it to configure the page to be an Angular application. This will bootstrap the Angular application on the page:

```
<html lang="en" ng-app>
```

Adding Data using ng-init

- Next go to the content row in the body of the page, and add some data to be used within the application, by using the *ng-init* directive as follows:

```
                <div class="row row-content"
                      ng-init="
                         dish=
                         {
                           name:'Uthapizza',
                           image: 'images/uthapizza.png'
```

```
                            image: 'images/uthapizza.png',
                            category: 'mains',
                            label:'Hot',
                            price:'4.99',
                            description:'A unique combination of Indian Uthap
pam (pancake) and Italian pizza, topped with Cerignola olives, ripe vine che
rry tomatoes, Vidalia onion, Guntur chillies and Buffalo Paneer.',
                            comment: ''
                        }">
```

This includes a JavaScript object named dish into the code. Browse the contents of this object.

Adding Menu Item using Media Object

- We will now make use of the Bootstrap media object to introduce a menu item into the inner column div as follows:

```
            <div class="col-xs-12">
                <div class="media">
                    <div class="media-left media-middle">
                        <a href="#">
                        <img class="media-object img-thumbnail"
                         ng-src={{dish.image}} alt="Uthappizza">
                        </a>
                    </div>
                    <div class="media-body">
                        <h2 class="media-heading">{{dish.name}}
                         <span class="label label-danger">{{dish.label}}</sp
an>
                         <span class="badge">{{dish.price | currency}}</span
></h2>
                        <p>{{dish.description}}</p>
                    </div>
                </div>
            </div>
```

Note the use of Angular expressions with the curly braces {{ ... }} to include various properties of the JavaScript object to construct the menu item.

- Also, in this code, note the use of the Angular *currency* filter to display the price within the badge. We'll deal with Angular filters in a subsequent lesson.

Examining Two-way Binding

- Note the presence of a property called comment in the dish object. We will use two-way data binding feature of Angular to update this comment from an input box on the page, and see the updated comment immediately reflected to the web page.

- Update the media object in the column div as follows:

```
            <div class="col-xs-12">
                <div class="media">
                        . . .
                        <p>{{dish.description}}</p>
                        <p>Comment: {{dish.comment}}</p>
                        <p>Type your comment:
                         <input type="text" ng-model="dish.comment"></p>
                    </div>
                </div>
            </div>
```

We are adding three new lines with the * comment: ... * and the * Type your comment: ... * with the input box to the HTML code.

Object Array and ng-repeat

- We will now update the ng-init to contain an array of JavaScript objects as follows:

```
        <div class="row row-content"
                       ng-init="
                         dishes=[
                         {
                           name:'Uthapizza',
                           image: 'images/uthapizza.png'
```

```
                        image: 'images/uthapizza.png',
                        category: 'mains',
                        label:'Hot',
                        price:'4.99',
                        description:'A unique combination of Indian Uthap
pam (pancake) and Italian pizza, topped with Cerignola olives, ripe vine che
rry tomatoes, Vidalia onion, Guntur chillies and Buffalo Paneer.',
                        comment: ''
                    },
                    {
                        name:'Zucchipakoda',
                        image: 'images/zucchipakoda.png',
                        category: 'appetizer',
                        label:'',
                        price:'1.99',
                        description:'Deep fried Zucchini coated with mild
ly spiced Chickpea flour batter accompanied with a sweet-tangy tamarind sauc
e',
                        comment: ''
                    },
                    {
                        name:'Vadonut',
                        image: 'images/vadonut.png',
                        category: 'appetizer',
                        label:'New',
                        price:'1.99',
                        description:'A quintessential ConFusion experienc
e, is it a vada or is it a donut?',
                        comment: ''
                    },
                    {
                        name:'ElaiCheese Cake',
                        image: 'images/elaicheesecake.png',
                        category: 'dessert',
                        label:'',
                        price:'2.99',
                        description:'A delectable, semi-sweet New York St
yle Cheese Cake, with Graham cracker crust and spiced with Indian cardamoms'
,
                        comment: ''
                    }
                    ]">
```

- Next we will update the code in the column div to create a list of media objects so that the menu can be displayed on the page constructed from the JavaScript object array. We take the help of the *ng-repeat* directive for this. Update the code as follows:

```
            <div class="col-xs-12">
                <ul class="media-list">
                 <li class="media" ng-repeat="dish in dishes">
                     <div class="media-left media-middle">
```

```
                    <a href="#">
                    <img class="media-object img-thumbnail"
                     ng-src={{dish.image}} alt="Uthappizza">
                    </a>
                </div>
                <div class="media-body">
                    <h2 class="media-heading">{{dish.name}}
                     <span class="label label-danger">{{dish.label}}</sp
an>
                     <span class="badge">{{dish.price | currency}}</span
></h2>
                    <p>{{dish.description}}</p>
                    <p>Comment: {{dish.comment}}</p>
                    <p>Type your comment:
                     <input type="text" ng-model="dish.comment"></p>
                </div>
            </li>
        </ul>
        </div>
```

Conclusions

In this exercise, you learnt about configuring an Angular app, and use various ng-* Angular directives to construct the menu. It is interesting to note that you have not written a single line of JavaScript code for this exercise, but still get a lot of dynamic functionality in the page.