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07 - AngularJS live coding

Hands-on intro to AngularJS concepts

TWEB 2017

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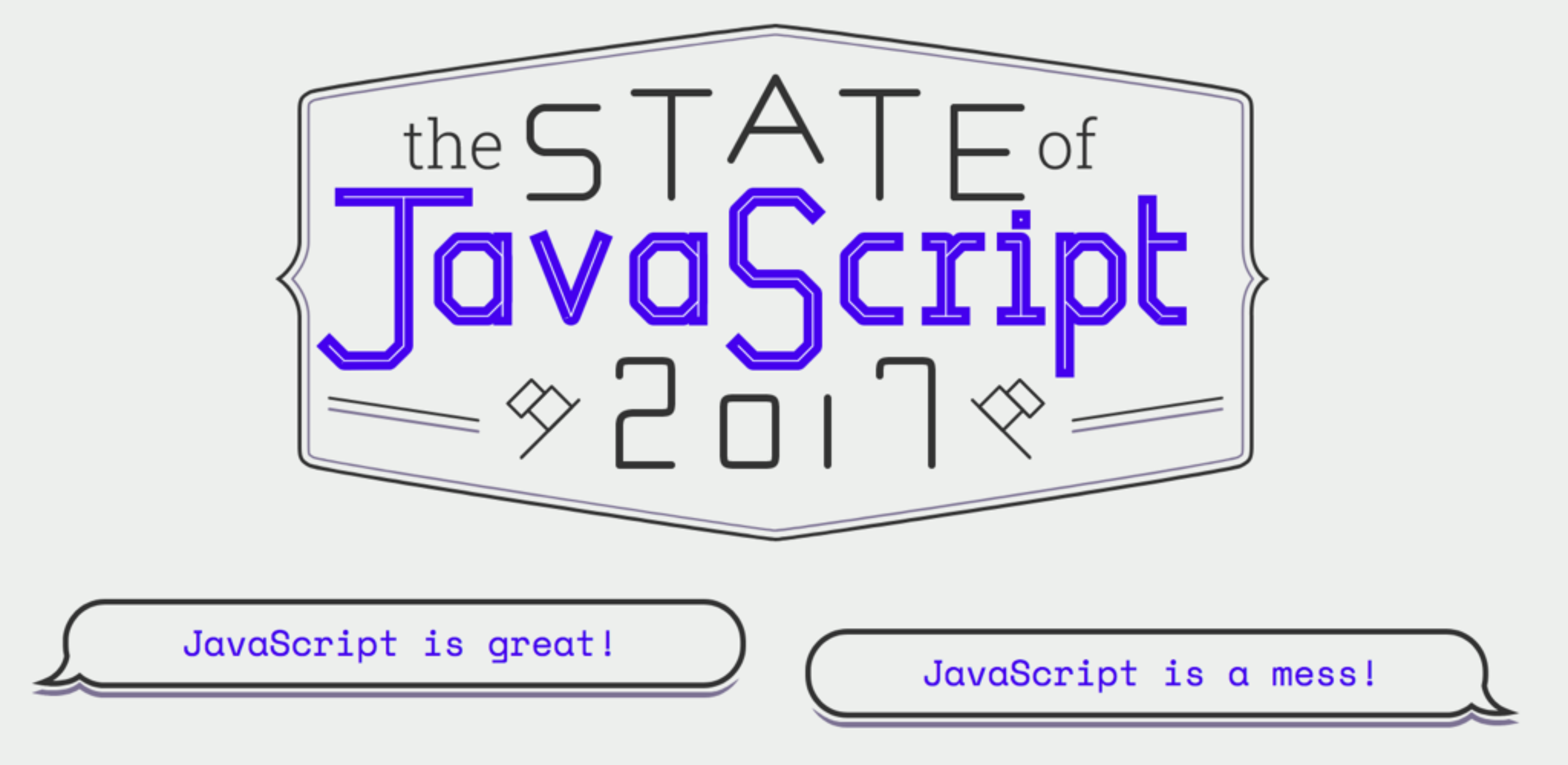
https://softeng-heigvd.github.io/Teaching-HEIGVD-TWEB-2017-Main/

https://t.me/joinchat/CPPWmAsLLgWdXQhoXTaNHw

https://t.me/joinchat/AAAAAEE3IWzr-jZRRMq3qg



2017 results just published

Ingredients

Yo

johnpapa / angular-styleguide

AngularJS Patterns: Clean Code

Learn how to write AngularJS code using battle tested patterns to produce code that is easier to maintain, debug, and scale.

ANGULARJS
Material

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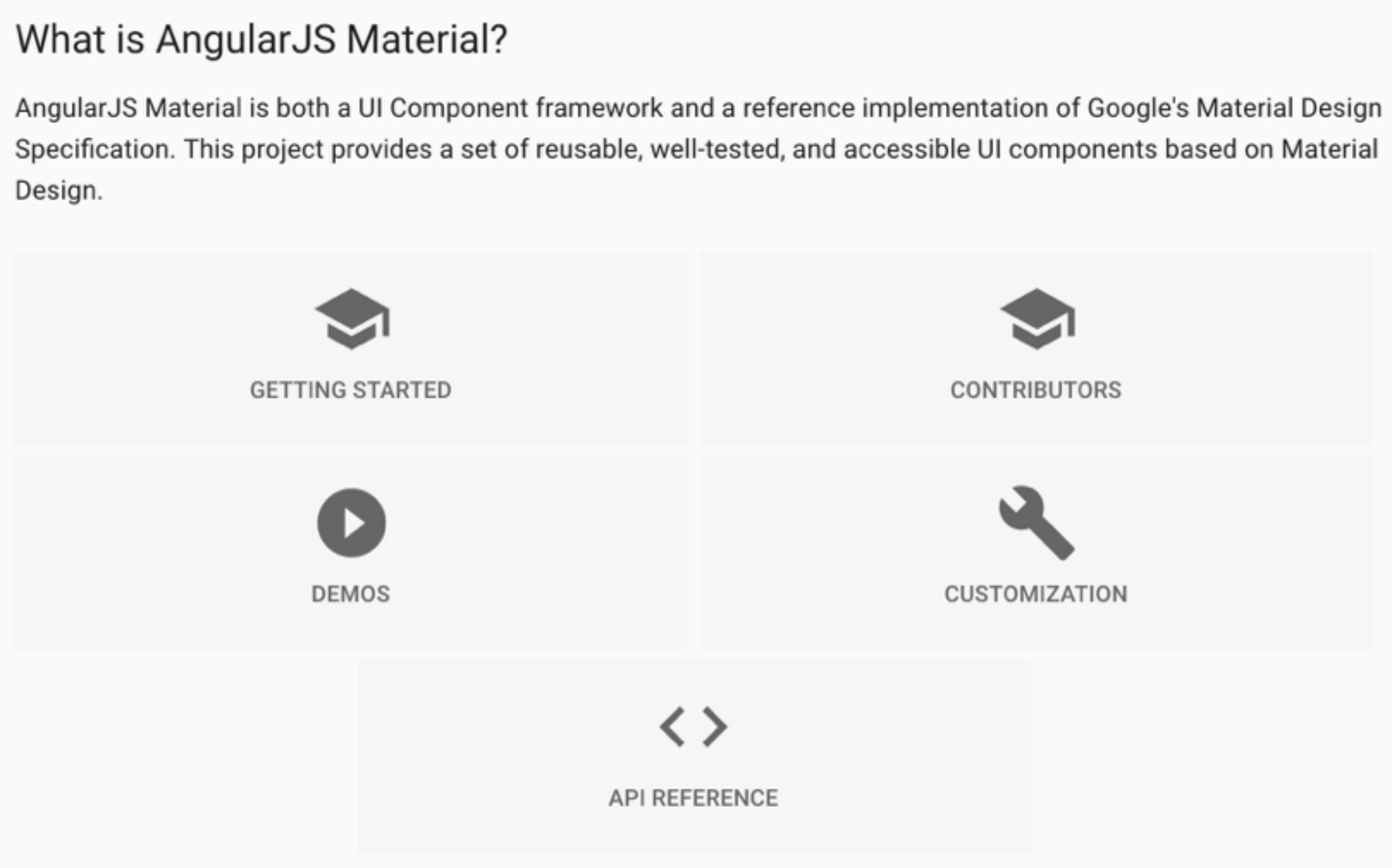


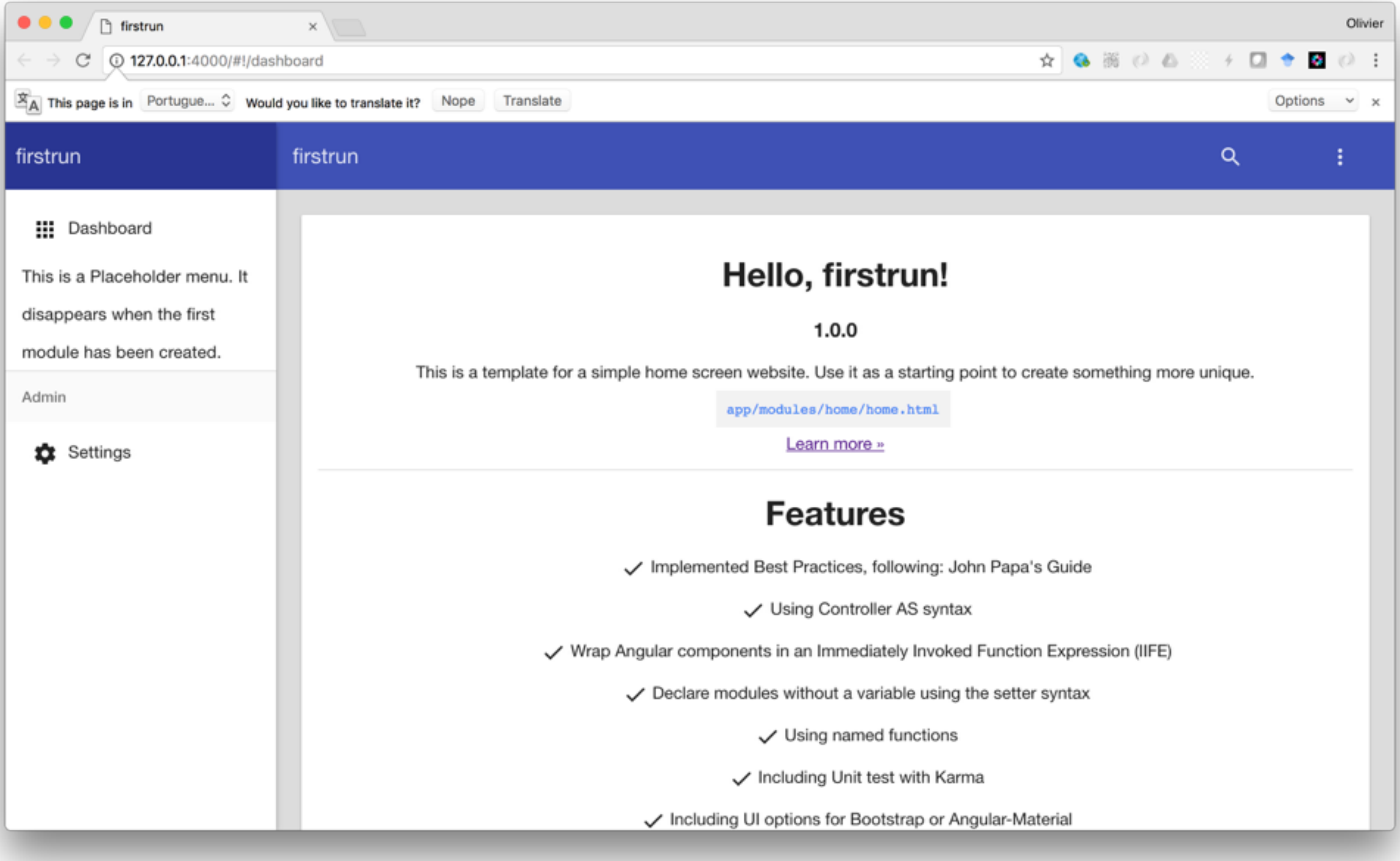
What is AngularJS Material?

AngularJS Material is both a UI Component framework and a reference implementation of Google's Material Design Specification. This project provides a set of reusable, well-tested, and accessible UI components based on Material Design.

Demo

```
$ npm install -g yo
$ npm install -g generator-angm
$ npm install -g grunt-cli
$ npm install -g bower-installer
```

```
$ yo angm
$ grunt dev
```



This is a Placeholder menu. It disappears when the first module has been created.

Hello, firstrun!

1.0.0

This is a template for a simple home screen website. Use it as a starting point to create something more unique.

```
app/modules/home/home.html
```

Learn more »

Features

✓ Implemented Best Practices, following: John Papa's Guide

✓ Using Controller AS syntax

✓ Wrap Angular components in an Immediately Invoked Function Expression (IIFE)

✓ Declare modules without a variable using the setter syntax

✓ Using named functions

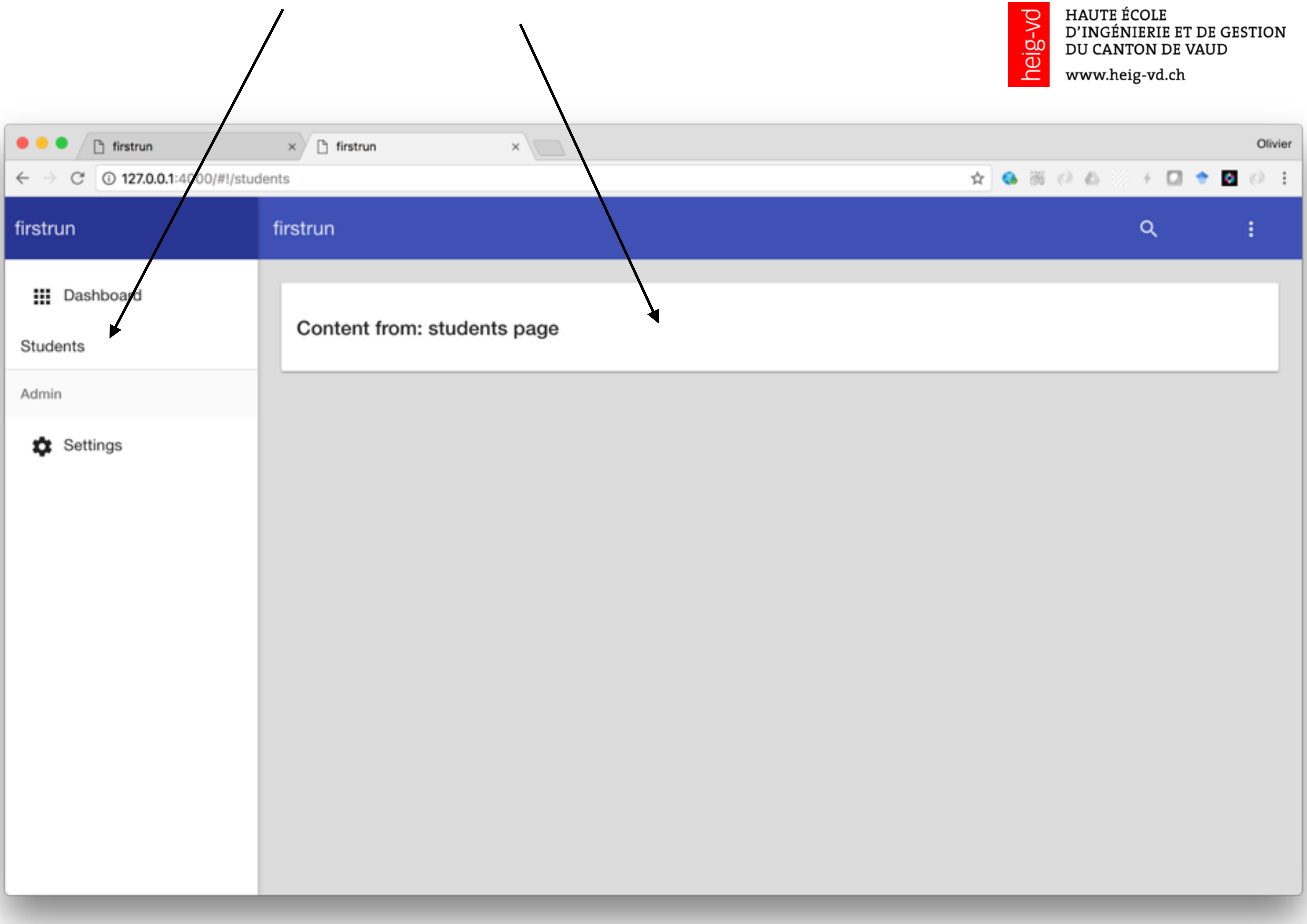
✓ Including Unit test with Karma

✓ Including UI options for Bootstrap or Angular-Material

Sub-generator

```
$ yo angm:angm-module
```

The yo generator helps us with the organization of our code in folders and files.



127.0.0.1:4000/#!/students

Content from: students page

Source files

```
app/
├── app.config.js
├── app.js
├── assets
|    ├── css
|    ├── fonts
|    └── images
└── modules
     ├── home
     |    ├── dashboard.html
     |    ├── home-test.js
     |    ├── home.html
     |    ├── homeCtrl.js
     |    ├── homeModule.js
     |    ├── homeRoute.js
     |    └── homeService.js
     ├── layouts
     |    ├── main-page
     |    |    ├── main-page.html   ?
     |    |    └── mainPageCtrl.js
     |    ├── nav-bar
     |    |    └── navBarService.js
     |    └── side-nav
     |         ├── sidenav.html
     |         ├── sidenavCtrl.js
     |         └── sidenavService.js
     ├── shared
     └── students
          ├── students-test.js
          ├── students.html
          ├── studentsCtrl.js
          ├── studentsModule.js
          ├── studentsRoute.js
          └── studentsService.js
```

Bootstrapping

```
<!DOCTYPE html>
<html lang="pt" ng-app="firstrun">
<head>
      <base href="/">
      <!-- injector:css -->
      <link rel="stylesheet" href="/src/bower_components/angular-material-icons/angular-material-icons.css">
      <link rel="stylesheet" href="/src/bower_components/angular-material/angular-material.css">
      <!-- endinjector -->
</head>

<body ng-cloak>

<!--Beginning-->
<div ui-view layout="row" layout-fill></div>
<!--End-->

<!--Templates. Remove then to a better location -->
<script type="text/ng-template" id="tabDialog.tmpl.html">
    <md-dialog
</script>

<!-- injector:js -->
<script src="/src/bower_components/angular/angular.js"></script>
<script src="/src/bower_components/angular-material/angular-material.js"></script>
<script src="/src/bower_components/angular-ui-router/release/angular-ui-router.js"></script>
<script src="/app/app.js"></script>
<script src="/app/app.config.js"></script>
<script src="/app/modules/home/homeModule.js"></script>
<script src=“/app/modules/students/studentsModule.js"></script>
...
<script src="/app/modules/layouts/nav-bar/navBarService.js"></script>
<script src="/app/modules/layouts/side-nav/sidenavService.js"></script>
<script src="/app/modules/students/studentsService.js"></script>
<!-- endinjector -->
```

Bootstrapping

```
injector: {
        options: {},
        dev: {
                files: {
                        'index.html': [
                                'bower.json',
                                'app/app.js',
                                'app/app.config.js',
                                'app/**/*Module.js',
                                'app/**/*Route.js',
                                'app/**/*Ctrl.js',
                                'app/**/*Service.js',
                                'app/**/*Directive.js'
                        ]
                }
        },
        production: {
                files: {
                        'index.html': [
                                'app/assets/css/**/*.css',
                                'app/assets/js/*.js'
                        ]

                }
        }
},
```

Modules

```
(function () {
   'use strict';

   /**
    * @ngdoc function
    * @name app.module:studentsModule
    * @description
    * # studentsModule
    * Module of the app
    */

   angular.module('students', []);

})();
```

declare a new module,
which does not have dependencies

Routing

lookup the module and call its configuration function

```
angular.module('students')
   .config(['$stateProvider', function ($stateProvider) {

      $stateProvider
         .state('home.students', {
            url:'/students',
            templateUrl: 'app/modules/students/students.html',
            controller: 'StudentsCtrl',
            controllerAs: 'vm'
         });


   }]);
```

inject a dependency on the $stateProvider service into the config function

In the template, we will have an instance of StudentsCtrl and refer to it as 'vm'

Templates

```
<md-sidenav layout="column" class=“md-sidenav-left>
</md-sidenav>
<div layout=“column" ng-controller="LayoutCtrl as layout">
    <md-content layout="column" flex md-scroll-y>
        <div ui-view></div>
    </md-content>
</div>
```

The students.html view is injected in the home/home.html template (in the ui-view div)

```
<div class="md-padding" flex layout-sm="column">
    <md-card>
        <md-card-content>
            <h2 class="md-title">Content from: students page</h2>
        </md-card-content>
    </md-card>
</div>
```

MVC

```
(function() {
    'use strict';

    angular
        .module('students')
        .controller('StudentsCtrl', Students);

        Students.$inject = []; X

        /*
        * recommend
        * Using function declarations
        * and bindable members up top.
        */

        function Students() {
            /*jshint validthis: true */
            var vm = this;
        }

})();
```

```
(function() {
    'use strict';

    /**
     * @ngdoc function
     * @name app.service:studentsService
     * @description
     * # studentsService
     * Service of the app
     */

    angular
        .module('students')
        .factory('StudentsService', Students);
        // Inject your dependencies as .$inject = X
['$http', 'someSevide'];
        // function Name ($http, someSevide) {...}

        Students.$inject = ['$http'];

        function Students ($http) {

        }

})();
```

```
<div class="md-padding" flex layout-sm="column">
    <md-card>
        <md-card-content>
            <h2 class="md-title">Content from: animals page</h2>
            {{ vm.displayMessage() }}
        </md-card-content>
    </md-card>
</div>
```

view

```
function Animals(AnimalsService) {
    var vm = this;
    vm.displayMessage = function() {
        return 'hello from controller, ' +
        AnimalsService.getMessageFromRestApi();
    }
}
```

controller

```
angular
    .module('animals')
    .factory('AnimalsService', Animals);
    // Inject your dependencies as .$inject = ['$http', 'someSevide'];
    // function Name ($http, someSevide) {...}

    Animals.$inject = ['$http'];

    function Animals ($http) {
        return {
            getMessageFromRestApi: function() {
                return "hello from REST API";
            }
        }
    }
```

service