

Daniel Zen

<http://zndg.tl/ionic-app>

Let's Create an Ionic App

Develop Hybrid mobile apps with HTML5 & AngularJS



Welcome!

- My Background

- MIT Computer Science Engineer
- Consultant for Pivotal Labs & Google
- Started working with AngularJS in 2011
- Formed AngularJS-NYC Meetup May 2012
- Started working with Ionic in December 2013
- Focused on open source, and emerging standards.





A little about you:

How many:

- Developers
- Managers
- Sales
- Designers
- Are you MEAN?

Pre-requisites

- Have project experience with:
 - HTML5/CSS/JavaScript
 - AngularJS ([directives](#), [controllers](#), [services](#), [promises](#) - \$q)
- Node.js installed
- Chrome with LiveReload extension

Objectives

By the end of this session you will:

- Explain ionic's use cases & its benefits
- Follow along as a simple ionic app is made
- Name some of ionic's components.
- Have references to look up how these components work.

Agenda

- Learn about Ionic by creating a todo app
- Create an ionic app with a blank template
- Build the app to be data-driven & interactive
- Preview the app in a browser
- directives: [ion-pane](#), [ion-header-bar](#), [ion-list](#), [ion-item](#) & [ion-option-button](#)
- services: [\\$ionicPopup](#), [\\$ionicListDelegate](#)

What is the Ionic Framework?

- Frontend framework for developing hybrid mobile apps with HTML5 & AngularJS for both iOS & Android platforms.
- Requires [Node.js](#) (hopefully pre-installed on all machines)
- For iOS apps, requires OS X, [Xcode](#) & [command line tools](#)
- For Android requires the [Android SDK](#)
- Without Xcode or Android SDK you can still create view & debug many apps in a web browser.

Installing the Ionic Framework

```
$ sudo npm install -g ionic cordova
```

Drop sudo from the above command if running on Windows.

- This will install the basic modules needed to work with the ionic framework
- [Apache Cordova](#) is an open-source platform for building native mobile applications using HTML, CSS & JavaScript (It is also commercially known as [Adobe PhoneGap](#))
- We can now begin building apps with Ionic.

Creating a new Ionic App

- Ionic ships with [several templates](#)
- We are going to start with a blank template

```
$ ionic start myapp blank
```

```
$ cd myapp
```

```
$ ionic serve
```

This will open up the blank app in your default browser, and enable [livereload](#)

Contents of a Blank Ionic App

Basic skeleton for an ionic app:

- ionic.css & style.css
- ionic.bundle.js (Ionic & AngularJS)
- cordova.js
- app.js (angular module + cordova [keyboard plugin](#))
- [ng-app](#): autobootstrap AngularJS app
 - Ionic apps are written in AngularJS
- [ion-pane](#), [ion-header-bar](#), [ion-content](#)



Ionic Colors

Ionic comes with a recommended naming convention for your colors, which can be easily overridden.

- Change the color of the ion-header-bar by changing the class.
- Let's also change the title!

Utility Colors	
light	<input type="checkbox"/>
stable	<input type="checkbox"/>
positive	<input checked="" type="checkbox"/>
calm	<input type="checkbox"/>
balanced	<input type="checkbox"/>
energized	<input type="checkbox"/>
assertive	<input type="checkbox"/>
royal	<input type="checkbox"/>
dark	<input type="checkbox"/>

ion-list & ion-item

- The List is a widely used interface element
- Can include basic text, buttons, toggles, icons, & thumbnails

Add the following inside the ion-content tag:

```
<ion-list>
  <ion-item>Item 1</ion-item>
  <ion-item>Item 2</ion-item>
  <ion-item>Item 3</ion-item>
  <ion-item>Item 4</ion-item>
  <ion-item>Item 5</ion-item>
</ion-list>
```

Ionic Creator

- <http://creator.ionic.io>
- Great for quick proof of concepts & UI Mockups
- Drag-and-drop interface
- Exports to real code
- Free to use

Ionic Marketplace

- <http://market.ionic.io>
 - Starters
 - Plug-ins
 - Themes
- A place to sell your packaged code
- Or, just give it away

Ionic View

- <http://view.ionic.io>
- Preview your app on a live device.
- bypass the App/Play Store
- Great for clients and testers

Data Driven

So far we have been modifying the html.

Now, let's add a Controller to the angular.module

```
.controller('TodoCtrl', function($scope) {  
    $scope.tasks =  
    [  
        {title: "First", completed: true},  
        {title: "Second", completed: false},  
        {title: "Third", completed: false},  
    ];  
})
```

Remember to add the [ng-controller](#) attribute to body

Data Driven

Now instead of the separate `ion-items` let's use an [ng-repeat](#) of `ion-items` to populate the `ion-list`:

```
<ion-item ng-repeat="task in tasks"
          class="item-icon-right"
          ng-class="{complete: task.completed}">
    {{task.title}}
</ion-item>
```

For the `ng-class` to work we need to add the `.complete` class to the CSS: `.complete { color: grey; text-decoration: line-through; }`

Interactive

Let's add the code that toggles the completed state on click to each `ion-item`:

```
ng-click="task.completed = !task.completed"
```

Click on a task to toggle it's completion state.

Icon Buttons

Let's add a button to the ion-header-bar:

```
<button class="button button-icon" ng-click="newTask()">  
  <i class="ion-compose icon"></i>  
</button>
```

For a full list of ion icons check out:

- <http://ionicons.com>

\$ionicPopup.prompt() - new Task

Implement the newTask function to make the button work:

```
$scope.newTask = function() {  
    $ionicPopup.prompt({  
        title: "New Task",  
        template: "Enter task:",  
        inputPlaceholder: "What do you need to do?",  
        okText: 'Create task'  
    }).then(function(res) {    // promise  
        if (res) $scope.tasks.push({title: res, completed: false});  
    })  
};
```

Gain access to the \$ionicPopup by [Dependency Injection](#)

ion-option-button - Delete

Let's add the ability to delete tasks with an `ion-option-button` on each `ion-item`:

```
<i class="icon ion-ios-arrow-left"></i>
<ion-option-button class="button-assertive"
    ng-click="tasks.splice($index, 1)">
    Delete
</ion-option-button>
```

ion-option-button - Edit

The ability to edit tasks will once again use the `ion-option-button` & `$ionicPopup.prompt()`:

```
<ion-option-button class="button-energized"  
    ng-click="edit(task)">  
    Edit  
</ion-option-button>
```

\$ionicPopup.prompt() - Edit

Implement the edit function to make the button work:

```
$scope.edit = function(task) {  
  $scope.data = { response: task.title };  
  $ionicPopup.prompt({  
    title: "Edit Task",  
    scope: $scope  
  }).then(function(res) {    // promise  
    if (res !== undefined) task.title = $scope.data.response;  
  })  
};
```

We pre-populate the prompt with [\\$scope.data.response](#)

\$ionicListDelegate.closeOptionButtons()

Let's automatically close the OptionButtons

closeOptionButtons ()

- Closes any option buttons on the list that are swiped open.

Gain access to the \$ionicListDelegate by [Dependency Injection](#)

That was easy



So now what? - Server Side

Let's get



- Server needed for authentication
- Datastore needed
- You may have a different server preference, but we are now going to talk about

MEAN Best Practices

- Authentication: [Passport](#)
- API Authentication: [JSON Web Tokens](#)
- Object Relation Mapping: [Mongoose](#)
 - Not really ORM - validation, casting & business logic boilerplate
- Cross Origin Resource Sharing - [CORS](#)
- HTTP request logger middleware - [Morgan](#)

Let's look at some MEAN code

What we covered:

- Create an ionic app with a blank template
- Build out the app to be data-driven & interactive
- Ionic Colors (positive, energized, assertive)
- [Icon Buttons](#)
- directives: [ion-header-bar](#), [ion-list](#), [ion-item](#) & [ion-option-button](#)
- services: [\\$ionicPopup](#), [\\$ionicListDelegate](#)

References

- <https://github.com/driftyco/ionic-cli>
- <http://codepen.io/ionic/public-list/>
- <http://learn.ionicframework.com>
- <http://codepen.io/danielzen/pen/kotEw>
- <https://scotch.io/tutorials/authenticate-a-node-js-api-with-json-web-tokens>
- <http://dreamerslab.com/blog/en/write-a-todo-list-with-express-and-mongodb>

A copy of these slides is available at:

<http://zndg.tl/ionic-app>