

# Introduction to Ionic Framework



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# Ionic Framework is ...

- Advanced HTML5 Hybrid Mobile-App Framework
- Performance Obsessed
- Based on Angular
- Native focused
- Beautifully Designed
- A Powerful CLI
- Easy To Learn
- Built by Web Nerd



# The Magical Spell

- `sudo apt-get install nodejs`
- `sudo apt-get install npm`
- `sudo npm install cordova`
- `sudo npm install ionic`
- `ionic start myApp blank`
- `cd myApp`
- `ionic platform add android`
- `ionic serve`



# The Magical Spell (1): Preparation

- Install nodejs
  - `sudo apt-get install nodejs`
- Install npm (nodejs-package-manager)
  - `sudo apt-get install npm`
- Install cordova by using npm
  - `sudo npm install cordova`
- Install ionic by using npm
  - `sudo npm install ionic`



# The Magical Spell (2): Deployment

- Generate a new app (ionic start **application\_name** **template** : [blank, tabs, sidemenu])
  - ionic start **myApp** **blank**
- Change directory to your new app

Blank app

```
$ ionic start myApp blank
```

Tabs



```
$ ionic start myApp tabs
```

Menu



Home



Friends



Events



Close



```
$ ionic start myApp sidemenu
```

# The Magical Spell (2): Deployment

- Add platform (ionic platform add `your_platform : [android, ios, ipad, windowsphone]`)
  - `ionic platform add android`
- Build your app
  - `ionic build android`
- Run your app
  - `ionic serve`
  - `ionic emulate android`



Those work.  
But what are those?



# What is nodejs?

- **JavaScript runtime** built on Chrome's V8 JavaScript engine.
- Uses an event-driven, non-blocking I/O model that makes it **lightweight** and **efficient**.
- Having package ecosystem, **npm**, is the largest ecosystem of open source libraries in the world.





# What is Angular?

- HTML enhanced for web apps
- Some attributes:
  - ng-app
  - ng-bind
  - ng-model
  - ng-repeat
  - ng-init
  - ng-click
  - etc



# How Angular works?

```
<body>
```

```
  <h1>Sample Application</h1>
```

```
    <div ng-app="" ng-init="countries=[{locale:'en-US',name:'United States'},  
      {locale:'en-GB',name:'United Kingdom'},  
      {locale:'en-FR',name:'France'}]">
```

```
      <p>Enter your Name: <input type="text" ng-model="name"></p>
```

```
      <p>Hello <span ng-bind="name"></span>!</p>
```

```
      <p>List of Countries with locale:</p>
```

```
      <ol>
```

```
        <li ng-repeat="country in countries">
```

```
          {{ 'Country: ' + country.name + ', Locale: ' + country.locale }}
```

```
        </li>
```

```
      </ol>
```

```
    </div>
```

```
    <script
```

```
src="http://ajax.googleapis.com/ajax/libs/angularjs/1.2.15/angular.min.js">
```

```
    </script>
```

```
</body>
```

Let's make a super calculator :)

# Go Frendi's Super Calculator

Gofrendi's Super Calculator

$4 + 5 * 3$

Calculate

19

# Go Frendi's Super Calculator

Gofrendi's Super Calculator

$(4 + 5) * 3$

Calculate

27

# Go Frendi's Super Calculator

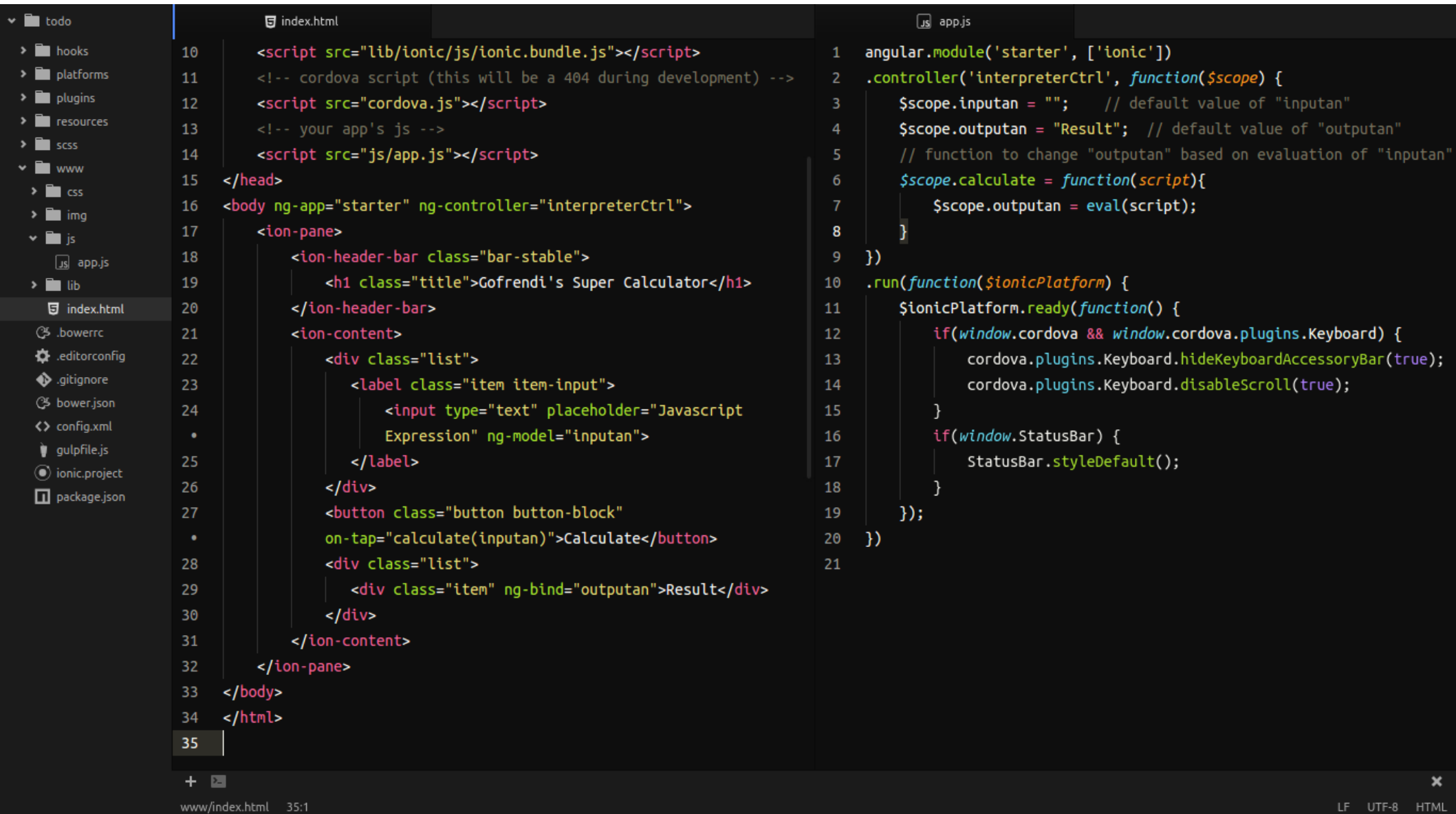
Gofrendi's Super Calculator

"hello" + " world"

Calculate

hello world

# Go Frendi's Super Calculator



The image shows a code editor with two files open: `index.html` and `app.js`. The left sidebar shows a file explorer with a project structure including `todo`, `hooks`, `platforms`, `plugins`, `resources`, `scss`, `www`, `css`, `img`, `js`, `lib`, `app.js`, `index.html`, `.bowerrc`, `.editorconfig`, `.gitignore`, `bower.json`, `config.xml`, `gulpfile.js`, `ionic.project`, and `package.json`.

**index.html**

```
10 <script src="lib/ionic/js/ionic.bundle.js"></script>
11 <!-- cordova script (this will be a 404 during development) -->
12 <script src="cordova.js"></script>
13 <!-- your app's js -->
14 <script src="js/app.js"></script>
15 </head>
16 <body ng-app="starter" ng-controller="interpreterCtrl">
17   <ion-pane>
18     <ion-header-bar class="bar-stable">
19       <h1 class="title">Gofrendi's Super Calculator</h1>
20     </ion-header-bar>
21     <ion-content>
22       <div class="list">
23         <label class="item item-input">
24           <input type="text" placeholder="Javascript
25             Expression" ng-model="inputan">
26         </label>
27       </div>
28       <button class="button button-block"
29         on-tap="calculate(inputan)">Calculate</button>
30       <div class="list">
31         <div class="item" ng-bind="outputan">Result</div>
32       </div>
33     </ion-content>
34   </ion-pane>
35 </body>
</html>
```

**app.js**

```
1 angular.module('starter', ['ionic'])
2 .controller('interpreterCtrl', function($scope) {
3   $scope.inputan = ""; // default value of "inputan"
4   $scope.outputan = "Result"; // default value of "outputan"
5   // function to change "outputan" based on evaluation of "inputan"
6   $scope.calculate = function(script){
7     $scope.outputan = eval(script);
8   }
9 })
10 .run(function($ionicPlatform) {
11   $ionicPlatform.ready(function() {
12     if(window.cordova && window.cordova.plugins.Keyboard) {
13       cordova.plugins.Keyboard.hideKeyboardAccessoryBar(true);
14       cordova.plugins.Keyboard.disableScroll(true);
15     }
16     if(window.StatusBar) {
17       StatusBar.styleDefault();
18     }
19   });
20 })
21
```

The status bar at the bottom shows the file path `www/index.html`, line `35:1`, and encoding options `LF UTF-8 HTML`.



Build something useful in  
the next 30 minutes.



# Some ideas

- For  $ax^2+bx+c = 0$ , Make a program which inputs are:  $a$ ,  $b$ ,  $c$ , and the outputs are  $x_1$  and  $x_2$
- Make a program to calculate perimeter and area of:
  - Circle
  - Triangle
  - Square
- Make a dice program that will give you a number from 1 to six randomly whenever you tap the button

# Conclusion

- Installing ionic takes time, but it worths
- You don't always need to run android emulator in order to test your application (you can do `ionic serve`)
- Using ionic, you can develop an application that run everywhere (android, ios, ipad, windows phone) in a single codebase
- You are cool :)



QA?  
Thank you :)