Introduction to Ionic

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Index

What is Ionic?

What is Ionic?

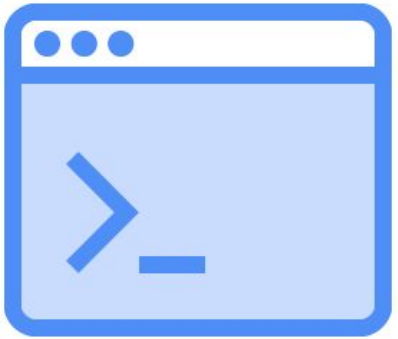
"Ionic is an HTML5 mobile app development framework targeted at building hybrid mobile apps. Hybrid apps are essentially small websites running in a browser shell in an app that have access to the native platform layer. Hybrid apps have many benefits over pure native apps, specifically in terms of platform support, speed of development, and access to 3rd party code."

https://ionicframework.com/docs/v1/guide/preface.html

Why Ionic?

Why Ionic?

- Cross platform
- If you know angular, you know Ionic
- Strong community support
- Fast prototyping
- Apache Cordova (Ionic Native)
- Open Source!



Why Ionic?

- Performance
- Isn’t native (No plugins for everything)
- Forget if it's a multimedia app

capacitor

Get started

Get started - What we need

- NodeJS (>= v6 LTS)
- NPM (+3), YARN (Optional)
- Typescript
- Android SDK or/and iOS SDK
- Apache Cordova

Get started - Installation

To install Ionic, we need to install his own CLI, Apache Cordova and Typescript:

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

or

```
$ yarn global add ionic cordova typescript
```

Get started - Ionic CLI

The Ionic CLI makes it easy to create an application that already works, right out of the box https://ionicframework.com/docs/cli/

Create new project

```
$ ionic start helloWorld {starterTemplate}

$ cd helloWorld

$ ionic serve
```

Starter templates

Ionic Angular

Starter	Description
`tabs`	A starting project with a simple tabbed interface
`blank`	A blank starter project
`sidemenu`	A starting project with a side menu with navigation in the content area
`super`	A starting project complete with pre-built pages, providers and best practices for Ionic development.
`conference`	A project that demonstrates a realworld application
`tutorial`	A tutorial based project that goes along with the Ionic documentation
`aws`	AWS Mobile Hub Starter

Get started - Cordova

To bring native capabilities to Ionic app, we need to use Cordova:

- Add platforms:

  ```
  $ ionic cordova platform add [ios|android]
  ```

- Build platform:

  ```
  $ ionic cordova build [ios|android]
  ```

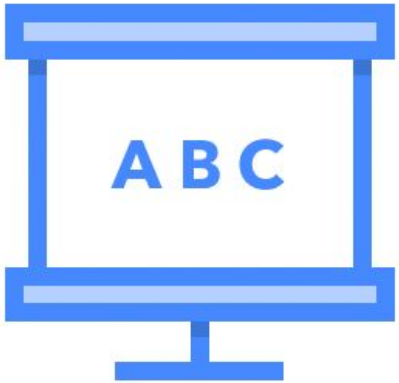
- Run platform:

  ```
  $ ionic cordova run [ios|android]
  ```

Project structure

Project structure

```
helloWorld/
├── ionic.config.json # Ionic project config file
├── package.json
├── src/
│   ├── app/
│   │   ├── app.component.ts # root component for your app
│   │   ├── app.html # app component template
│   │   ├── app.module.ts # NgModule for app component
│   │   ├── app.scss # global SCSS
│   │   └── main.ts # bootstrap file
│   ├── assets/ # put your images, etc. here
│   ├── pages/ # contains the page components for your app
│   ├── theme/
│   │   └── variables.scss # see https://ionicframework.com/docs/theming
│   └── index.html # main html file
└── www/ # build output directory
```



Testing in Ionic

Testing in Ionic

- Test application in browser:

```
$ ionic serve
```

- Test application in Android/iOS simulator:

```
$ ionic cordova build [android|ios]
```

```
$ ionic cordova emulate [android|ios]
```

Creating our first app

Step 0: Generate app

We want to generate a scaffolded app with tabs:

```
$ ionic start nesGames tabs
```

Step 1: Add required modules

We want to import *HttpClientModule* to make HTTP Request in our application:

```
...

import { HttpClientModule } from '@angular/common/http';

...

@NgModule({
  declarations: [
    ...
  ],
  imports: [
    BrowserModule,
    HttpClientModule,
    IonicModule.forRoot(MyApp)
  ],
  bootstrap: [IonicApp],
  entryComponents: [
    ...
  ],
  providers: [
    ...
  ]
})
export class AppModule {}
```

Step 2: Generate provider

Create a service to retrieve the desired application data:

```
$ ionic generate provider lists
```

Building an android app

Building an android app

To deploy an application, we need to follow the instructions here:

https://ionicframework.com/docs/intro/deploying/

Useful links

Useful links

- Ionic Framework Docs: https://ionicframework.com/docs/
- Ionic API Reference: https://ionicframework.com/docs/api/
- Ionic Native: https://ionicframework.com/docs/native/
- Ionic Conference App: https://github.com/ionic-team/ionic-conference-app/
- Awesome Ionic: https://github.com/candelibas/awesome-ionic/
- Cordova Plugins: https://cordova.apache.org/plugins/
- Capacitor: https://capacitor.ionicframework.com/
- Angular Style Guide: https://angular.io/guide/styleguide/
- Angular API Reference: https://angular.io/api/
- Typescript Coding Guidelines: https://github.com/Microsoft/TypeScript/wiki/Coding-guidelines/

Thank you!

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