Mobile Development

Introduction to Ionic Framework

Ionic Mobile Development

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What we'll learn..

- Native vs Hybrid
- What is ionic
- Prerequisites
- Getting started with ionic.
- The Concept
- Design Pattern MVC
- Angular Anatomy
- Environment Setup
- Selecting Editor
- Practice: Simple Angular Project
- Practice: First Ionic Project

Native vs Hybrid

Native

- Proficiency in each platform required
- Entirely separate code bases
- Time consuming & expensive Development
- More Platforms, More Problems

Hybrid Apps

- HTML5 that acts like native
- Direct access to native APIs
- Familiar web dev environment
- Develop a single code base
- Reuse code between platforms

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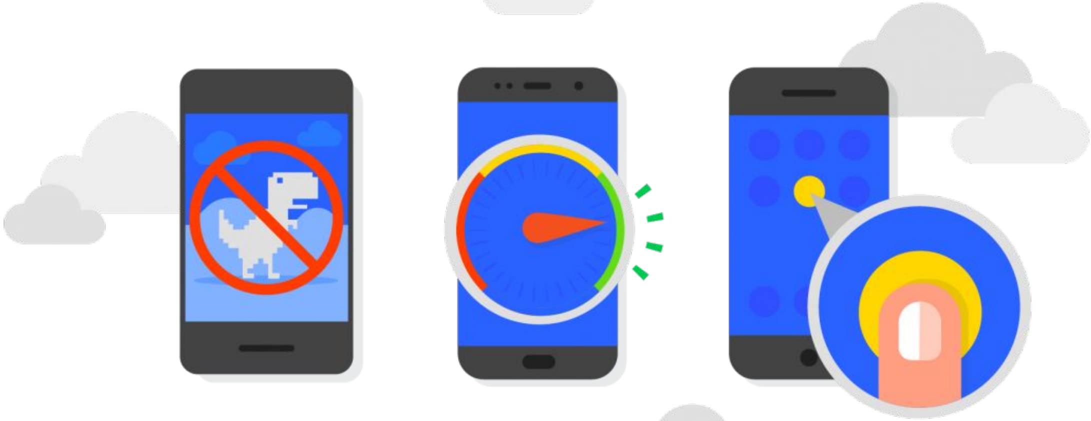
Progressive Web Apps (PWA)



- Progressive Web Apps are user experiences that have the reach of the web, and are:
  - Reliable - Load instantly and never show the downasaur, even in uncertain network conditions.
  - Fast - Respond quickly to user interactions with silky smooth animations and no janky scrolling.
  - Engaging - Feel like a natural app on the device, with an immersive user experience.
    This new level of quality allows Progressive Web Apps to earn a place on the user's home screen.

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but why... still native sdk

- Common UI Views for better user experience
- Navigation and history stack
- Transitions
- It offers full access to the mobile platform

and not web sdk ..

- Doesn’t offer full access to the mobile platform
- Doesn’t provide rich, native-style UI components and interactions
- You’ll probably spend way too much time bringing native look and feel

What’s Ionic

- HTML5 framework for hybrid mobile apps.
- Build on Angular, Sass.
- Uses cordova/phonegap for creating running building deploying mobile apps.
- Contains lots of mobile optimised css and javascript components.
- Native like performance and beautifully designed

Prerequisites Before Starting

Knowledge

- Javascript
- HTML
- CSS
- AngularJS (UI router, custom directives, $scope and controller)
- Phonegap

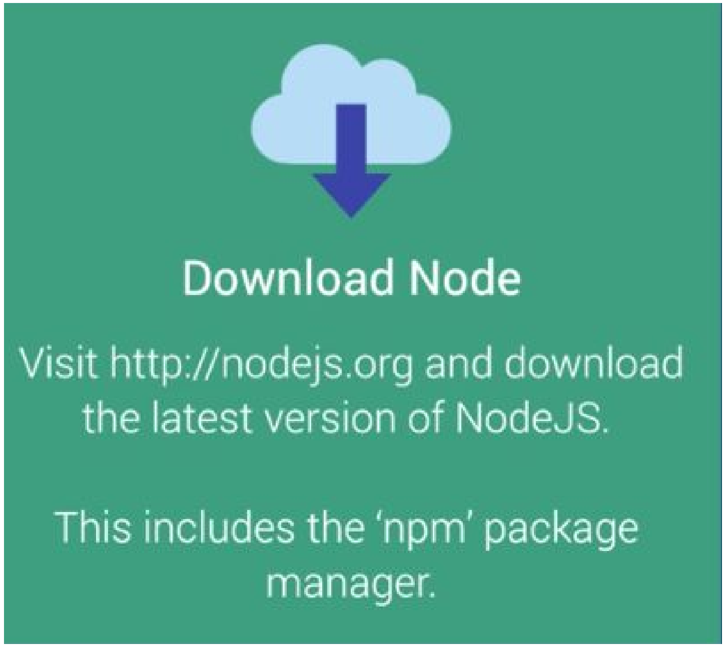
Other

- NodeJS

Getting started/install

1. Setup Development Environment

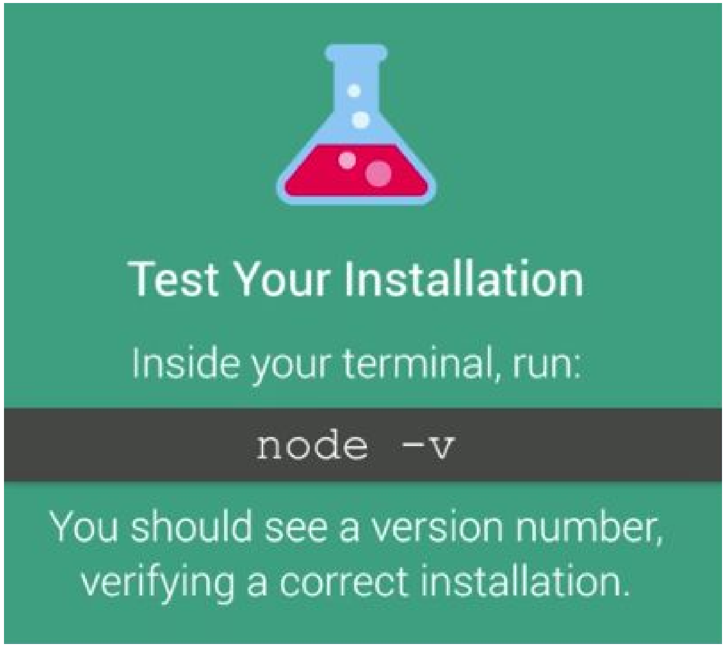
Install NodeJS and NPM (for Windows user)



Download Node

Visit http://nodejs.org and download the latest version of NodeJS.

This includes the 'npm' package manager.



Test Your Installation

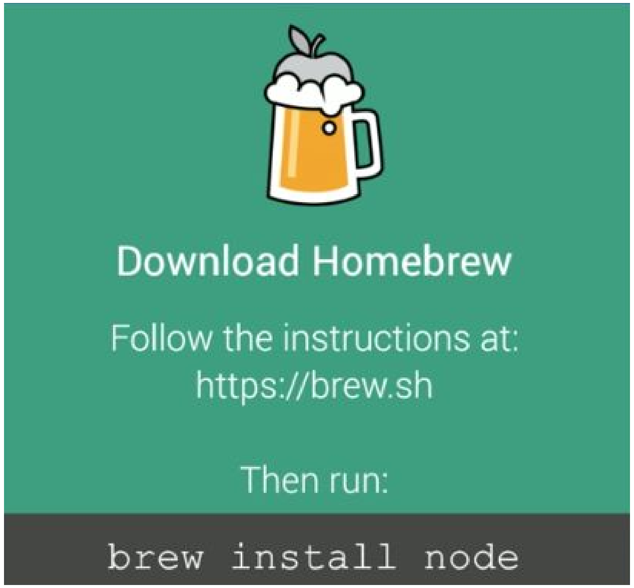
Inside your terminal, run:

```
node -v
```

You should see a version number, verifying a correct installation.

1. Setup Development Environment

Install NodeJS and NPM (for Mac user)

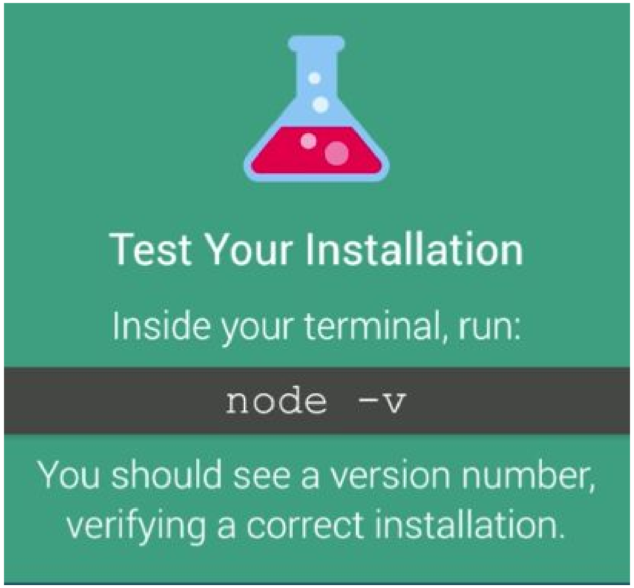


Download Homebrew

Follow the instructions at:
https://brew.sh

Then run:

```
brew install node
```



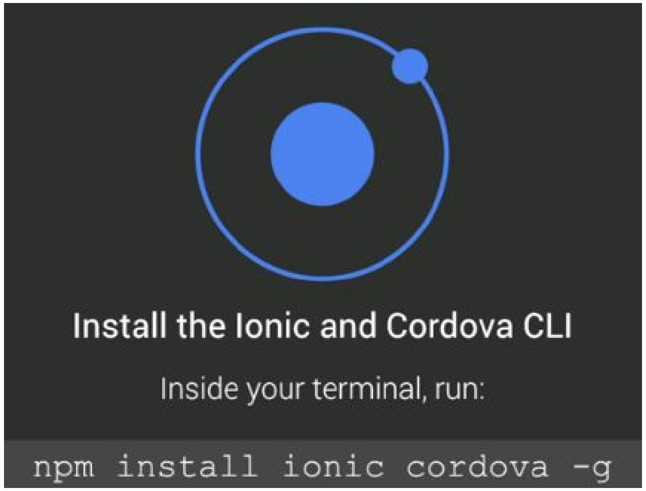
Test Your Installation

Inside your terminal, run:

```
node -v
```

You should see a version number, verifying a correct installation.

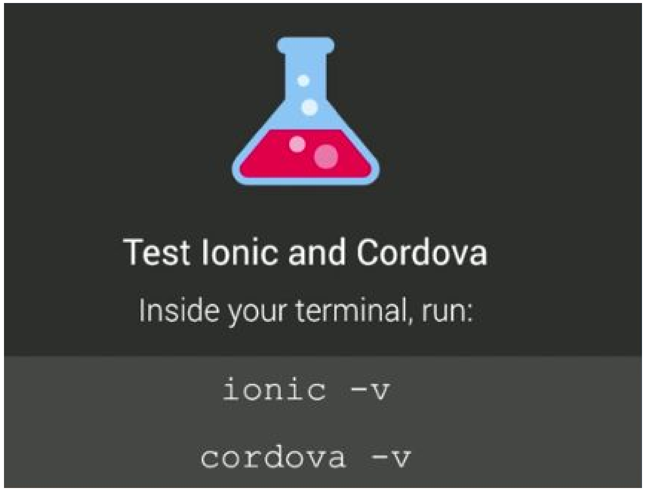
2. Install Ionic and Cordova via npm



Install the Ionic and Cordova CLI

Inside your terminal, run:

```
npm install ionic cordova -g
```



Test Ionic and Cordova

Inside your terminal, run:

```
ionic -v
cordova -v
```

2. Install Angular-CLI

Install Angular CLI

inside your terminal, run:

```
npm install -g
 @angular/cli
```

Test Angular

inside your terminal, run:

```
ng -v
```

Recommended Editors

Visual Studio Code

code.visualstudio.com

Atom

atom.io

Sublime Text

sublimetext.com

Brackets

brackets.io

Concepts

Angular combines lot of good programming concepts together to create an effective & powerful web development framework.

Imperative vs Declarative

- JQuery Imperative Wiring

```
<input type=”text” id=”yourname”>
<h1 id=”helloName”></h1>
<script type=”text/javascript”>
  $(function(){
    $(“#yourName”).keyup(function(){
      $(“#helloName”).text(“Hello “+ this.value + “!”);
    });
   });
</script>
```

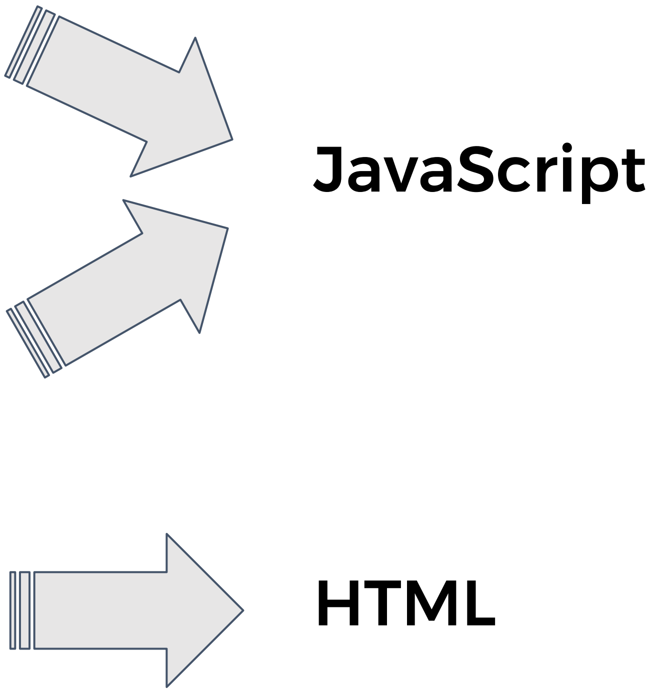
- Angular Declarative Relationship

```
<input type=”text” ng-model=”yourName”>
<h1>Hello {{yourName}}!</h1>
```

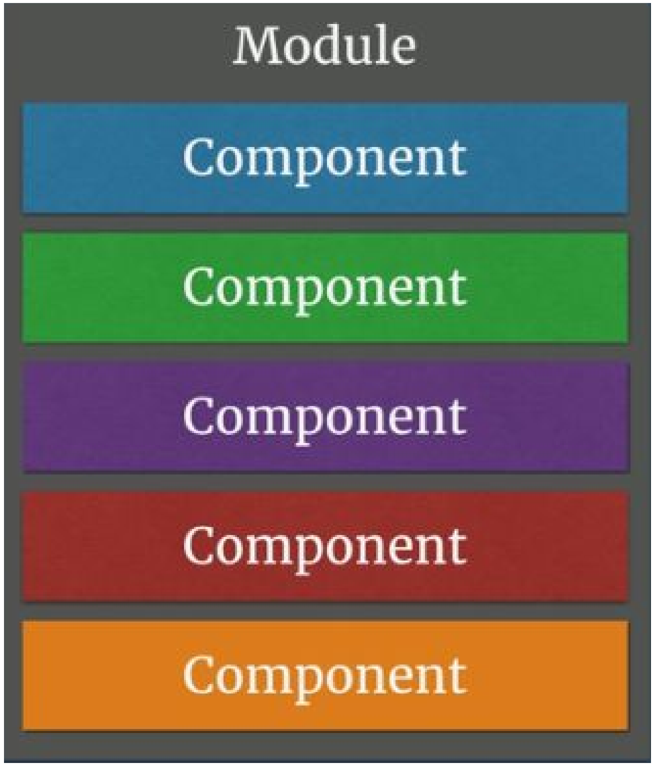
Design pattern: MVC

MVC (Model, View, Controller) is a pattern for organising code in an application to improve maintainability.

- ❑ Model
  - ❑ The Data
- ❑ Controller
  - ❑ Controls behaviors & interactions
  - ❑ Modifying/updating the models
- ❑ View
  - ❑ The interface, visual representation
  - ❑ How the data is presented to the user



Angular Anathomy



Module

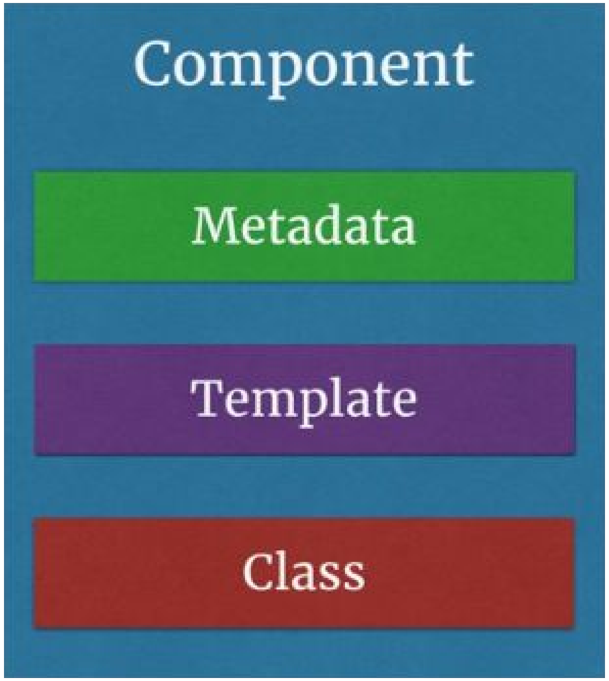
Component

Component

Component

Component

Component



Component

Metadata

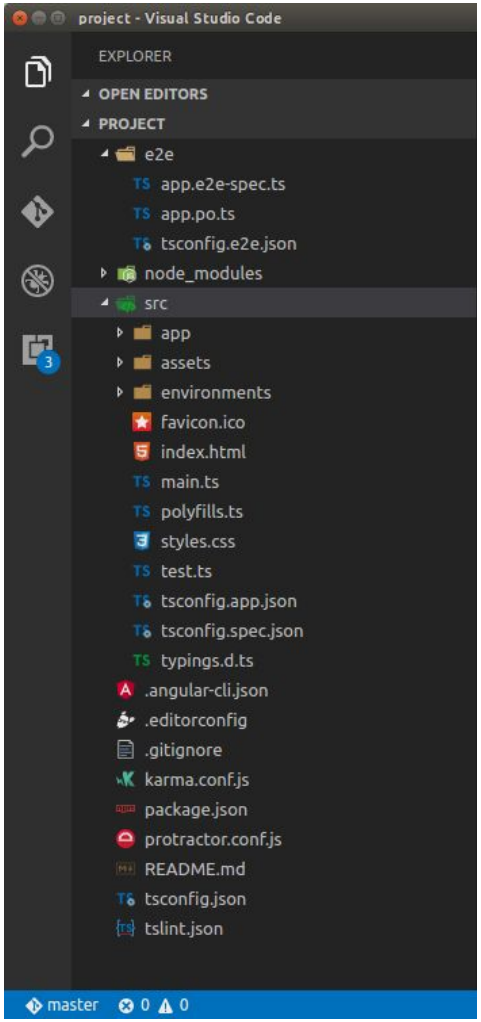
Template

Class

Let’s create simple Angular project..

```
ng new PROJECT_NAME
cd PROJECT_NAME
ng serve
```

Angular Anatomy



```
project - Visual Studio Code
EXPLORER
▴ OPEN EDITORS
▴ PROJECT
  ▴ e2e
      app.e2e-spec.ts
      app.po.ts
      tsconfig.e2e.json
  ▸ node_modules
  ▴ src
    ▸ app
    ▸ assets
    ▸ environments
      favicon.ico
      index.html
      main.ts
      polyfills.ts
      styles.css
      test.ts
      tsconfig.app.json
      tsconfig.spec.json
      typings.d.ts
    .angular-cli.json
    .editorconfig
    .gitignore
    karma.conf.js
    package.json
    protractor.conf.js
    README.md
    tsconfig.json
    tslint.json
master  ⊗ 0  ⚠ 0
```

- e2e = user flow application
- node_modules = dependencies inside the project
- src = source / all the applications lives
- .module, .component

- ngModule
- components
- Data binding
- Click Events
- ngModel
- *ngIf
- *ngFor Directive

It’s Time to create First Ionic App..

- test your ionic
  - `ionic info`

- Create new Ionic Project
  - `ionic start myProject tabs`

- Test run your poject inside project folder
  - `ionic serve`

Task

- Create your own apps icon & splash screen
- icon dimension: 192x192 png
- splash 2208x2208 png

Q n A

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