

Building Mobile Apps with



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CLAIRVOYANT



design

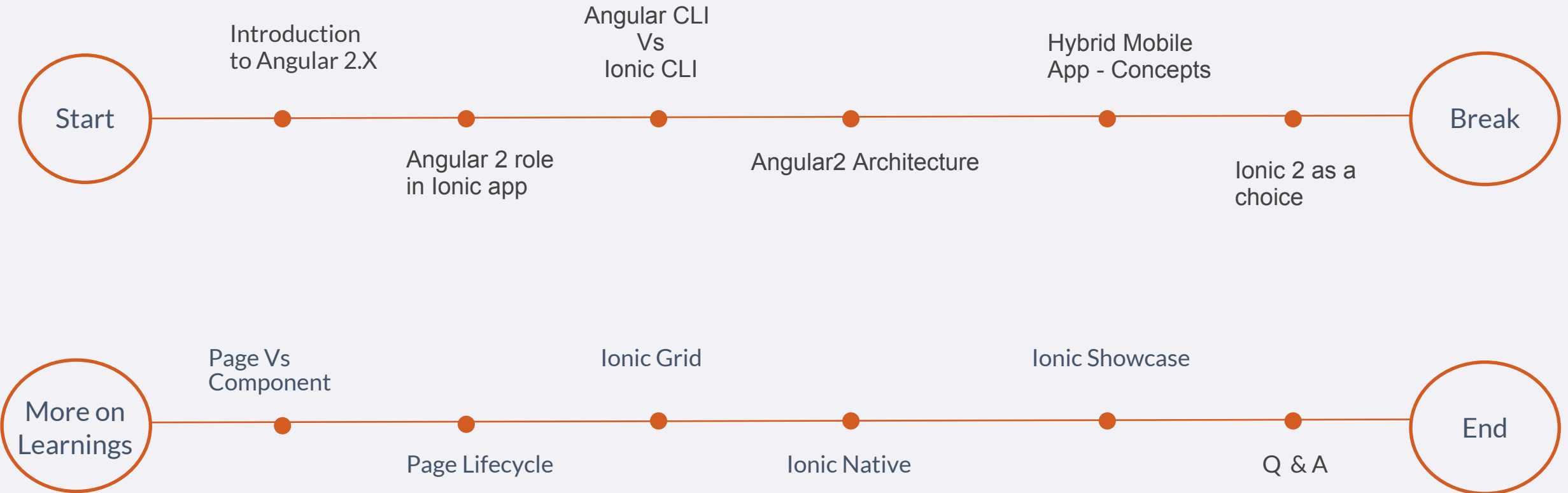


engineer



deliver

Presentation Agenda



Introduction to Angular 2.X

Angular 2 is a framework for building client applications in HTML using either JavaScript or a language like TypeScript that compiles to JavaScript.

- Architecture completely redesigned over Angularjs(v1.x)
- Based on components and the templates.
- Versions gradually updated from 2.2.x to 4.2.x (Sept 2016 to June 2017).
- Ref: <https://github.com/angular/angular/blob/master/CHANGELOG.md>



Role of Angular 2 in Ionic app.

- Ionic 2 is based on Angular 2, so we could say that an Ionic project is basically an Angular project with the Ionic framework added to it.
- Angular 2 provides basic building blocks to the ionic app and libraries.
 - a. Includes Modules, Pages, Components,
 - b. Bindings, Stylings.
 - c. Services to communicate with the backend.



Angular CLI

The Angular CLI is a commandline tool to initialize, develop, scaffold and maintain Angular applications.

- Bootstrapping a project:

It creates the initial project structure with a root NgModule and a root Component.

Handles things like module loading and bundling and minification of dependant code.

- Serving and live reloading:

The CLI starts a local web-server so we can view our application in the browser via localhost:4200.

The CLI also watches for any changes to our files and automatically reloads the webpage if there are any.



Cntd.

- Code generation:

Using the CLI we can create components directives, services, pipes etc...

- Testing:

With bootstrapped jasmine test spec files, we can use the CLI to compile and run all the tests with a single command.

- Packaging and releasing:

The CLI doesn't just stop with development, using it we can also package our application ready for release to a server.

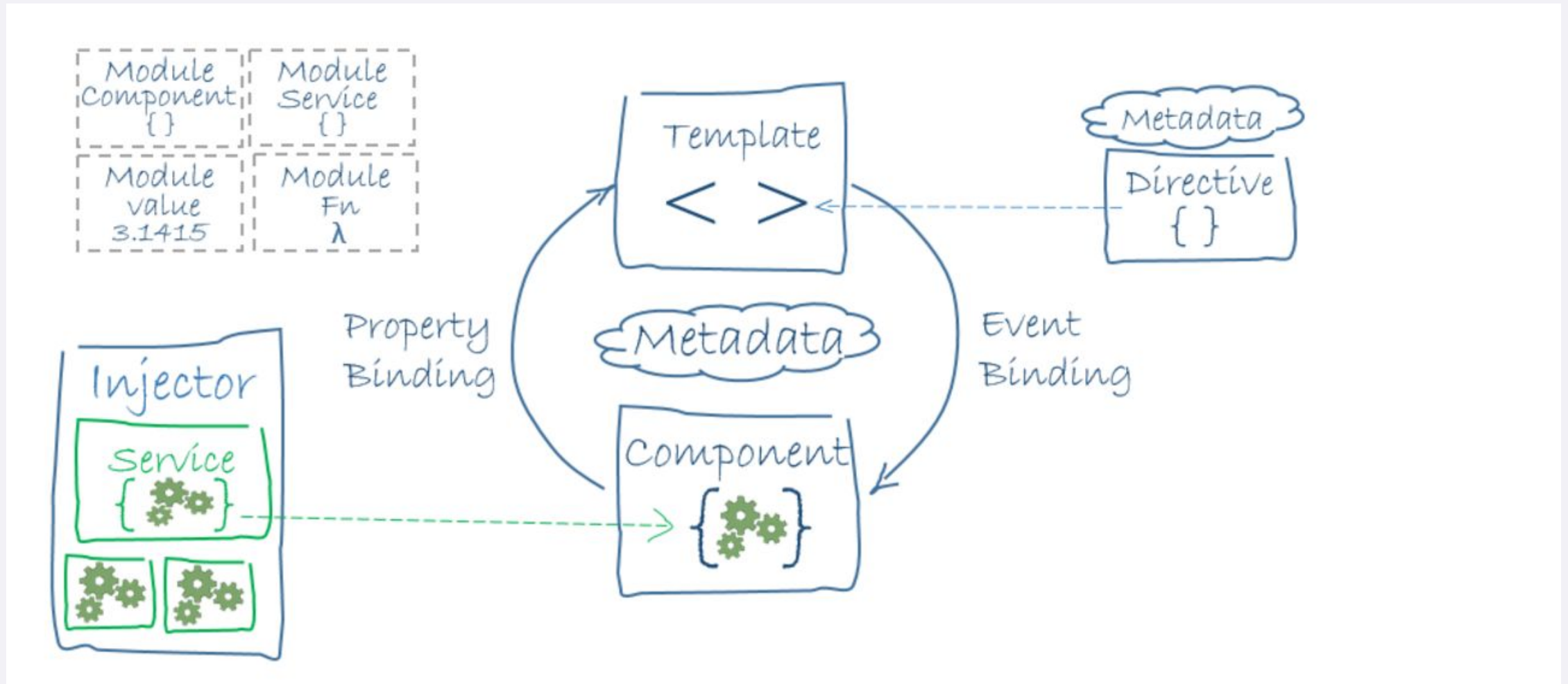


Angular cli vs Ionic cli.

- Ionic cli is a commandline tool optimised for Ionic applications.
- Like Angular cli, Ionic cli also supports everything:
 - Bootstrapping a project.
 - Serving and live reloading.
 - Code generation.
 - Packaging and releasing.
- Additionally, Ionic cli provides an upload functionality which enables user to deploy app to *ionic-view* and immediately test the app on hand-held devices.



Angular 2 Architecture



Hybrid Mobile App – The Concept

- Look & feel like a native app
- Native capabilities like camera etc.
- Write once & run anywhere
- Cost-effective
- Faster time to market
- Easy to maintain uniformity

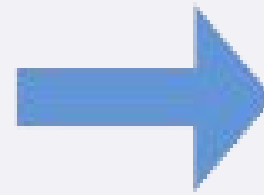


Hybrid App Development Approaches

- WebView app
 - Built using HTML5, CSS & JavaScript
 - Wrapped in a native container.
 - Examples : Ionic framework, PhoneGap etc.
- Compiled hybrid app
 - Written in one language (such as C# or JSX).
 - Compiled to native code for each supported platform.
 - Examples : React Native, Xamarin etc.



Ionic 2 as choice for hybrid mobile app development



What -- Why – How – coming slides...

What is ionic 2 ?

- Popular free & open source hybrid app framework.
- Uses web technologies
- Rewrite of Ionic 1
- Built on top of Angular2 & Apache Cordova
- Flexible & modular development approach.
- Targets well known platforms - IOS, Android, Windows.

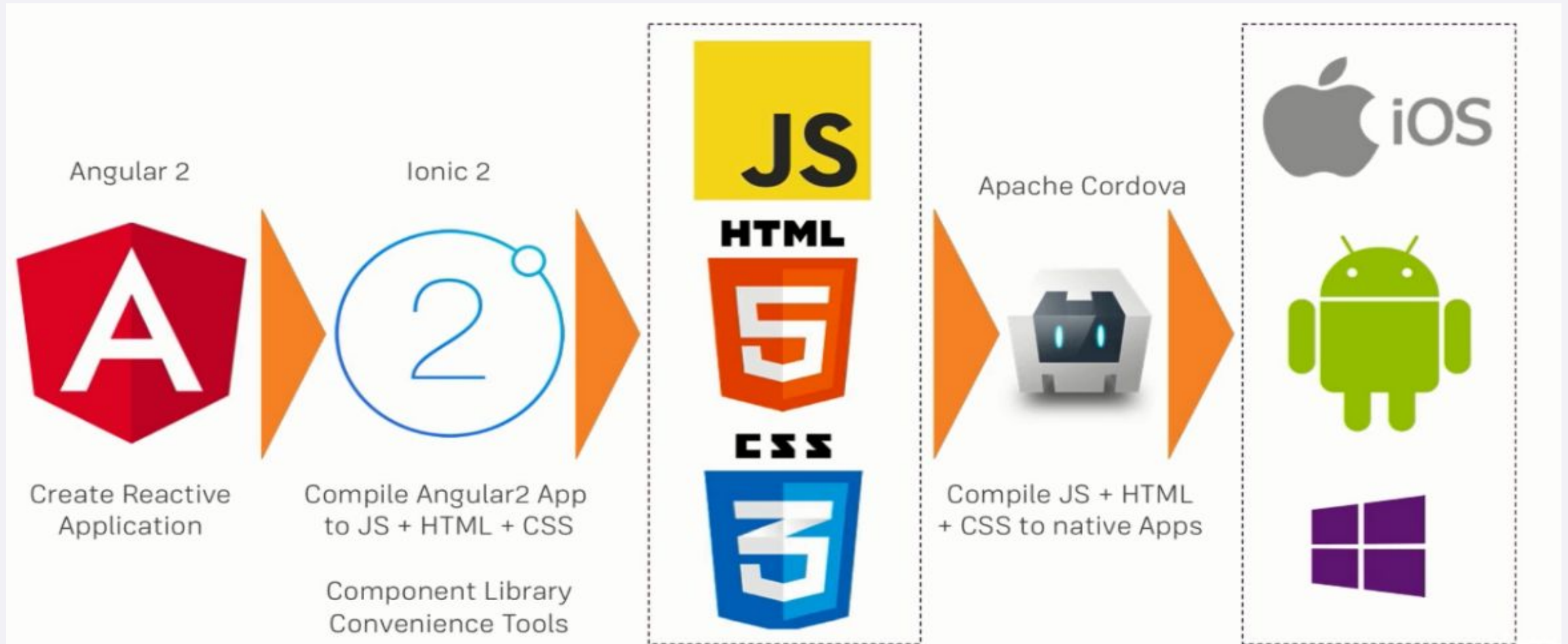


Why Ionic 2 ?

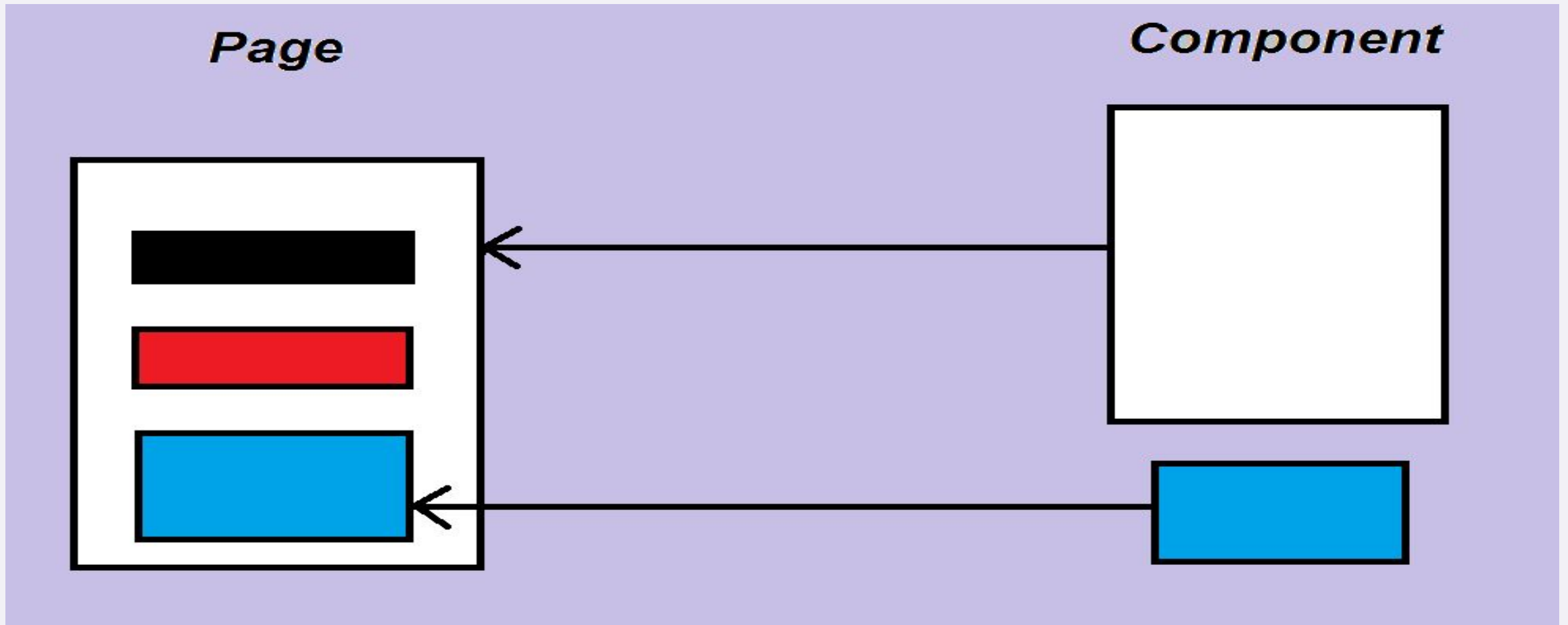
- Leverages power of Angular 2 & typescript
- Easy to learn & adapt.
- Provides rich set of ready to use components
- First class, consistent & clear documentation
- Easy to test without any emulator
- Fast development lifecycle
- Large community support.



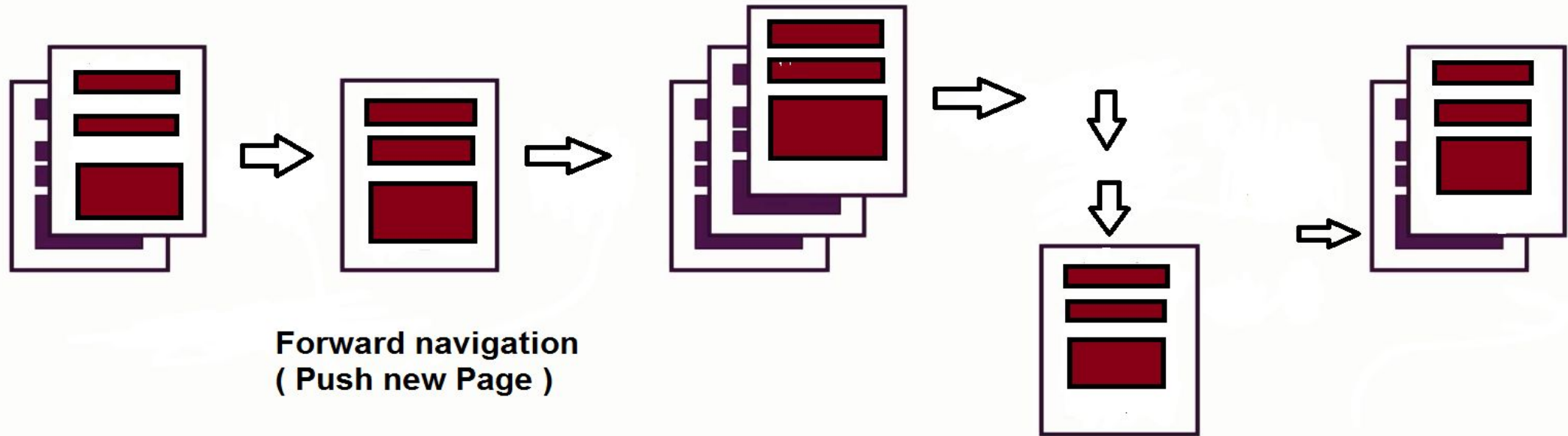
How ionic app works?



Page Vs Component



Page loading & Navigation



Forward navigation
(Push new Page)

Backward navigation
(Pop current page)

Stack of Pages

Page Lifecycle

- **ionViewCanEnter** Navigation Guard => Should the page be loaded?
- **ionViewDidLoad** When page is loaded but not when cached
- **ionViewWillEnter** Page is about to enter and become the active page
- **ionViewDidEnter** Page has fully entered and is now the active page. Also fired when cached
- **ionViewCanLeave** Navigation Guard => Should the page be left?
- **ionViewWillLeave** Page is about to leave and no longer be the active page
- **ionViewDidLeave** Page has finished leaving and is no longer the active page
- **ionViewWillUnload** Page is about to be destroyed. (not cached)



Ionic Grid

- Act as a container for all rows & columns
- Composed of three units — a grid, row(s) and column(s).
- Influenced by Bootstrap's grid system.
- Grid components can be written as element (e.g., <ion-grid>)
- Can be added as an attribute to any element (e.g., <div ion-row>).



Ionic Grid Continued...


```
<ion-grid>
  <ion-row>
    <ion-col>
      1 of 2
    </ion-col>
    <ion-col>
      2 of 2
    </ion-col>
  </ion-row>
  <ion-row>
    <ion-col>
      1 of 3
    </ion-col>
    <ion-col>
      2 of 3
    </ion-col>
    <ion-col>
      3 of 3
    </ion-col>
  </ion-row>
</ion-grid>
```

Ionic Native


- TypeScript wrapper for Cordova plugins
- Plugin available as a module
- Alternative of ngCordova
- Nice debugging features
- Supported for Ionic 1
- [Ionic Native documentation](#)




Ionic Showcase

Featured  Submit


A showcase of the most beautiful apps built with Ionic




Pacifica
By Dale Beermann



McDonald's Türkiye
By Erdem ILDIZ



Baskin Robbins
By Modus Create



Joule
By ChefSteps

Source : showcase.ionicframework.com

The background of the slide is white and filled with numerous question marks of varying sizes and shades of gray, some appearing to float or be scattered across the space. The word "Questions" is prominently displayed in the center in a large, bold, red 3D font.

Questions

KEEP CALM & START CODING

```
mod = modifier_ob.modifiers.new("mirror")
mirror_ob.mirror_object = mirror_ob

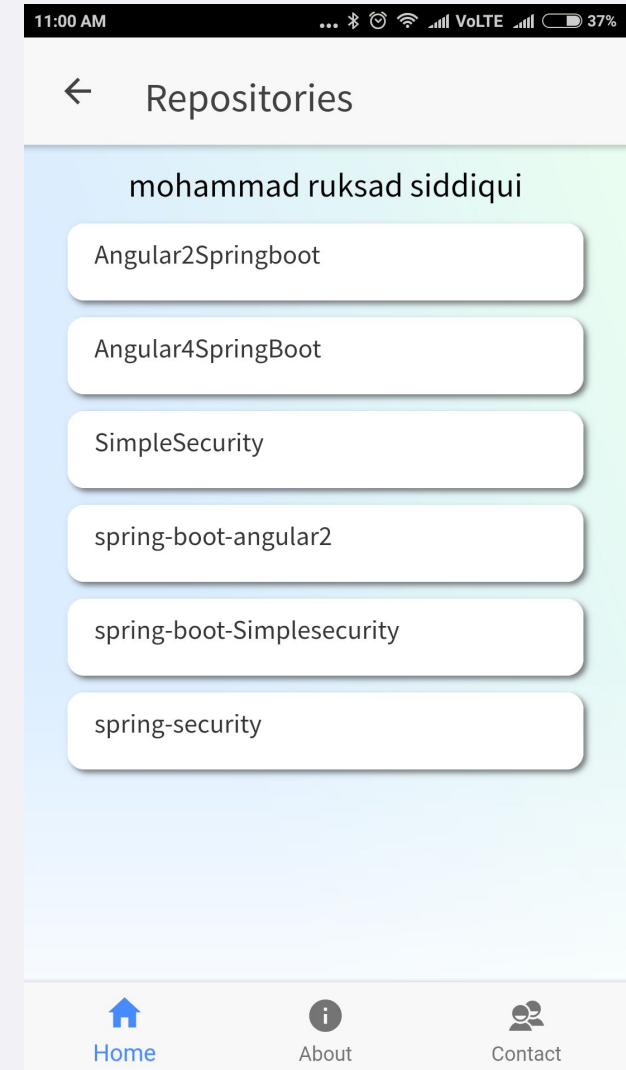
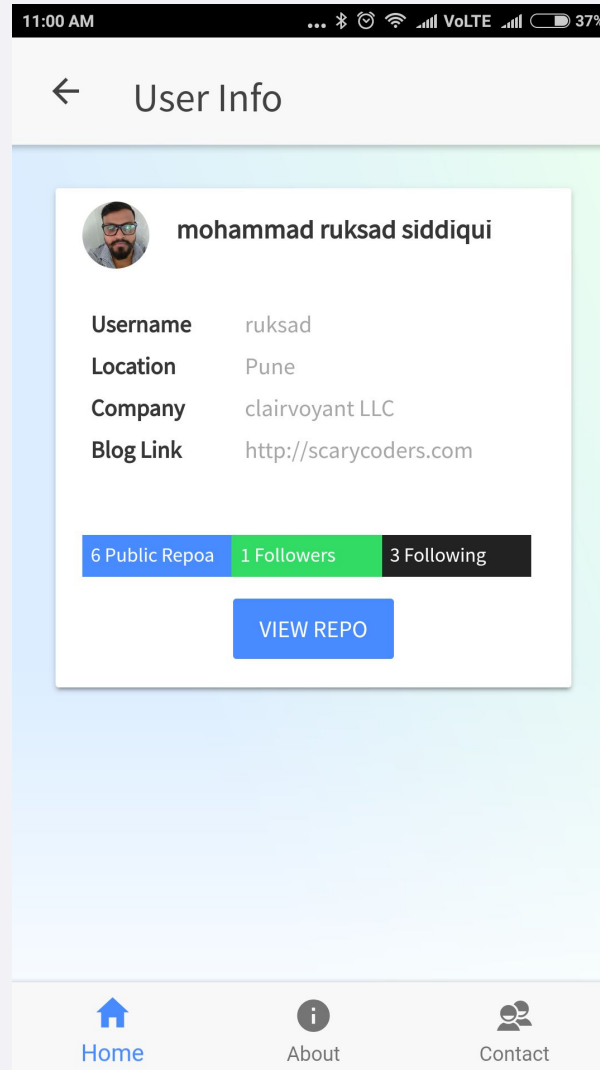
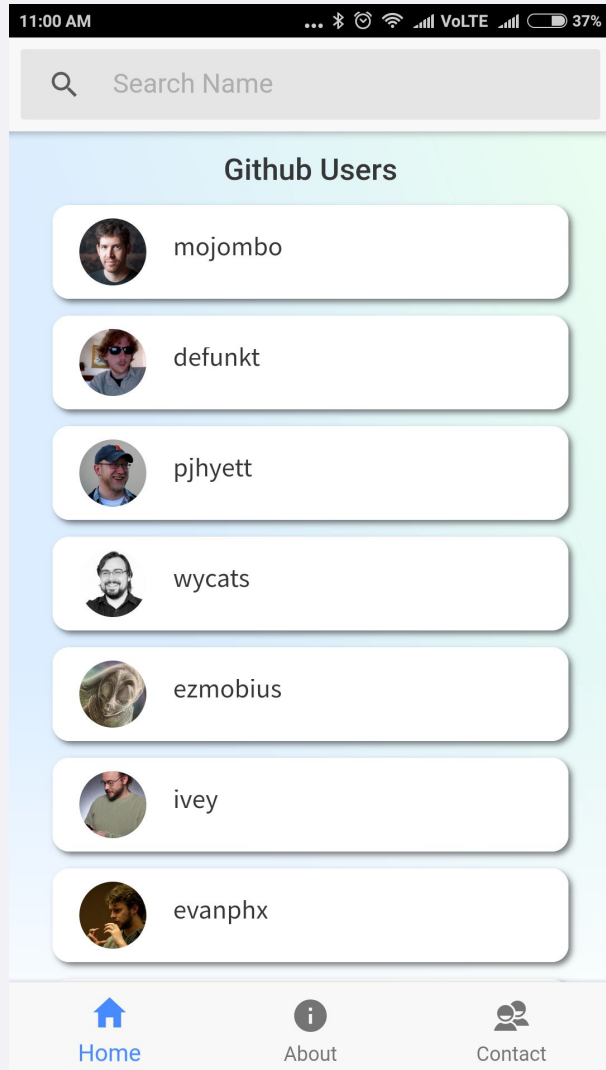
operation == "MIRROR_X":
    mirror_mod.use_x = True
    mirror_mod.use_y = False
    mirror_mod.use_z = False
operation == "MIRROR_Y":
    mirror_mod.use_x = False
    mirror_mod.use_y = True
    mirror_mod.use_z = False
operation == "MIRROR_Z":
    mirror_mod.use_x = False
    mirror_mod.use_y = False
    mirror_mod.use_z = True
```

```
selection at the end -add back the deselection
mirror_ob.select= 1
modifier_ob.select=1
fig.context.scene.objects.active = modifier_ob
print "selected" + str(modifier_ob) # modifier
mirror_ob.select = 0
fig = fig.context.selected_objects[0]
fig.data.objects[one.name].select = 1

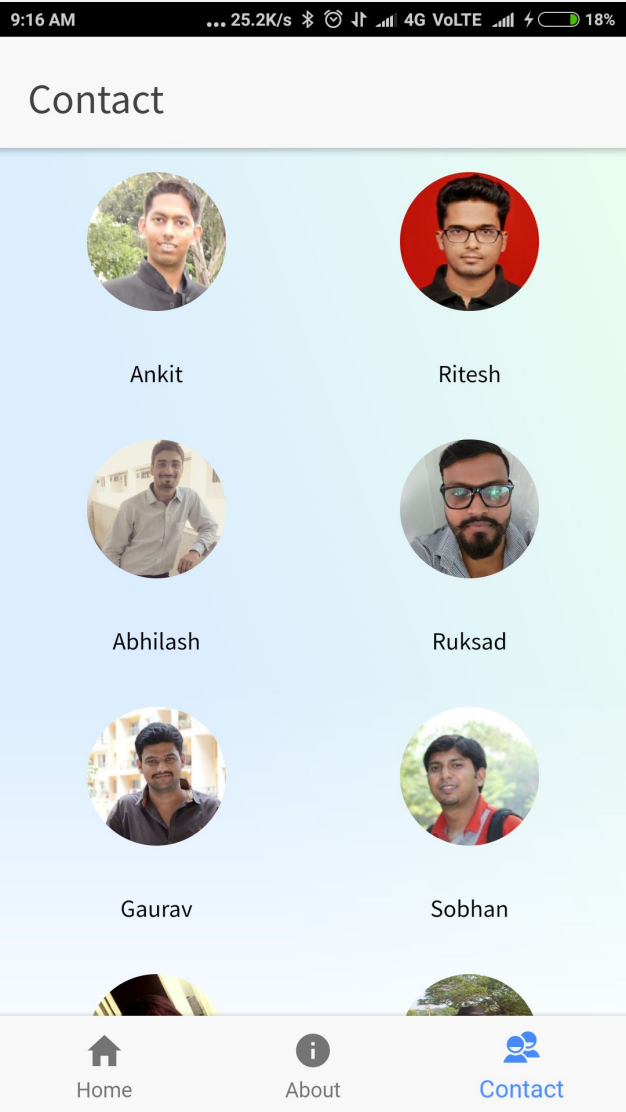
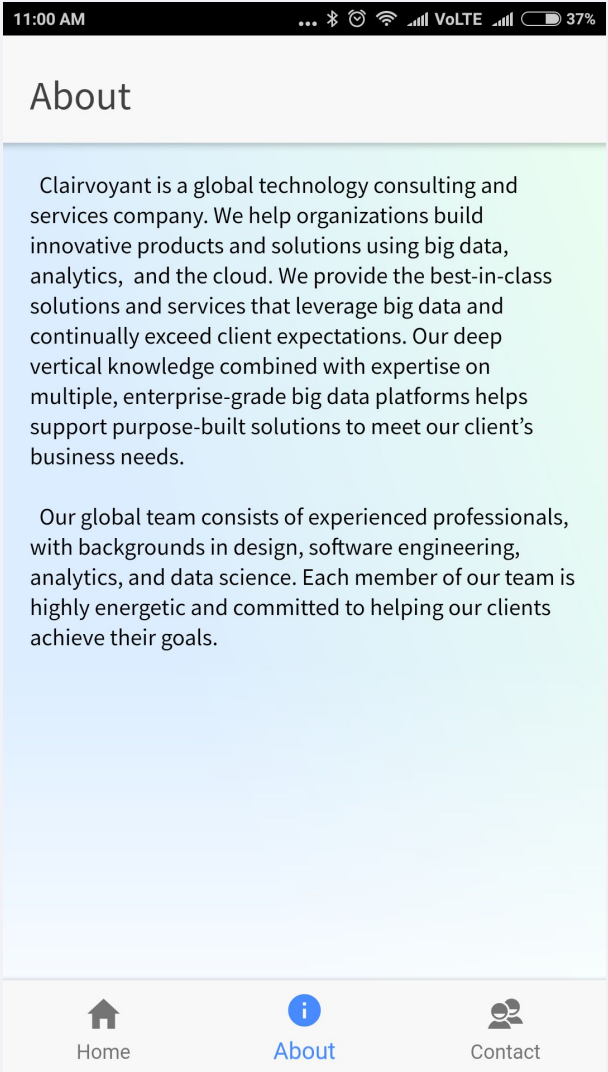
print "please select exactly two objects, as requested"
```

OPERATOR CLASSES -----

What will you build...



Cntd.



Prerequisites...

- Node latest LTS version(6.10.x) <https://nodejs.org/en/download/>
- NPM v3.10.x comes up with the node installation.
- Ionic and Cordova : *npm install -g cordova ionic.*

Double Check and Start:

- Node version: *node -v => 6.10.x*
- Npm version: *npm -v => 3.10.x*
- Ionic version: *ionic -v => 3.4.0*
- Create new project: *ionic start <app-name> tabs -v2 | ionic start test --type=ionic-angular*
- Run project: *ionic serve -l*
- Download Styles:
<https://github.com/teamclairvoyant/meetup-docs/tree/master/ionic-angular2>