**Seminar Report**

**on**

**IONIC Installation and Working**

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**Introduction**

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.

Think of Ionic as the front-end UI framework that handles all of the look and feel and UI interactions your app needs in order to be compelling. Kind of like “Bootstrap for Native,” but with support for a broad range of common native mobile components, slick animations, and beautiful design.

Unlike a responsive framework, Ionic comes with very native-styled mobile UI elements and layouts that you’d get with a native SDK on iOS or Android but didn’t really exist before on the web. Ionic also gives you some opinionated but powerful ways to build mobile applications that eclipse existing HTML5 development frameworks.

**Installing Ionic**

First, we will go and install the most recent version of [Apache Cordova](http://cordova.apache.org/), which will take our app and bundle it into a native wrapper to turn it into a traditional native app .Before installing Cordova we need to install Node.js

Node.js is a platform built on [Chrome's JavaScript runtime](https://code.google.com/p/v8/) for easily building fast and scalable network applications. Node.js uses an event-driven, non-blocking I/O model that makes it lightweight and efficient, perfect for data-intensive real-time applications that run across distributed devices.

Following are the areas where Node.js is proving itself as a perfect technology partner.

* I/O bound Applications
* D­­ata Streaming Applications
* Data Intensive Real-time Applications (DIRT)
* JSON APIs based Applications
* Single Page Applications

Steps for installing Ionic:

* 1. Download and install Node.js from :

https://nodejs.org/en/download/

* 1. After installing Node.js install Cordova using the following command

$ sudo npm install -g cordova

Drop sudo from the above command if running on Windows. Depending on the platforms you wish to develop for, you’ll need to install platform-specific tools. ‘npm’ is a popular command line tool for installing libraries from the Node.js ecosystem. ‘-g’ tells npm that we want to install Ionic globally.

* 1. Install ionoc by simply running the following command :

$ sudo npm install -g ionic

* 1. Create an ionic project : To create a new Ionic project somewhere on the computer type the following command

$ ionic start todo blank

This will create a folder called todo in the directory the command was run. ‘blank’ is a starter template to start a blank project other template are :

1. tabs - A starting project with a simple tabbed interface
2. sidemenu - A starting project with a side menu with navigation in the content area
3. super - A starting project complete with pre-built pages, providers and best practices for Ionic development.
4. tutorial - A tutorial-based project that goes along with the Ionic documentation
5. aws - AWS Mobile Hub Starter node\_modules\node-sass\vendor\win32-x64-57\binding.node
   1. Run the app : To run your app, cd into the directory that was created and then run the ionic serve command to test your app right in the browser

$ cd todo

$ ionic serve

* 1. Deploying to a Devicce : Testing your app in the browser with ionic serve or with an emulator is fast, easy and convenient when your app is in development, but eventually you’re going to have to test on a device. Not only is it the only way to accurately test how your app will behave and perform, many [Ionic Native](https://ionicframework.com/docs/native/) plugins will only work when they are run on actual hardware.
     + 1. Android Devices : Deploying to an Android device is a straightforward process .

Requirements :

* [Java JDK](http://www.oracle.com/technetwork/java/javase/downloads/index-jsp-138363.html)
* [Android Studio](https://developer.android.com/studio/index.html)
* Updated Android SDK tools, platform and component dependencies. Available through Android Studio’s [SDK Manager](https://developer.android.com/studio/intro/update.html)

To run your app, all you must do is enable USB debugging and Developer Mode on your Android device, then run the following command from the command line.

$ ionic cordova run android –device

This will produce a debug build of your app, both in terms of Android and Ionic’s code. Enabling USB debugging and Developer Mode can vary between devices but is easy to look up with a Google search.

* + - 1. IOS Devices : Unlike Android, iOS developers need to generate a provisioning profile to code sign their apps for testing. The good news is that, as of iOS9, you can develop and test your apps on your iOS device without a paid Apple Developer account. This is particularly great for developers who want to try out mobile development with Ionic, since it saves the cost but still provides a lot of the features of having a full Apple Developer account.

Requirements :

* Xcode 7 or higher
* iOS 9
* A free [Apple ID](https://appleid.apple.com/) or paid Apple Developer account

To run your app, you’ll need to set up a provisioning profile to code sign your apps(in Xcode preferences ) using your apple id. Once you’ve successfully logged, run the following command from the command line.

$ ionic cordova build ios --prod

**Ionic Creator**

Ionic Creator is a drag-drop prototyping tool for creating ionic apps in an easy manner with just the click of the mouse .