1. Setup project

Assuming that you already have installed:
Ionic 2.1.8
Cordova
Typescript
Android SDK (to run android app)
Xcode (to run ios apps)

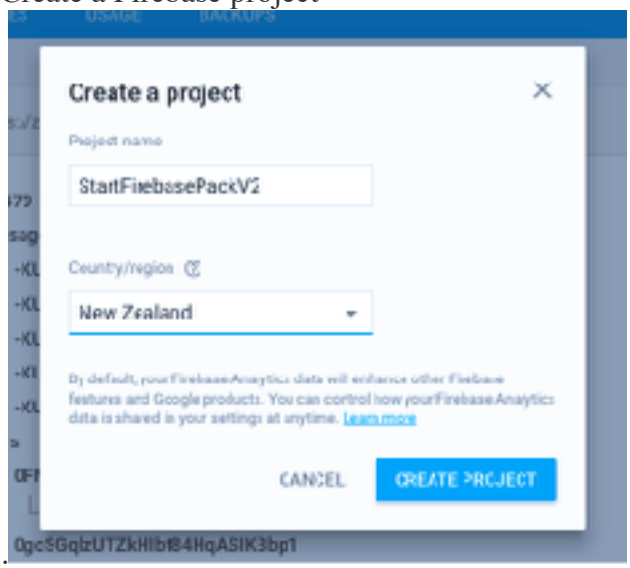
Create blank ionic 2.1.8 project in typescript.
ionic start StarterFirebasePackV2 blank --v2

Copy the folders src, package.json and replace them in your new project root.

Run *npm install* inside the project folder. To install all dependencies added to the new package.json file.
Run *ionic state restore* inside the project folder. To install all plugins added to the new package.json file.

2. Configuring Firebase project

Create a Firebase project



Add project to Web application.

Add info inside the config.ts
export const firebaseConfig = {

```
  apiKey: "",
  authDomain: "",
  databaseURL: "",
  storageBucket: ""
};
```

3. Anonymous and Email/password auth.

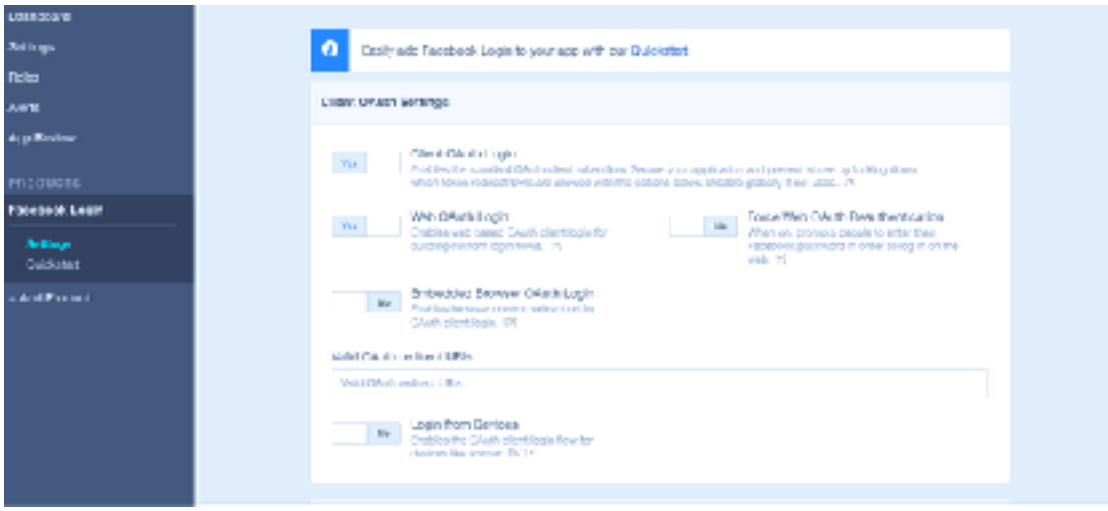
Enable Anonymous and Email/Password authentications in Firebase.

If you run `*ionic serve*` in your project root, you should be able to Register and authenticate via Email/password and Anonymous users.

4. Facebook oAuth v4 SDK

Enable Facebook login in Firebase – **Copy the redirect URL since we will use it later, leave this page opened for now, we will get the App ID and App secret later.**
Create Facebook developer app, use the Basic Setup.
https://developers.facebook.com/apps

Now crate a Facebook Login product and paste the OAuth redirect URL provided by Firebase when you enabled the Facebook Authentication.



Save, grab the App ID and App Secret in your Facebook Dashboard, and add them in the Firebase Facebook Authentication.

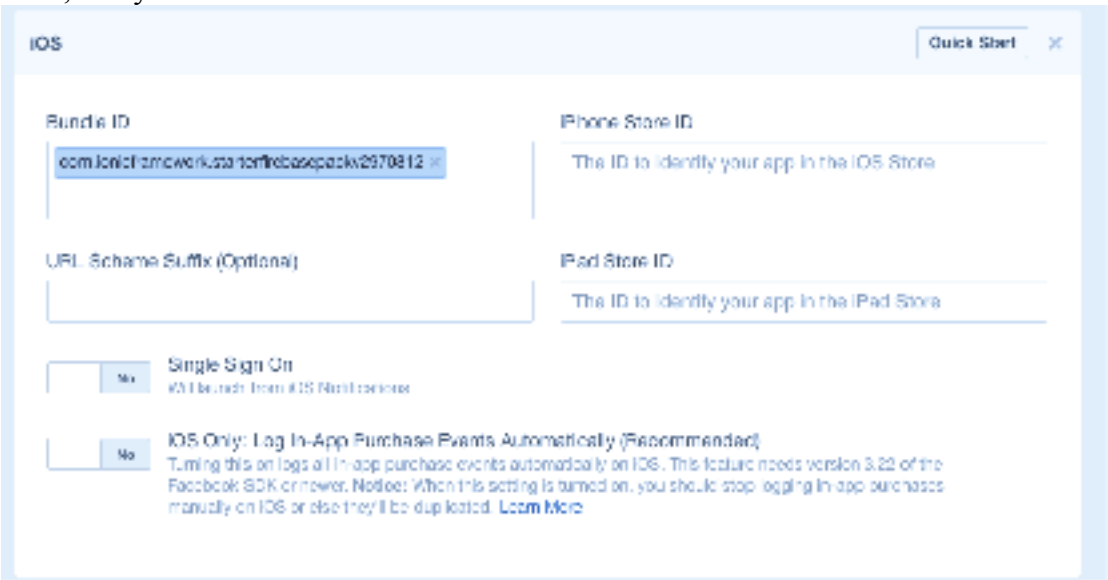
Run the following command:
ionic plugin add cordova-plugin-facebook4 --save --variable APP_ID="facebook_app_id" --variable APP_NAME="StarterFirebasePackV2"

At this point the Facebook login should work in the Browser Mode only. (See How to activate/deactivate Browser Mode in the last step of this document)

However, in order to make the Facebook login work for iOS and Android devices, we need an additional step.

Let's enable for iOS first.

In the Facebook developer dashboard, go to Settings.
Add a new platform.
Choose iOS.
Now add your Bundle ID – found in the config.xml file.
<widget id=…….>
Save, and you are done.



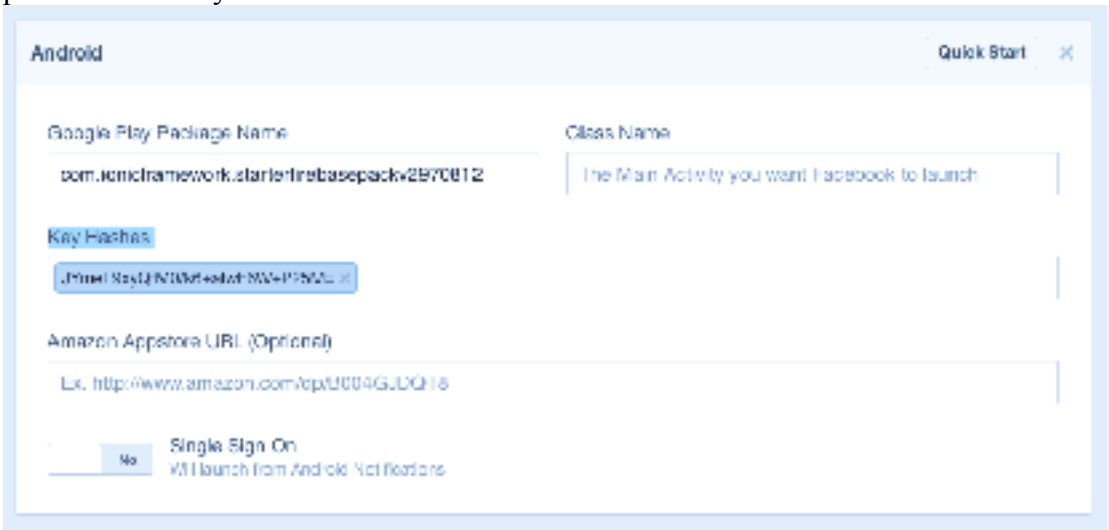
Next up Android.

In the Facebook developer dashboard, go to Settings.
Add a new platform.
Choose Android.
Add the same value for the Bundle ID in iOS in the field Google Play Package Name.
Now things gets a little bit nasty, we need to generate a Hash key for the Android apk.
We are going to generate a Hash for the debug apk, so we can deploy our app to an Android device and test.

First thing, run the command in your project root folder.

keytool -exportcert -alias androiddebugkey -keystore ~/.android/debug.keystore | openssl sha1 -binary | openssl base64

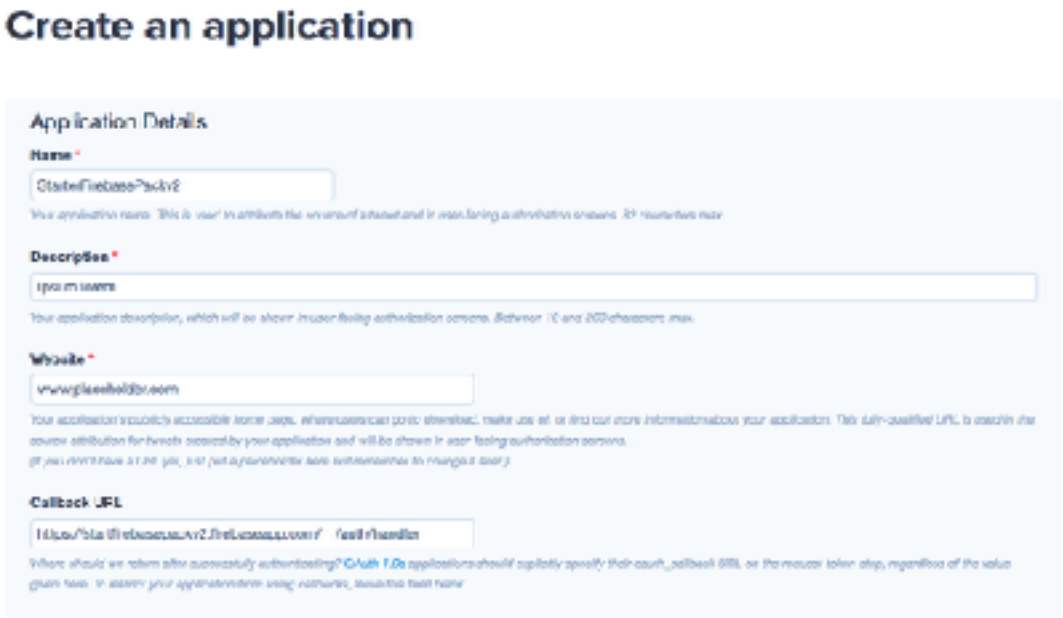
Password for the debug.keystore should be always *android.*
Now copy the hash generated by this command and paste into the Facebook Android product field Key hashes.



And we are done!
You should be able to Login via Facebook now using devices. (Disable the Browser Mode to test the app in a real device - See How to activate/deactivate Browser Mode in the last step of this document.)

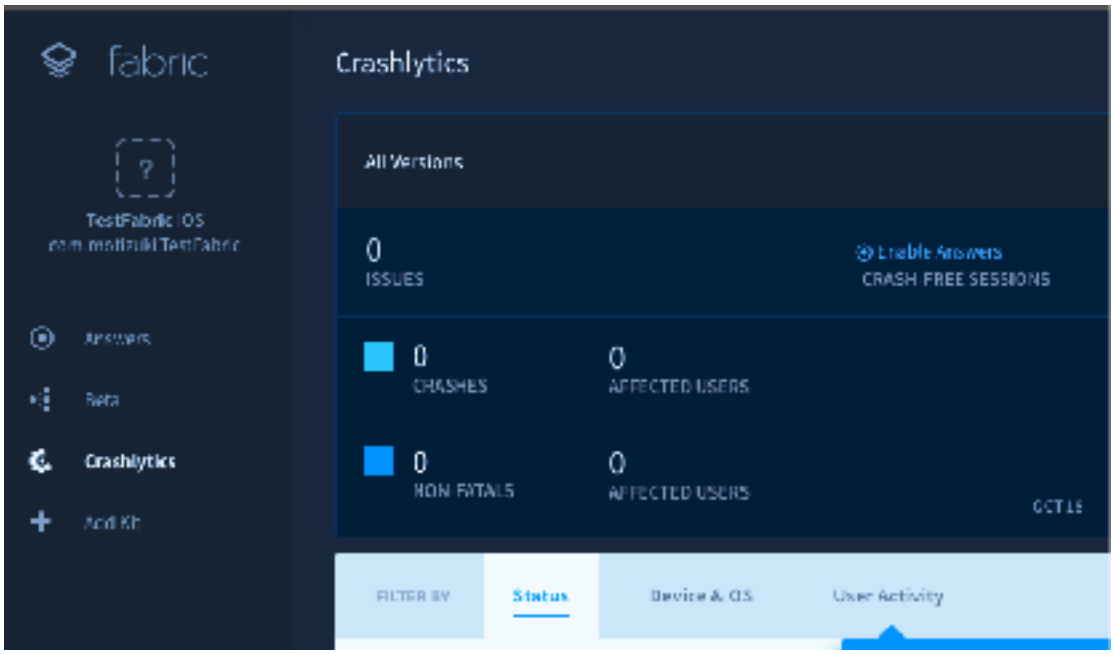
5. Twitter oAuth

Enable Twitter authentication if Firebase.
Copy the callback URL.
Create a Twitter application at: https://apps.twitter.com/app
Add the callback URL to the application.



Go to keys and access token tab and grab your API key and API secret.
Go back to Firebase website and add them to the Twitter Authentication and save.

Now we need to create a Fabric application to use the Fabric API in the Twitter Connect Plugin.
Go to : https://fabric.io
Create any project, It could be an iOS application for instance.



The only thing we really need is the API key. Getting the API key is fairly tricky, but this process seems to work:

- Login to Fabric account and open https://fabric.io/kits/android/crashlytics/install

- Find the meta-data code block in AndroidManifest.xml
- Find your API Key pre filled in the code.

Now run the following command with your **Fabric API KEY** in your project root:
cordova plugin add twitter-connect-plugin --variable FABRIC_KEY=<Fabric API Key>

The last thing you need to do now is to open config.xml (in your project's root) and add these two lines before the closing </widget> tag:

<preference name="TwitterConsumerKey" value="<Twitter Consumer Key>" />
<preference name="TwitterConsumerSecret" value="<Twitter Consumer Secret>" />

If you get stuck in one of those steps, you can checkout the plugin github page for more information: https://github.com/ManifestWebDesign/twitter-connect-plugin.
Done.

6. GooglePlus oAuth

Enable Google authentication in Firebase.

Setup iOS:

To get your iOS REVERSED_CLIENT_ID, generate a configuration file here. This GoogleService-Info.plist file contains the REVERSED_CLIENT_ID you'll need during installation.

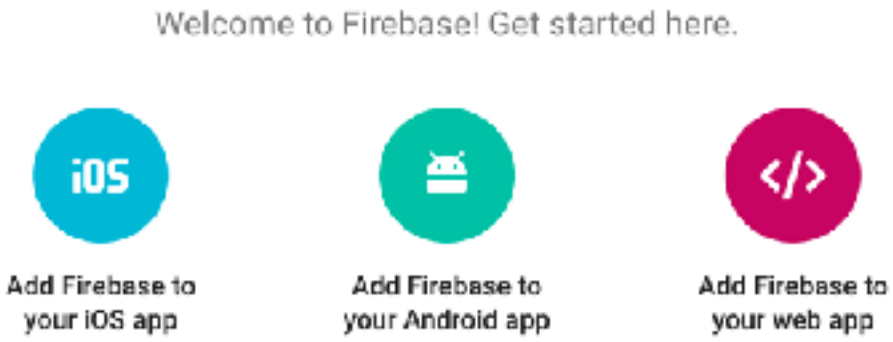
Go to: https://developers.google.com/mobile/add?platform=ios&cntapi=signin
Create a new application by passing a name and adding the BundleID.
Enable Google Sign in.
Download the plist file.
You will find your reverse client ID inside this file.

Run the following command using your reverse client id:
cordova plugin add cordova-plugin-googleplus --save --variable REVERSED_CLIENT_ID=myreversedclientid

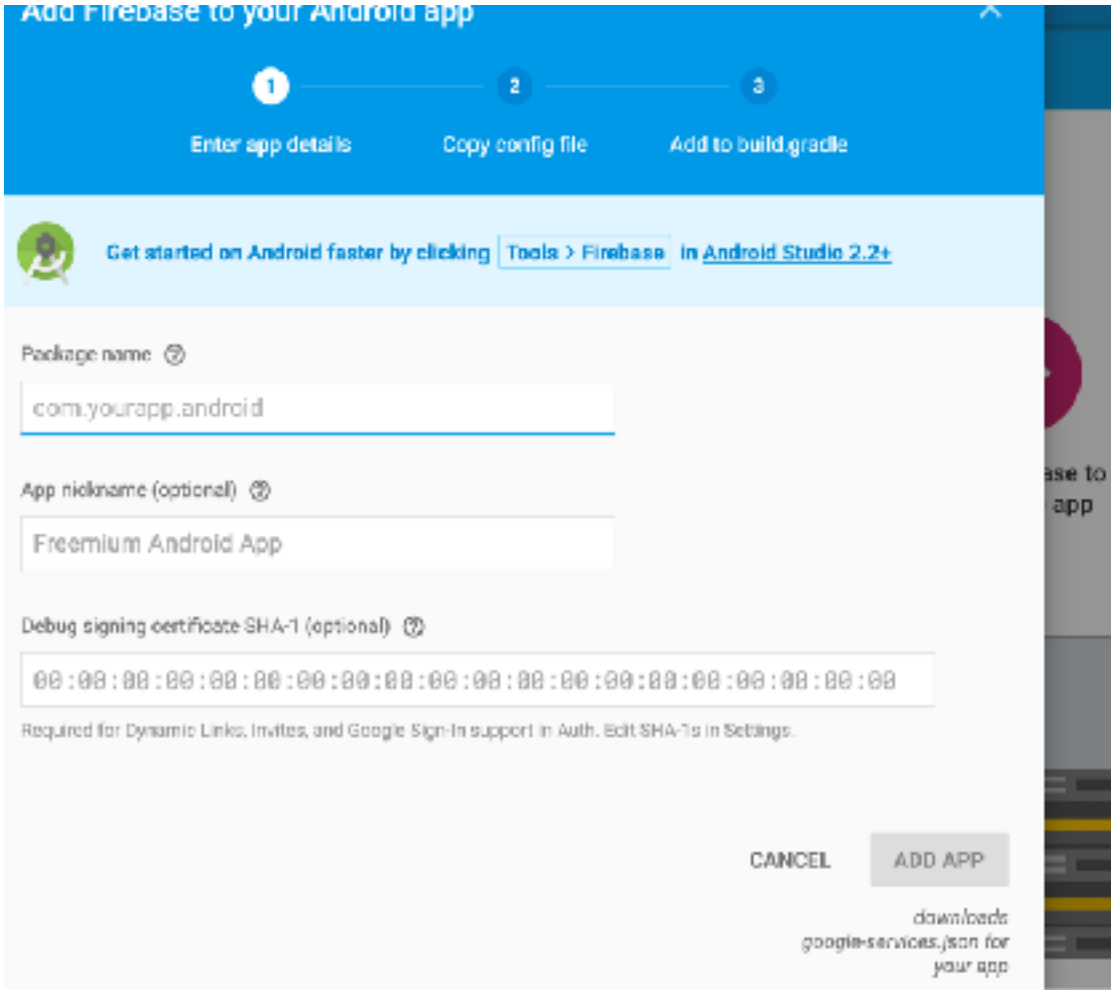
Setup Android:

Go to: https://developers.google.com/mobile/add?platform=android&cntapi=signin
Create a new application by passing a name and adding the BundleID.
Enable Google Sign in.
We need to get the SHA1 Hash now.
Run the command:
keytool -exportcert -list -v \
-alias androiddebugkey -keystore ~/.android/debug.keystore

Get the SHA1 and add to the enable the Google Sign in.



Add firebase android app.



Add the SHA-1.

Lastly, get your web client ID at:

https://console.developers.google.com/apis/credentials
Add it to the /src/app/config.ts

Make sure all client ids were correctly added, and they should all be present in the console dashboard.

If you had any trouble running those steps, checkout the github website for the plugin:
https://github.com/EddyVerbruggen/cordova-plugin-googleplus

7. Enable / Disable Browser mode

With the new changes in the oAuth plugins if you want to play around with your application in the browser we need to change how the oAuth method in implemented.
Go to the file /src/app/authentication/pages/login/login.ts in the line 61.

These are the variations:

User this one to run the app in a real device
this.authenticator.signInWithOAuth(provider)

This one to run in the browser (ionic serve)
this.authenticator.signInWithOAuthBrowserMode(provider)

By doing this the oAuth will work in both environments as you need.

Feel free to contact me if you have any questions.
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Happy coding