MIRACLE
SOFTWARE SYSTEMS

Login Functionality with Ionic and Firebase Authentication

Open Lab | Digital Summit 2019

Login Functionality with Ionic and Firebase Authentication

Goal

In this lab we will guide you to add Firebase authentication to an Ionic 3 mobile app. Here you will create a mobile app with Sign Up and Sign In screens and apply authentication by using Firebase.

Pre-Requisites

The following installations will needed to complete this lab and run successfully,

- Google Account
- Firebase Plug-in to be installed
- Node JS and NPM installed
- Cordova
- Ionic Framework
- Text editor (Visual Studio Code is preferable)

Technology Involved

- Ionic 3 Framework
- Cordova
- HTML/CSS/JavaScript
- Typescript
- Angular 2/4

Lab Steps

Let's get started with the lab!

Step #1 | Create a New Ionic Project

To create/start a new project in Ionic 3 Framework, we need to give a below command,

Ionic start <application-name> <starter-template-name>

We will be having the following starter templates in Ionic 3 Framework.

tabs	A starting project with a simple tabbed interface
blank	A blank starter project
side menu	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 real world application
tutorial	A tutorial based project that goes along with the Ionic documentation
aws	AWS Mobile Hub Starter

In this lab we are going to use blank template and start implementing the actual application. Ionic start DS18_FirebaseAuthentication blank

Give the above command in the command prompt as shown in the below figure,

```
C:\Users\pmoturi>ionic start ds19-firebase-ionic-lab-master

Pick a framework!

Please select the JavaScript framework to use for your new app. To bypass this prompt next time, supply a value for the
--type option.

? Framework: (Use arrow keys)
> Angular | https://angular.io
  React   | https://reactjs.org
```
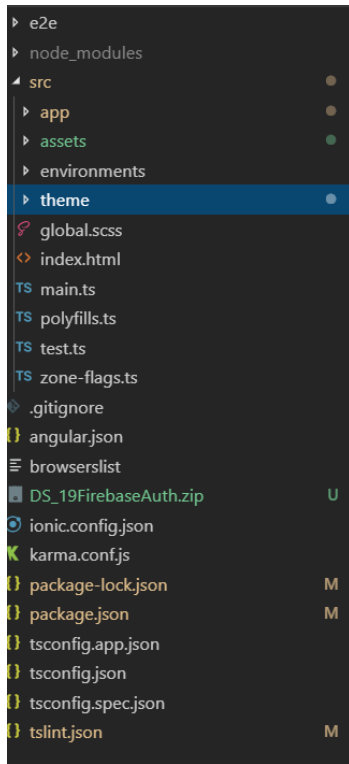
After selecting the specific framework you will get the below screen.

```
? Framework: Angular

Let's pick the perfect starter template!

Starter templates are ready-to-go Ionic apps that come packed with everything you need to build your app. To bypass this
prompt next time, supply template, the second argument to ionic start.

? Starter template: (Use arrow keys)
> tabs         | A starting project with a simple tabbed interface
  sidemenu     | A starting project with a side menu with navigation in the content area
  blank        | A blank starter project
  my-first-app | An example application that builds a camera with gallery
  conference   | A kitchen-sink application that shows off all Ionic has to offer
```

You can select any template from the list of predefined template. Then you can see the below screen.

```
[INFO] Existing git project found (C:/Users/pmoturi). Git operations are disabled.
√ Preparing directory .\ds19-firebase-ionic-lab-master - done!
\ Downloading and extracting blank starter
```

Once you give the above command, the Ionic application will be created with the following folder structure.
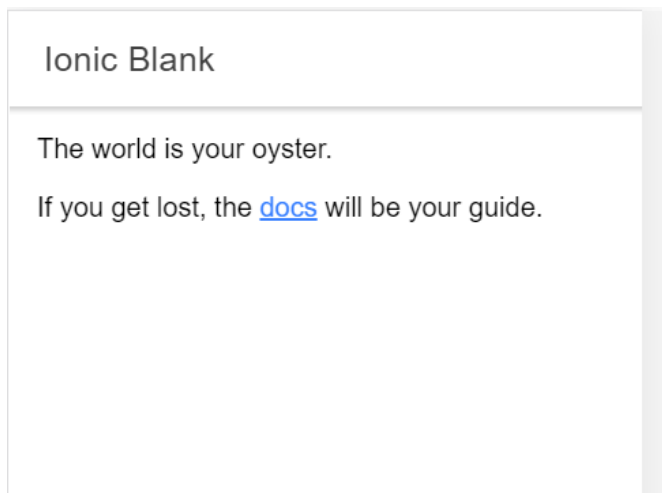
Step #2 | Running the Application

Before providing the run command, route to the current application folder and give the following commands.

Run on Browser - **ionic serve**
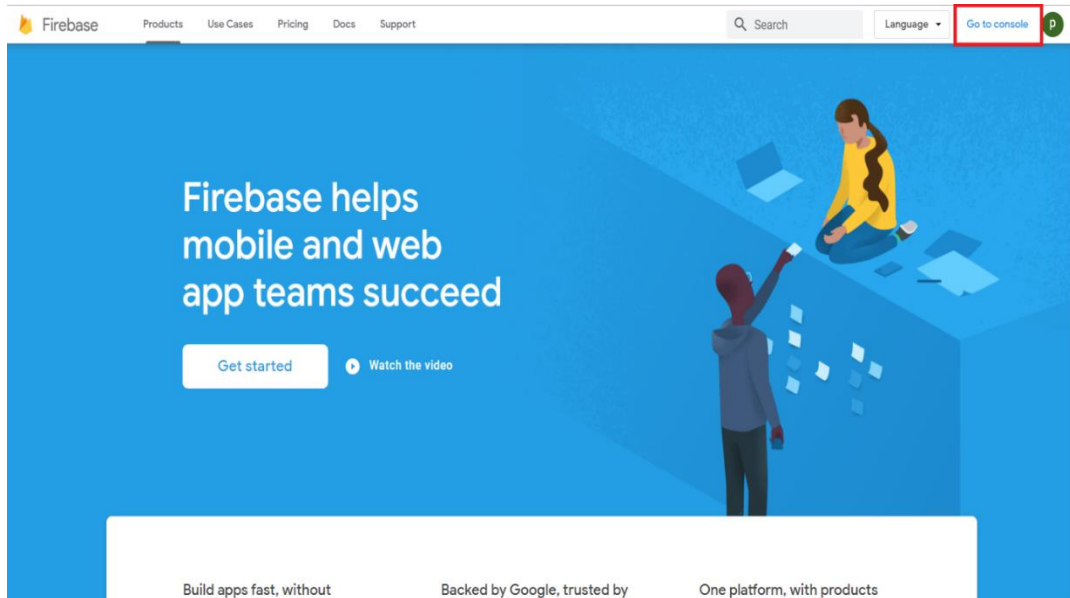
Run on Mobile simulator - **ionic serve -l**

Run the application in the browser, the output will be as shown below,
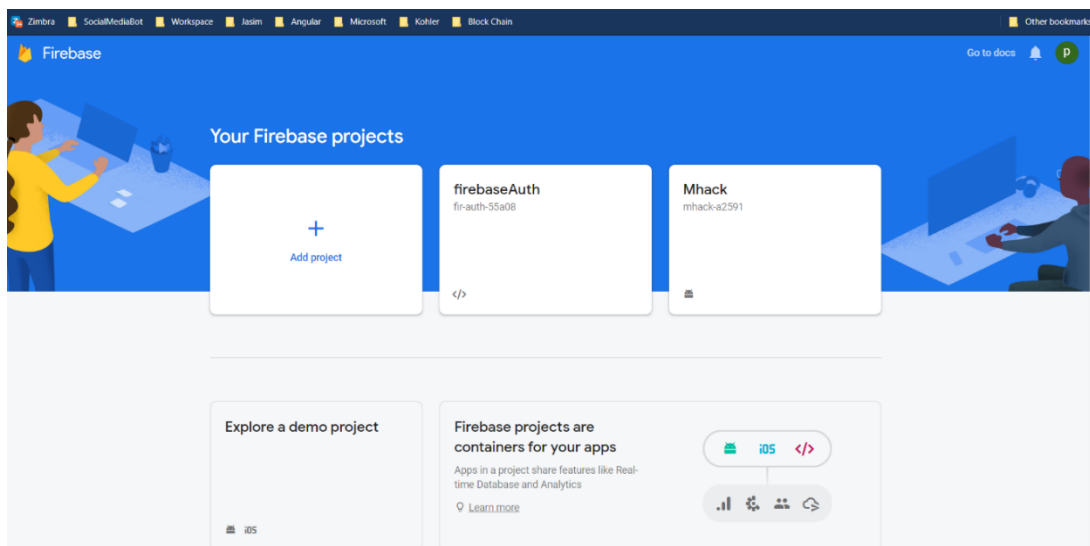
Step #3 | Create a Project in Firebase Console

To work with Firebase authentication, you need to create a project in the Firebase console.
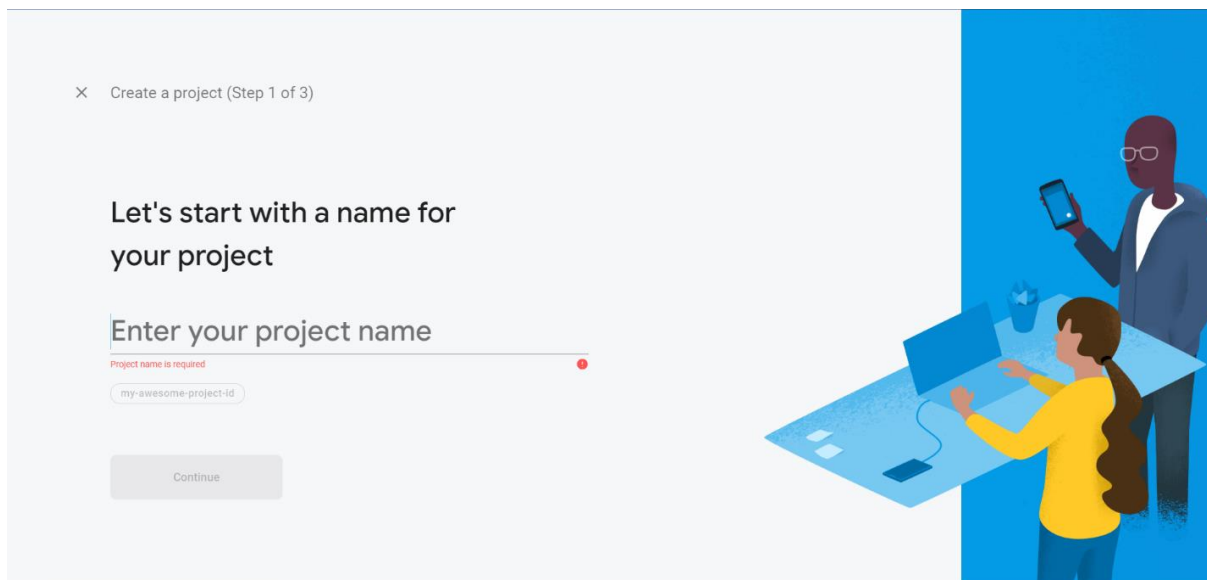
Open the link, **https://firebase.google.com/**

Click on **Go to Console** which is on top right corner, and it requests you to sign-in if you are not logged in.

Login with your Gmail credentials and you will be able to see the dashboard of Firebase console as below.
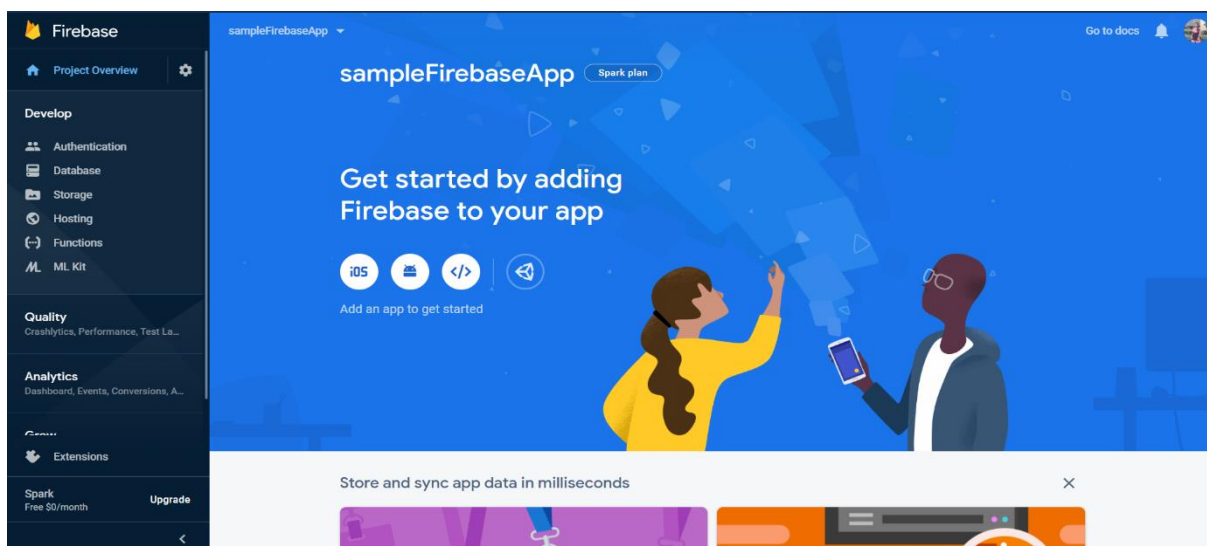
In order to work on Firebase authentication, you need to create a new project or you can add Firebase authentication to the existing project. To add new project, click on Add project tile.

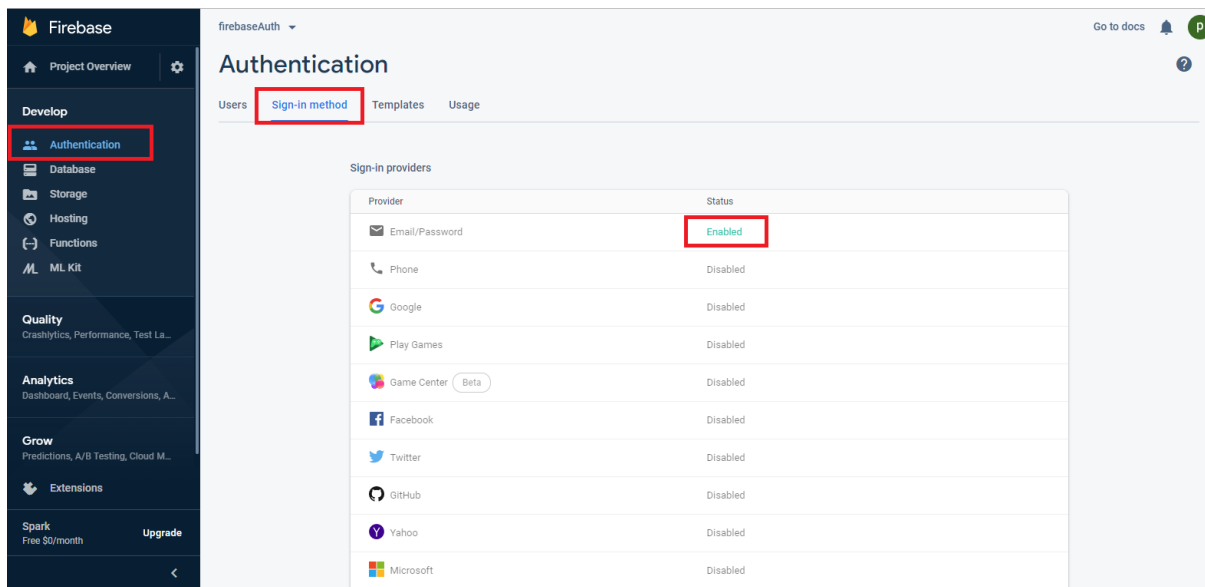Once you click on Add project, it will ask for the project name.

Enter your project is created and will redirect to your project dashboard.

Step #4 | Enable Sign-In Method

In firebase, you can select the sign-in method as per your requirement. In this scenario, you are going to choose Email/Password method. To work on Email/Password, you need to enable the option as shown below.

Click on Authentication tab on the left menu and then select Sign-In method tab on the top. Now, Email/Password is successfully enabled.

Step #5 | Install Firebase Plug-in

In order to work with Firebase, you need to have the **angularfire2** plug-in installed in your Ionic application. Change the directory to where your Ionic application has been created and provide the following command,

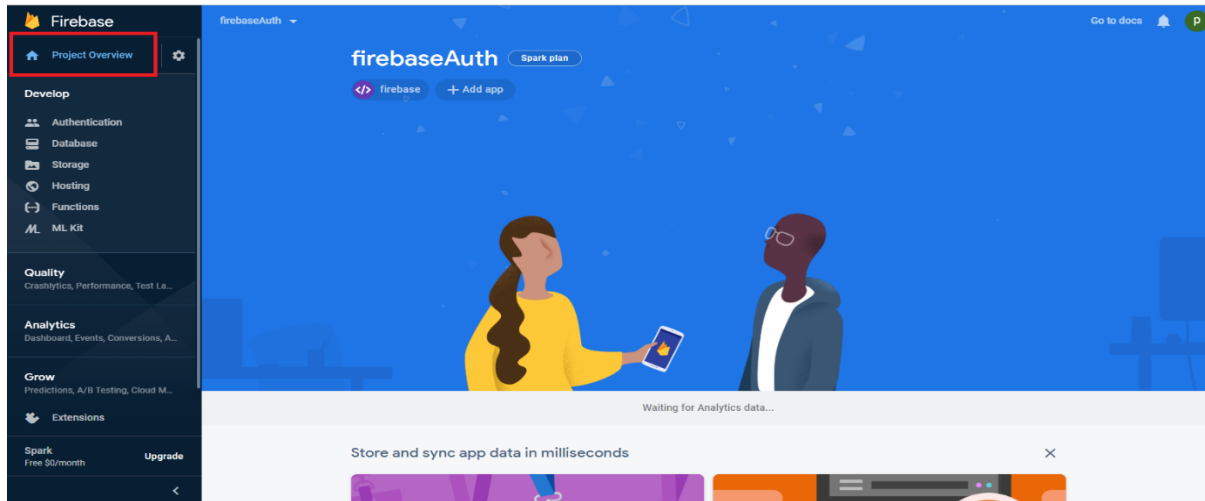**npm install angularfire2 firebase**

Step #6 | Import and Initialize

After installation of angularfire2 plug-in, you need to import required modules. Here, you should add the following statements in **app.module.ts** file to import modules.

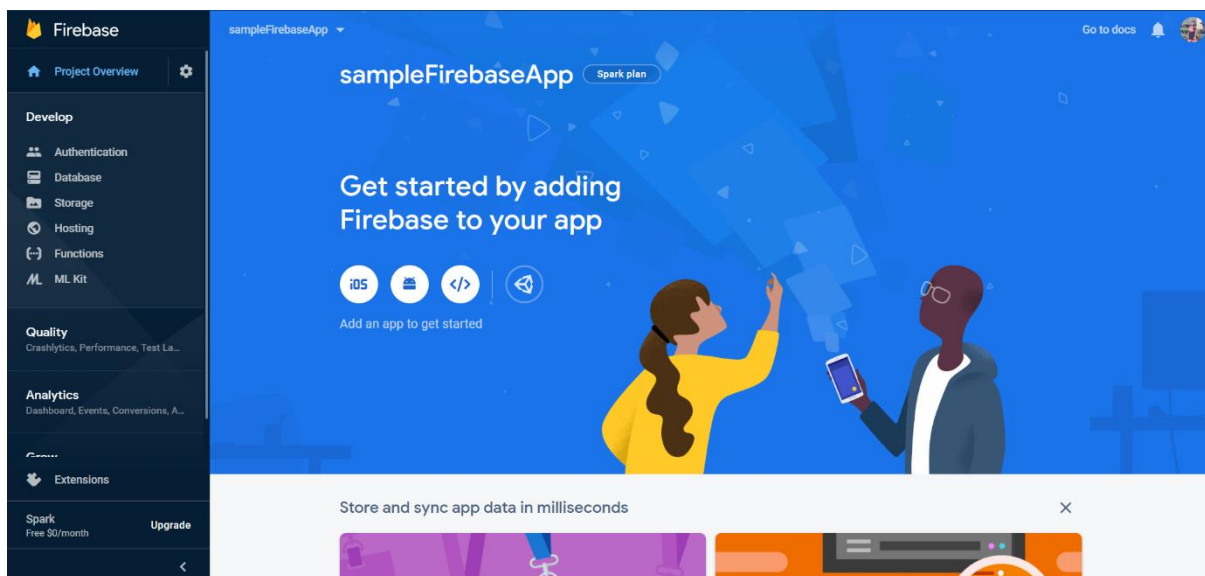import { AngularFireAuthModule } from 'angularfire2/auth';

import { AngularFireDatabaseModule } from 'angularfire2/database'; import { AngularFireModule } from 'angularfire2';

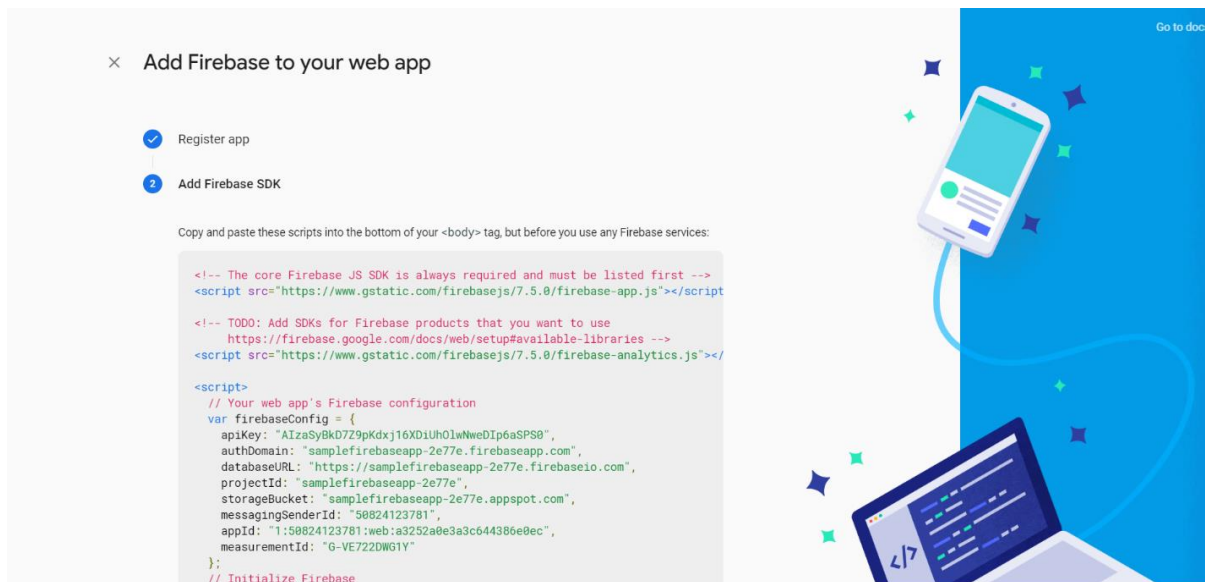## Step #7 | Configure Firebase Authentication

Go to home page **(Project Overview)** in the Firebase project console as shown in the below figure.

Once you click on the project overview, the following page will be displayed.

Click on Add Fire base to your web app, then a popup window will be opened with all the configuration details as shown below.

Click on the copy button and paste it in your Ionic application. Open the **app.module.ts** file and paste the below code with your configuration details.

Export const firebaseConfig = {

apiKey: "<Your apikey >", authDomain: "<Your authDomain>", databaseURL: "<Your databaseURL>", projectId: "<Your ProjectID>",

storageBucket: "<Your storageBucket>", messagingSenderId: "<Your MessagingSenderID>"

}

Step #8 | Create an Authentication Service

In order to create a service provider in your Ionic application, give this command Ionic g service <ServiceName> in the command prompt as shown below

Right after the service provider is created, you need to add this service to the providers array in app.module.ts. Also, you have to import the service.

Import Statement - import { Auth } from '../providers/auth/auth';

Step #9 | Service Implementation for SignUp and SignIn

Here is code snippet for create user with email and password and sign in with email and password.

```
async register() {

try {

var r = await this.fAuth.auth.createUserWithEmailAndPassword( this.username,
this.password );

if (r) {

console.log("Successfully registered!");

this.presentToast()

this.route.navigateByUrl('home');

this.username=""

this.password=""

}

}

catch (err) {

console.error(err);

console.log("presentAlert()",this.presentAlert());

this.presentAlert().then(()=>{

this.route.navigateByUrl('home'); }

)

}

}

async login() {

try {

var r = await this.fAuth.auth.signInWithEmailAndPassword(

this.username,
```

```
this.password
);
if (r) {
console.log("Successfully logged in!",r);
this.presentToast()
this.route.navigateByUrl('success');
this.username=""
this.password=""
}
} catch (err) {
console.error("err",err);
this.presentAlert()
this.username=""
this.password=""
}
}
```

Step #10 | Create SignIn and SignUp Pages

To create a new page in your ionic application, give the following command,

ionic g page <page name>

Code Snippet : app.module.ts

```
import { NgModule } from '@angular/core';
import { BrowserModule } from '@angular/platform-browser';
import { RouteReuseStrategy } from '@angular/router';
import { IonicModule, IonicRouteStrategy } from '@ionic/angular';
import { SplashScreen } from '@ionic-native/splash-screen/ngx';
import { StatusBar } from '@ionic-native/status-bar/ngx';
```

```typescript
import { AppComponent } from './app.component';

import { AppRoutingModule } from './app-routing.module';

import { RegisterPage } from './register/register.page';

import { HomePage } from './home/home.page';

import {FormsModule} from '@angular/forms';

import { SuccessPage } from './success/success.page';

import { AngularFireModule } from '@angular/fire';

import { AngularFireAuthModule } from 'angularfire2/auth'

import * as firebase from 'firebase';

export var firebaseConfig = {

apiKey: "< APIKey>",

authDomain: "< Domain>",

databaseURL: "<Database Url>",

projectId: "<Project Id>",

storageBucket: "<Storage Bucket>",

messagingSenderId: "<Messaging Senderid>",

appId: "<App ID>",

measurementId: "<Measurement Id>"

};

firebase.initializeApp(firebaseConfig);

@NgModule({

declarations: [AppComponent,RegisterPage,HomePage,SuccessPage],

entryComponents: [],

imports: [

AngularFireModule.initializeApp(firebaseConfig),AngularFireAuthModule,FormsModule,BrowserModule,

IonicModule.forRoot(), AppRoutingModule],
```

```
providers: [

StatusBar,

SplashScreen,

{ provide: RouteReuseStrategy, useClass: IonicRouteStrategy }],

bootstrap: [AppComponent]

})

export class AppModule {}
```

Step #11 | Designing the Screens

You need to design 3 screens, one is **Sign-up** screen, second one is **Sign-in** screen and finally, third one is Success screen. Below are the code snippets for each screen.

Code Snippet: [Please refer to the cheat sheet]

The outputs of the above screens are shown in the below screenshots. No, need to run the execution command multiple times, if you have made any changes then the application will automatically build them.

Step #12 | Accessing Service from Component

You are going to use home screen as a SignIn and Register screen as a SignUp. Below are the code snippets for accessing service from the component

DS'19 FireBase Authentication

UserName*

Password*

LOGIN

Register Here

MIRACLE
SOFTWARE SYSTEMS

Built by **Miracle's** Innovation Labs

← Register Here!!

UserName*

Password*

REGISTER

Built by **Miracle's** Innovation Labs

DS'19 FireBase Authentication

UserName*
pmoturi@gmail.com

Password*
••••••••••

LOGIN

Register Here

MIRACLE
SOFTWARE SYSTEMS

Built by **Miracle's** Innovation Labs

Successfully Logged In   ⏻

Welcome to Digital Summit 2K19

Digital Summit is back! Starting from this December 12th to 15th, 2019 in Visakhapatnam

DS19 is all set and waiting to mesmerize you with some great career-building opportunities that

---

Code Snippet :Home.html

```
<ion-app>
<ion-header translucent>
<ion-toolbar color="primary">
<ion-title text-center>DS'19 FireBase Authentication
</ion-title>
</ion-toolbar>
</ion-header>
<ion-content class="ion-padding">
<div >
<img style="max-width: 27%; margin: 3px 3px 2px 118px"
src="assets/imgs/DS19_logo.png" >
</div>
<form >
<ion-list lines="full" class="ion-no-margin ion-no-padding">
<ion-item>
<ion-label position="stacked">UserName
<ion-text color="danger">*
</ion-text>
</ion-label>
<ion-input required type="text" name="username" [(ngModel)]="username">
</ion-input>
</ion-item>
<ion-item>
<ion-label position="stacked">Password<ion-text color="danger">*</ion-text>
</ion-label>
<ion-input required type="password" name="password"
```

```
[(ngModel)]="password">

</ion-input>

</ion-item>

</ion-list>

<div class="ion-padding">

<ion-button expand="block" type="submit" style="background-color:
#d33257"(click)="login()">Login</ion-button>

</div>

<h4 style=" color: #00aae7;" text-center routerLink='/register' >Register Here</h4>

</form>

<div text-center>

<img style="max-width: 87%;"src="assets/imgs/Miracle_Black.png">

</div>

</ion-content>

<ion-footer>

<ion-toolbar color="dark">

<ion-title text-center> Built by

<strong>Miracle's</strong>

<strong style="color:#00bfff;"> Innovation Labs</strong>

</ion-title>

</ion-toolbar>

</ion-footer>
```

Code Snippet :register.html

```
<ion-app>

<ion-header translucent>

<ion-toolbar color="primary">

<ion-title> <ion-icon routerLink="/home" name="arrow-back"></ion-icon>
```

```html
Register Here!!</ion-title>
</ion-toolbar>
</ion-header>
<ion-content class="ion-padding">
<form>
<ion-list lines="full" class="ion-no-margin ion-no-padding">
<ion-item>
<ion-label position="stacked">UserName<ion-text color="danger">*</ion-text>
</ion-label>
<ion-input required type="text" name="username" [(ngModel)]="username">
</ion-input>
</ion-item>
<ion-item>
<ion-label position="stacked">Password<ion-text color="danger">*</ion-text>
</ion-label>
<ion-input required type="password" name="password"
[(ngModel)]="password"></ion-input>
</ion-item>
</ion-list>
<div class="ion-padding">
<ion-button expand="block" type="submit" class="ion-no-margin"
(click)="register()"> Register</ionbutton>
</div>
</form>
</ion-content>
<!-- <ion-alert-controller></ion-alert-controller> -->
<ion-footer>
```

```
<ion-toolbar color="dark">

<ion-title text-center> Built by

<strong>Miracle's</strong>

<strong style="color:#00bfff;"> Innovation Labs</strong>

</ion-title>

</ion-toolbar>

</ion-footer>

</ion-app>
```
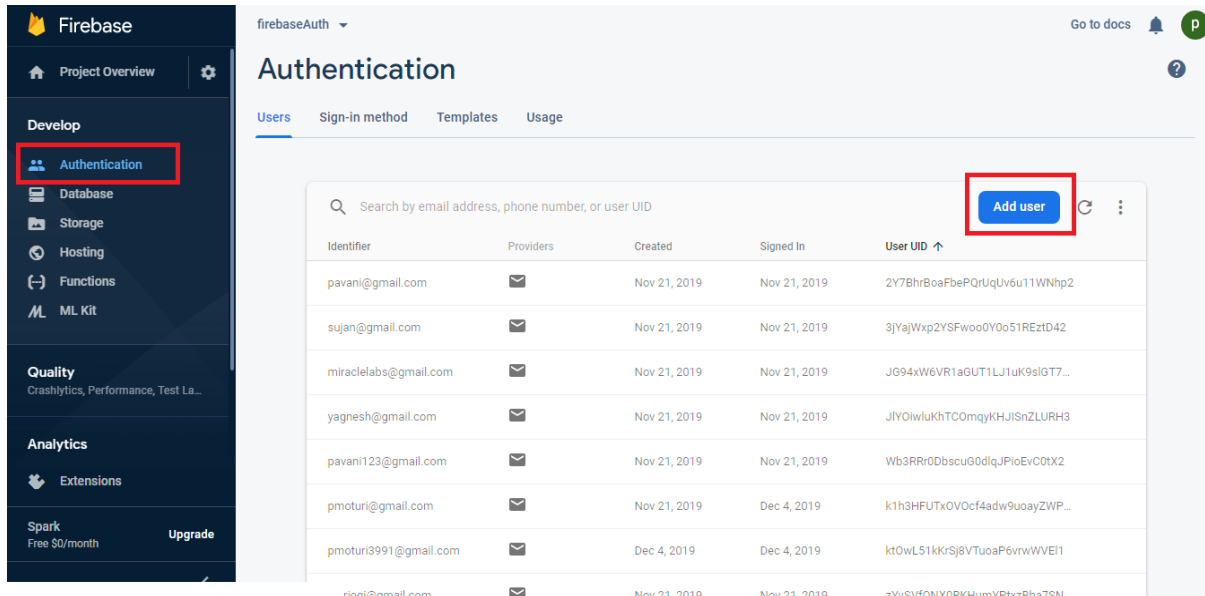
Code Snippet :success.html

```
<ion-app>

<ion-header translucent>

<ion-toolbar color="primary">

<ion-buttons>

<ion-title text-center>Successfully Logged In </ion-title>

<ion-button   routerLink="/home"><ion-icon   slot="end"   name="log-out"></ion-icon></ion-button>

</ion-buttons>

</ion-toolbar>

</ion-header>

<ion-content class="ion-padding">

<!-- <h3> Welcome to Digital Summit 2k19</h3> -->

<ion-app>

<ion-header>

<ion-toolbar>

<ion-title>Welcome to Digital Summit 2K19</ion-title>

</ion-toolbar>

</ion-header>
```

```
<ion-content fullscreen>

<ion-card>

<img src="assets/imgs/DS19_logo.png" >

<ion-card-header>

<!-- <ion-card-subtitle></ion-card-subtitle> -->

<ion-card-title> Digital Summit is back! Starting from this December 12th to 15th,
2019 in Visakhapatnam</ion-card-title>

</ion-card-header>

<ion-card-content>

DS19 is all set and waiting to mesmerize you with some great career-building
opportunities that the body, technical talks on cutting-edge technologies by
topnotch experts, a 24-hour coding battle, job fair,and a fun-filled entertaining
event, Hungama

</ion-card-content>

</ion-card>

</ion-content>

</ion-app>

<!-- <ion-icon size="large" name="log-out" routerLink='/home'></ion-icon> -->

</ion-content>

<!-- <ion-alert-controller></ion-alert-controller> -->

</ion-app>
```

Step #13 | Checking User Data in Firebase Console

From the above screen you can find the user data in the tabular form, you can also add the user manually by clicking on Add User option.

For any questions regarding the lab please feel free to reach out to

innovation@miraclesoft.com. **We hope you enjoyed this lab!**