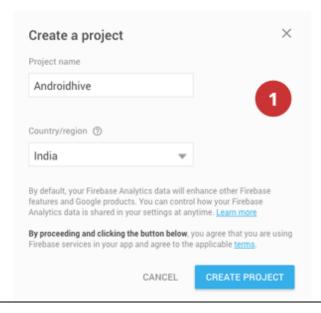
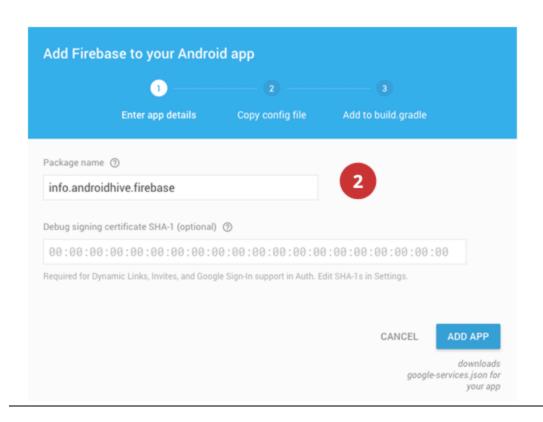
Firebase Login And signup

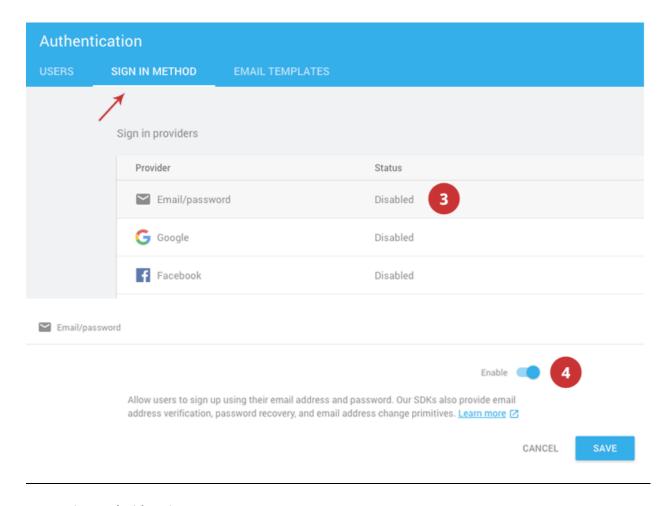
1. Enabling Firebase Auth

- 1. First thing you need to do is go to https://firebase.google.com/ and make an account to gain access to their console. After you gain access to the console you can start by creating your first project.
- 2. Give the package name of your project (mine is **info.androidhive.firebase**) in which you are going to integrate the Firebase. Here the **google-services.json** file will be downloaded when you press add app button.
- 3. Next go to your project dashboard. Find the Auth and click get started. Go to set up sign in method and choose **Email & Password** and **enable** it.

Android Adding Firebase - Authentication







2. Creating Android Project

1. Create a new project in Android Studio from File ⇒ New Project. When it prompts you to select the default activity, select Blank Activity and proceed.

While filling the project details, use the same package name which you gave in firebase console. In my case I am using same info.androidhive.firebase.

2. Open AndroidManifest.xml and add the INTERNET permission as we need to make network calls.

<uses-permission android:name="android.permission.INTERNET" />

3. Paste the google-services.json file to your project's app folder. This step is very important as your project won't build without this file.

4. Now open the build gradle located in project's home directory and add firebase dependency.

build.gradle

```
dependencies {
    classpath 'com.android.tools.build:gradle:2.1.2'
    classpath 'com.google.gms:google-services:3.0.0'

// NOTE: Do not place your application dependencies here; they belong
// in the individual module build.gradle files
}

5. Open app/build.gradle and add firebase auth dependency. At the very bottom of the file, add apply plugin: 'com.google.gms.google-services'

app/build.gradle
```

```
dependencies {
  compile "com.google.firebase:firebase-auth:9.0.2"
}
```

apply plugin: 'com.google.gms.google-services'

6. Add the below resources to dimens.xml, colors.xml and strings.xml. These resources doesn't require for firebase, but for this article.

dimens.xml

```
<resources>
  <!-- Default screen margins, per the Android Design guidelines. -->
  <dimen name="activity_horizontal_margin">16dp</dimen>
  <dimen name="activity_vertical_margin">16dp</dimen>
  <dimen name="fab_margin">16dp</dimen>
  <dimen name="logo_w_h">100dp</dimen>
```

```
</resources>
```

colors.xml

```
<?xml version="1.0" encoding="utf-8"?>
<resources>
  <color name="colorPrimary">#00bcd4</color>
  <color name="colorPrimaryDark">#0097a7</color>
  <color name="colorAccent">#f2fe71</color>
  <color name="bg_login">#26ae90</color>
  <color name="bg_register">#2e3237</color>
  <color name="bg_main">#428bca</color>
  <color name="white">#ffffff</color>
  <color name="input_login">#222222</color>
  <color name="input_login_hint">#999999</color>
  <color name="input_register">#888888</color>
  <color name="input_register_bg">#3b4148</color>
  <color name="input_register_hint">#5e6266</color>
  <color name="btn login">#26ae90</color>
  <color name="btn_login_bg">#eceef1</color>
  <color name="lbl_name">#333333</color>
  <color name="btn_logut_bg">#ff6861</color>
</resources>
strings.xml
<resources>
  <string name="app_name">Firebase Auth</string>
  <string name="action_sign_in_short">Register</string>
  <string name="email">Email</string>
  <string name="minimum_password">Password too short, enter minimum 6 characters!</string>
  <string name="auth_failed">Authentication failed, check your email and password or sign up</string>
```

```
<string name="change_email">Change Email</string>
  <string name="change_password">Change Password</string>
  <string name="send_password_reset_email">Send Password reset email</string>
  <string name="remove_user">Remove user</string>
  <string name="new_pass">New Password</string>
  <string name="title_activity_profile">Firebase</string>
  <string name="title_activity_login">Sign in</string>
  <string name="hint_email">Email</string>
  <string name="hint_password">Password</string>
  <string name="hint_name">Fullname</string>
  <string name="btn_login">LOGIN</string>
  <string name="btn_link_to_register">Not a member? Get registered in Firebase now!</string>
  <string name="btn_link_to_login">Already registered. Login Me!</string>
  <string name="title_activity_reset_password">ResetPasswordActivity</string>
  <string name="btn_forgot_password">Forgot your password?</string>
  <string name="btn_reset_password">Reset Password</string>
  <string name="btn_back"><![CDATA[<< Back]]></string>
  <string name="hint_new_email">New Email</string>
  <string name="btn_change">Change</string>
  <string name="btn_send">Send</string>
  <string name="btn_remove">Remove</string>
  <string name="btn_sign_out">Sign Out</string>
  <string name="lbl_forgot_password">Forgot password?</string>
  <string name="forgot_password_msg">We just need your registered Email Id to sent you password
reset instructions.</string>
</resources>
```

Now we have the project ready with all the dependencies added. Let's start by adding the sign up screen.

2.1 Sign Up with Email & Password

Sign up screen contains two EditText fields for email and password. And few buttons to navigate to login and forgot password screens.

7. Create an activity named SignupActivity.java and add the following code to the layout file activity_signup.xml

activity_signup.xml

```
<?xml version="1.0" encoding="utf-8"?>
<android.support.design.widget.CoordinatorLayout
xmlns:android="http://schemas.android.com/apk/res/android"
  xmlns:app="http://schemas.android.com/apk/res-auto"
  xmlns:tools="http://schemas.android.com/tools"
  android:layout_width="match_parent"
  android:layout_height="match_parent"
  android:fitsSystemWindows="true"
  tools:context="info.androidhive.firebase.LoginActivity">
  <LinearLayout
    android:layout_width="fill_parent"
    android:layout_height="fill_parent"
    android:background="@color/colorPrimaryDark"
    android:gravity="center"
    android:orientation="vertical"
    android:padding="@dimen/activity_horizontal_margin">
    <ImageView
       android:layout_width="@dimen/logo_w_h"
       android:layout_height="@dimen/logo_w_h"
```

```
android:layout_gravity="center_horizontal"
  android:layout_marginBottom="30dp"
  android:src="@mipmap/ic_launcher"/>
<android.support.design.widget.TextInputLayout
  android:layout_width="match_parent"
  android:layout_height="wrap_content">
  <EditText
    android:id="@+id/email"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:hint="@string/email"
    android:inputType="textEmailAddress"
    android:maxLines="1"
    android:singleLine="true"
    android:textColor="@android:color/white"/>
</android.support.design.widget.TextInputLayout>
<android.support.design.widget.TextInputLayout</pre>
  android:layout_width="match_parent"
  android:layout_height="wrap_content">
  <EditText
    android:id="@+id/password"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:focusableInTouchMode="true"
```

```
android:hint="@string/hint_password"
    android:imeActionId="@+id/login"
    android:imeOptions="actionUnspecified"
    android:inputType="textPassword"
    android:maxLines="1"
    android:singleLine="true"
    android:textColor="@android:color/white"/>
</android.support.design.widget.TextInputLayout>
```

<Button

```
android:id="@+id/sign_up_button"
style="?android:textAppearanceSmall"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_marginTop="16dp"
android:background="@color/colorAccent"
android:text="@string/action_sign_in_short"
android:textColor="@android:color/black"
android:textStyle="bold" />
```

<Button

```
android:id="@+id/btn_reset_password"
android:layout_width="fill_parent"
android:layout_height="wrap_content"
android:layout_marginTop="20dip"
android:background="@null"
android:text="@string/btn_forgot_password"
android:textAllCaps="false"
```

```
android:textColor="@color/colorAccent"/>
    <!-- Link to Login Screen -->
    <Button
       android:id="@+id/sign_in_button"
       android:layout_width="fill_parent"
       android:layout_height="wrap_content"
       android:layout_marginTop="20dip"
       android:background="@null"
       android:text="@string/btn_link_to_login"
       android:textAllCaps="false"
       android:textColor="@color/white"
       android:textSize="15dp" />
  </LinearLayout>
  <ProgressBar
    android:id="@+id/progressBar"
    android:layout_width="30dp"
    android:layout_height="30dp"
    android:layout_gravity="center|bottom"
    android:layout_marginBottom="20dp"
    android:visibility="gone"/>
</android.support.design.widget.CoordinatorLayout>
8. Open SignupActivity.java and add the following. Firebase provides
createUserWithEmailAndPassword() method to create a new user with email and password data.
```

SignupActivity.java

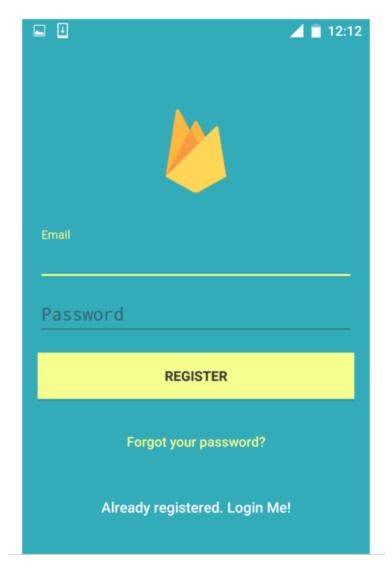
package info.androidhive.firebase;

```
import android.content.Intent;
import android.os.Bundle;
import android.support.annotation.NonNull;
import android.support.v7.app.AppCompatActivity;
import android.text.TextUtils;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.ProgressBar;
import android.widget.Toast;
import com.google.android.gms.tasks.OnCompleteListener;
import com.google.android.gms.tasks.Task;
import com.google.firebase.auth.AuthResult;
import com.google.firebase.auth.FirebaseAuth;
public class SignupActivity extends AppCompatActivity {
  private EditText inputEmail, inputPassword;
  private Button btnSignIn, btnSignUp, btnResetPassword;
  private ProgressBar progressBar;
  private FirebaseAuth auth;
  @Override
  protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_signup);
```

```
//Get Firebase auth instance
auth = FirebaseAuth.getInstance();
btnSignIn = (Button) findViewById(R.id.sign_in_button);
btnSignUp = (Button) findViewById(R.id.sign_up_button);
inputEmail = (EditText) findViewById(R.id.email);
inputPassword = (EditText) findViewById(R.id.password);
progressBar = (ProgressBar) findViewById(R.id.progressBar);
btnResetPassword = (Button) findViewById(R.id.btn_reset_password);
btnResetPassword.setOnClickListener(new View.OnClickListener() {
  @Override
  public void onClick(View v) {
    startActivity(new Intent(SignupActivity.this, ResetPasswordActivity.class));
  }
});
btnSignIn.setOnClickListener(new View.OnClickListener() {
  @Override
  public void onClick(View v) {
    finish();
  }
});
btnSignUp.setOnClickListener(new View.OnClickListener() {
  @Override
  public void onClick(View v) {
    String email = inputEmail.getText().toString().trim();
```

```
String password = inputPassword.getText().toString().trim();
         if (TextUtils.isEmpty(email)) {
           Toast.makeText(getApplicationContext(), "Enter email address!",
Toast.LENGTH_SHORT).show();
           return;
         }
         if (TextUtils.isEmpty(password)) {
           Toast.makeText(getApplicationContext(), "Enter password!",
Toast.LENGTH_SHORT).show();
           return;
         }
         if (password.length() < 6) {
           Toast.makeText(getApplicationContext(), "Password too short, enter minimum 6
characters!", Toast.LENGTH_SHORT).show();
           return;
         }
         progressBar.setVisibility(View.VISIBLE);
         //create user
         auth.createUserWithEmailAndPassword(email, password)
              .addOnCompleteListener(SignupActivity.this, new OnCompleteListener<AuthResult>() {
                @Override
                public void onComplete(@NonNull Task<AuthResult> task) {
                  Toast.makeText(SignupActivity.this, "createUserWithEmail:onComplete:" +
task.isSuccessful(), Toast.LENGTH_SHORT).show();
                  progressBar.setVisibility(View.GONE);
                  // If sign in fails, display a message to the user. If sign in succeeds
```

```
// the auth state listener will be notified and logic to handle the
                    // signed in user can be handled in the listener.
                    if (!task.isSuccessful()) {
                      Toast.makeText(SignupActivity.this, "Authentication failed." +
task.getException(),
                           Toast.LENGTH_SHORT).show();
                    } else {
                      startActivity(new Intent(SignupActivity.this, MainActivity.class));
                      finish();
                 }
               });
       }
     });
  }
  @Override
  protected void onResume() {
     super.onResume();
    progress Bar. set Visibility (View. GONE);\\
  }
}
```



If you login to Firebase console, you can see the user created with the email id you have given the android app.



2.2 Log In with Email & Password

Now we'll add the login screen and check the credentials we have created on sign up screen.

9. Create another activity named LoginActivity.java and add the below code to its layout file activity_login.xml.

activity_login.xml

```
<?xml version="1.0" encoding="utf-8"?>
<android.support.design.widget.CoordinatorLayout
xmlns:android="http://schemas.android.com/apk/res/android"
  xmlns:app="http://schemas.android.com/apk/res-auto"
  xmlns:tools="http://schemas.android.com/tools"
  android:layout_width="match_parent"
  android:layout_height="match_parent"
  android:fitsSystemWindows="true"
  tools:context="info.androidhive.firebase.LoginActivity">
  <LinearLayout
    android:layout_width="fill_parent"
    android:layout_height="fill_parent"
    android:background="@color/colorPrimary"
    android:gravity="center"
    android:orientation="vertical"
    android:padding="@dimen/activity_horizontal_margin">
    <ImageView
       android:layout_width="@dimen/logo_w_h"
```

```
android:layout_height="@dimen/logo_w_h"
  android:layout_gravity="center_horizontal"
  android:layout_marginBottom="30dp"
  android:src="@mipmap/ic_launcher"/>
<android.support.design.widget.TextInputLayout</pre>
  android:layout_width="match_parent"
  android:layout_height="wrap_content">
  <EditText
    android:id="@+id/email"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginBottom="10dp"
    android:hint="@string/hint_email"
    android:inputType="textEmailAddress"
    android:textColor="@android:color/white"
    android:textColorHint="@android:color/white"/>
</android.support.design.widget.TextInputLayout>
<android.support.design.widget.TextInputLayout
  android:layout_width="match_parent"
  android:layout_height="wrap_content">
  <EditText
    android:id="@+id/password"
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:layout_marginBottom="10dp"
```

```
android:hint="@string/hint_password"
    android:inputType="textPassword"
    android:textColor="@android:color/white"
    android:textColorHint="@android:color/white"/>
</android.support.design.widget.TextInputLayout>
<!-- Login Button -->
<Button
  android:id="@+id/btn_login"
  android:layout_width="fill_parent"
  android:layout_height="wrap_content"
  android:layout_marginTop="20dip"
  android:background="@color/colorAccent"
  android:text="@string/btn_login"
  android:textColor="@android:color/black" />
<Button
  android:id="@+id/btn_reset_password"
  android:layout_width="fill_parent"
  android:layout_height="wrap_content"
  android:layout_marginTop="20dip"
  android:background="@null"
  android:text="@string/btn_forgot_password"
  android:textAllCaps="false"
  android:textColor="@color/colorAccent"/>
<!-- Link to Login Screen -->
```

```
<Button
       android:id="@+id/btn_signup"
       android:layout_width="fill_parent"
       android:layout_height="wrap_content"
       android:layout_marginTop="20dip"
       android:background="@null"
       android:text="@string/btn_link_to_register"
       android:textAllCaps="false"
       android:textColor="@color/white"
       android:textSize="15dp"/>
  </LinearLayout>
  <ProgressBar
    android:id="@+id/progressBar"
    android:layout_width="30dp"
    android:layout_height="30dp"
    android:layout_gravity="center|bottom"
    android:layout_marginBottom="20dp"
    android:visibility="gone"/>
</android.support.design.widget.CoordinatorLayout>
10. Open LoginActivity.java and do the below changes. Firebase provides
signInWithEmailAndPassword() method to sign in the user.
LoginActivity.java
package info.androidhive.firebase;
import android.content.Intent;
import android.os.Bundle;
import android.support.annotation.NonNull;
```

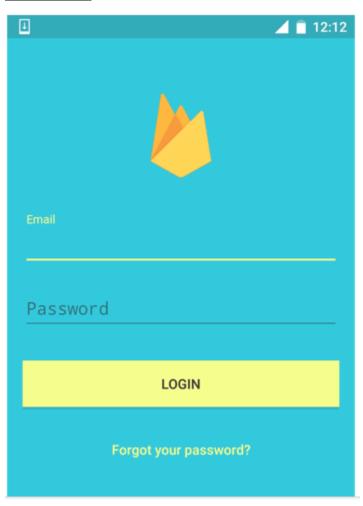
```
import android.support.v7.app.AppCompatActivity;
import android.support.v7.widget.Toolbar;
import android.text.TextUtils;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.ProgressBar;
import android.widget.Toast;
import com.google.android.gms.tasks.OnCompleteListener;
import com.google.android.gms.tasks.Task;
import com.google.firebase.auth.AuthResult;
import com.google.firebase.auth.FirebaseAuth;
public class LoginActivity extends AppCompatActivity {
  private EditText inputEmail, inputPassword;
  private FirebaseAuth auth;
  private ProgressBar progressBar;
  private Button btnSignup, btnLogin, btnReset;
  @Override
  protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    //Get Firebase auth instance
    auth = FirebaseAuth.getInstance();
    if (auth.getCurrentUser() != null) {
```

```
startActivity(new Intent(LoginActivity.this, MainActivity.class));
  finish();
// set the view now
setContentView(R.layout.activity_login);
Toolbar toolbar = (Toolbar) findViewById(R.id.toolbar);
setSupportActionBar(toolbar);
inputEmail = (EditText) findViewById(R.id.email);
inputPassword = (EditText) findViewById(R.id.password);
progressBar = (ProgressBar) findViewById(R.id.progressBar);
btnSignup = (Button) findViewById(R.id.btn_signup);
btnLogin = (Button) findViewById(R.id.btn_login);
btnReset = (Button) findViewById(R.id.btn_reset_password);
//Get Firebase auth instance
auth = FirebaseAuth.getInstance();
btnSignup.setOnClickListener(new View.OnClickListener() {
  @Override
  public void onClick(View v) {
    startActivity(new Intent(LoginActivity.this, SignupActivity.class));
  }
});
btnReset.setOnClickListener(new View.OnClickListener() {
  @Override
```

```
public void onClick(View v) {
         startActivity(new Intent(LoginActivity.this, ResetPasswordActivity.class));
       }
     });
    btnLogin.setOnClickListener(new View.OnClickListener() {
       @Override
       public void onClick(View v) {
         String email = inputEmail.getText().toString();
         final String password = inputPassword.getText().toString();
         if (TextUtils.isEmpty(email)) {
           Toast.makeText(getApplicationContext(), "Enter email address!",
Toast.LENGTH_SHORT).show();
           return;
         }
         if (TextUtils.isEmpty(password)) {
           Toast.makeText(getApplicationContext(), "Enter password!",
Toast.LENGTH_SHORT).show();
           return;
         }
         progressBar.setVisibility(View.VISIBLE);
         //authenticate user
         auth.signInWithEmailAndPassword(email, password)
              .addOnCompleteListener(LoginActivity.this, new OnCompleteListener<AuthResult>() {
                @Override
```

```
public void onComplete(@NonNull Task<AuthResult> task) {
                    // If sign in fails, display a message to the user. If sign in succeeds
                    // the auth state listener will be notified and logic to handle the
                    // signed in user can be handled in the listener.
                    progressBar.setVisibility(View.GONE);
                    if (!task.isSuccessful()) {
                      // there was an error
                      if (password.length() < 6) {
                         inputPassword.setError(getString(R.string.minimum_password));
                      } else {
                         Toast.makeText(LoginActivity.this, getString(R.string.auth_failed),
Toast.LENGTH_LONG).show();
                      }
                    } else {
                      Intent intent = new Intent(LoginActivity.this, MainActivity.class);
                      startActivity(intent);
                      finish();
                 }
               });
       }
     });
```

Login_Screen



2.3 Forgot Password - Send Reset Password Email

Another cool feature firebase provides is, sending reset password email when required. This is a very difficult task if you want to have your own email server.

12. Create another activity named **ResetPasswordActivity.java** and add the below code its layout file **activity_reset_password.xml**

activity_reset_password.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"</p>
  xmlns:app="http://schemas.android.com/apk/res-auto"
  xmlns:tools="http://schemas.android.com/tools"
  android:layout_width="match_parent"
  android:orientation="vertical"
  android:layout_height="match_parent"
  tools:context="com.example.tvd.notification.ResetPasswordActivity">
  <ImageView
    android:layout_width="@dimen/logo_w_h"
    android:layout_height="@dimen/logo_w_h"
    android:layout_gravity="center_horizontal"
    android:layout marginBottom="10dp"
    android:src="@drawable/fire"/>
  <TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_gravity="center_horizontal"
    android:padding="10dp"
```

```
android:text="@string/lbl_forgot_password"
  android:textColor="@android:color/black"
  android:textSize="20dp" />
<TextView
  android:layout_width="wrap_content"
  android:layout_height="wrap_content"
  android:layout_marginBottom="10dp"
  android:gravity="center_horizontal"
  android:padding="@dimen/activity_horizontal_margin"
  android:text="@string/forgot_password_msg"
  android:textColor="@android:color/black"
  android:textSize="14dp" />
  <EditText
    android:id="@+id/email"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginBottom="10dp"
    android:layout_marginTop="20dp"
    android:hint="@string/hint_email"
    android:inputType="textEmailAddress"
    android:textColor="@android:color/black"
    android:textColorHint="@android:color/black"/>
<!-- Login Button -->
<Button
```

```
android:id="@+id/btn_reset_password"
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="20dip"
    android:background="@color/colorAccent"
    android:text="@string/btn_reset_password"
    android:textColor="@android:color/black"/>
  <Button
    android:id="@+id/btn_back"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="10dp"
    android:background="@null"
    android:layout_gravity="center"
    android:text="@string/btn_back"
    android:textColor="@color/input_login" />
  <ProgressBar
    android:id="@+id/progressBar"
    android:layout_width="30dp"
    android:layout_height="30dp"
    android:layout_gravity="center"
    android:layout_marginBottom="20dp"
    android:visibility="gone"/>
</LinearLayout>
```

13. Open ResetPasswordActivity.java add the below code. You can use sendPasswordResetEmail() method to send the password reset email.

ResetPasswordActivity.java

```
package com.example.tvd.notification;
import android.os.Bundle;
import android.support.annotation.NonNull;
import android.support.v7.app.AppCompatActivity;
import android.text.TextUtils;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.ProgressBar;
import android.widget.Toast;
import com.google.android.gms.tasks.OnCompleteListener;
import com.google.android.gms.tasks.Task;
import com.google.firebase.auth.FirebaseAuth;
public class ResetPasswordActivity extends AppCompatActivity {
  private EditText inputEmail;
  private Button btnReset, btnBack;
  private FirebaseAuth auth;
  private ProgressBar progressBar;
  @Override
  protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity reset password);
    inputEmail = (EditText) findViewById(R.id.email);
    btnReset = (Button) findViewById(R.id.btn_reset_password);
    btnBack = (Button) findViewById(R.id.btn_back);
    progressBar = (ProgressBar) findViewById(R.id.progressBar);
```

```
auth = FirebaseAuth.getInstance();
    btnBack.setOnClickListener(new View.OnClickListener() {
       @Override
       public void onClick(View v) {
         finish();
       }
    });
    btnReset.setOnClickListener(new View.OnClickListener() {
       @Override
       public void onClick(View v) {
         String email = inputEmail.getText().toString().trim();
         if (TextUtils.isEmpty(email)) {
           Toast.makeText(getApplication(), "Enter your registered email id",
Toast.LENGTH_SHORT).show();
           return;
         }
         progressBar.setVisibility(View.VISIBLE);
         auth.sendPasswordResetEmail(email)
              .addOnCompleteListener(new OnCompleteListener<Void>() {
                @Override
                public void onComplete(@NonNull Task<Void> task) {
                  progressBar.setVisibility(View.GONE);
                  if (task.isSuccessful()) {
                     Toast.makeText(ResetPasswordActivity.this, "We have sent you instructions to
reset your password!", Toast.LENGTH_SHORT).show();
                  } else {
                     Toast.makeText(ResetPasswordActivity.this, "Failed to send reset email!",
Toast.LENGTH_SHORT).show();
```

```
}
};
};
};
}
```

Forget Password Screen

