

Firebase Authentication

1. AndroidManifest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android">

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportRtl="true"
        android:theme="@style/Theme.MaterialComponents.Light">
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="
                    android.intent.action.MAIN" />

                <category android:name="
                    android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
        <activity android:name=".DashboardActivity"/>
        <activity android:name=".SignUpActivity"/>
    </application>

</manifest>
```

2. build.gradle (Project)

```
buildscript {
    dependencies {
        classpath 'com.google.gms:google-services:4.4.0'
    }
} // Top-level build file where you can add configuration options common to
all sub-projects/modules.
plugins {
    id 'com.android.application' version '8.1.1' apply false
    id 'org.jetbrains.kotlin.android' version '1.9.0' apply false
}
```

3. build.gradle (module)

```
plugins {
    id 'com.android.application'
    id 'kotlin-android'
    id 'com.google.gms.google-services'
```

```

}

android {
    compileSdk 34

    defaultConfig {
        applicationId "mi.polinema.appx10b"
        minSdk 21
        targetSdk 34
        versionCode 1
        versionName "1.0"

        testInstrumentationRunner "androidx.test.runner.AndroidJUnitRunner"
    }

    buildTypes {
        release {
            minifyEnabled false
            proguardFiles getDefaultProguardFile(
                'proguard-android-optimize.txt'), 'proguard-rules.pro'
        }
    }
    buildFeatures{
        viewBinding true
    }
    compileOptions {
        sourceCompatibility JavaVersion.VERSION_1_8
        targetCompatibility JavaVersion.VERSION_1_8
    }
    kotlinOptions {
        jvmTarget = '1.8'
    }
    namespace 'mi.polinema.appx10b'
}

dependencies {
    implementation 'androidx.core:core-ktx:1.12.0'
    implementation 'androidx.appcompat:appcompat:1.6.1'
    implementation 'com.google.android.material:material:1.9.0'
    implementation 'androidx.constraintlayout:constraintlayout:2.1.4'
    testImplementation 'junit:junit:'
    androidTestImplementation 'androidx.test.ext:junit:1.1.5'
    androidTestImplementation 'androidx.test.espresso:espresso-core:3.5.1'
    implementation platform('com.google.firebase:firebase-bom:28.4.1')
    implementation 'com.google.firebase:firebase-auth-ktx'
}

```

4. activity_main.xml



```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    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"
    tools:context=".MainActivity">

    <androidx.constraintlayout.widget.ConstraintLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent">

        <EditText
            android:id="@+id/edUsername"
            android:layout_width="0dp"
            android:layout_height="wrap_content"
            android:layout_marginStart="16dp"
            android:layout_marginTop="16dp"
            android:layout_marginEnd="16dp"
            android:ems="10"
            android:hint="Email"
            android:inputType="textPersonName"
            android:minHeight="48dp"
            app:layout_constraintEnd_toEndOf="parent"
            app:layout_constraintStart_toStartOf="parent"
            app:layout_constraintTop_toBottomOf="@+id/textView" />

        <Button
            android:id="@+id/btnSignIn"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginTop="16dp"
```

```
        android:text="Sign In"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf=
            "@+id/edPassword" />
```

```
<TextView
    android:id="@+id/textView"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:text="Login"
    android:textAlignment="center"
    android:textAppearance=
        "@style/TextAppearance.AppCompat.Large"
    android:textStyle="bold"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

```
<TextView
    android:id="@+id/textView2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="16dp"
    android:text="or"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf=
        "@+id/btnSignIn" />
```

```
<TextView
    android:id="@+id/txSignUp"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="16dp"
    android:text="Sign Up"
    android:textAllCaps="true"
    android:textAppearance=
        "@style/TextAppearance.AppCompat.Display4"
    android:textSize="16sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf=
        "@+id/textView2" />
```

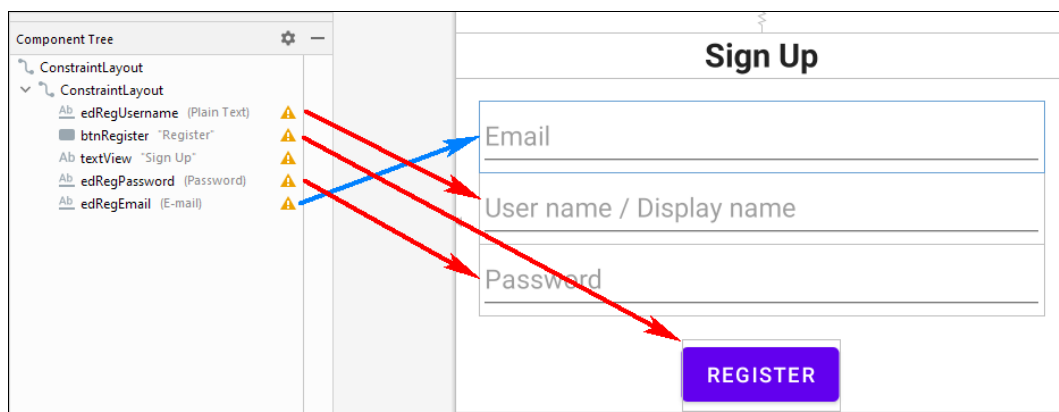
```
<EditText
    android:id="@+id/edPassword"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:layout_marginStart="16dp"
    android:layout_marginEnd="16dp"
```

```

        android:ems="10"
        android:hint="Password"
        android:inputType="textPassword"
        android:minHeight="48dp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf=
            "@+id/edUsername" />
    </androidx.constraintlayout.widget.ConstraintLayout>
</androidx.constraintlayout.widget.ConstraintLayout>

```

5. activity_signup.xml



```

<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    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">

    <androidx.constraintlayout.widget.ConstraintLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.0"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent">

        <EditText
            android:id="@+id/edRegUsername"
            android:layout_width="0dp"
            android:layout_height="wrap_content"
            android:layout_marginStart="16dp"
            android:layout_marginEnd="16dp"
            android:ems="10"
            android:hint="User name / Display name"

```

```
        android:inputType="textPersonName"
        android:minHeight="48dp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.0"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf=
            "@+id/edRegEmail" />
```

```
<Button
    android:id="@+id/btnRegister"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="16dp"
    android:text="Register"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.498"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf=
        "@+id/edRegPassword" />
```

```
<TextView
    android:id="@+id/textView"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:text="Sign Up"
    android:textAlignment="center"
    android:textAppearance=
        "@style/TextAppearance.AppCompat.Large"
    android:textStyle="bold"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

```
<EditText
    android:id="@+id/edRegPassword"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:layout_marginStart="16dp"
    android:layout_marginEnd="16dp"
    android:ems="10"
    android:hint="Password"
    android:inputType="textPassword"
    android:minHeight="48dp"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.0"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf=
        "@+id/edRegUsername" />
```

```
<EditText
    android:id="@+id/edRegEmail"
```

```

        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_marginTop="16dp"
        android:ems="10"
        android:hint="Email"
        android:inputType="textEmailAddress"
        android:minHeight="48dp"
        app:layout_constraintEnd_toEndOf=
            "@+id/edRegUsername"
        app:layout_constraintHorizontal_bias="0.0"
        app:layout_constraintStart_toStartOf=
            "@+id/edRegUsername"
        app:layout_constraintTop_toBottomOf="@+id/textView" />
    </androidx.constraintlayout.widget.ConstraintLayout>
</androidx.constraintlayout.widget.ConstraintLayout>

```

6. activity_dashboard.xml

Component Tree

- ConstraintLayout
 - ConstraintLayout
 - btnProfil "Profil"
 - btnInputData "Input Data"
 - btnLogOut "Log Out"

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    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">

    <androidx.constraintlayout.widget.ConstraintLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent">

        <Button
            android:id="@+id/btnProfil"
            android:layout_width="0dp"
            android:layout_height="wrap_content"
            android:text="Profil"
            app:layout_constraintEnd_toEndOf="@+id/btnInputData"
            app:layout_constraintStart_toStartOf="@+id/btnInputData"
            app:layout_constraintTop_toTopOf="parent" />

        <Button
            android:id="@+id/btnInputData"

```

```

        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Input Data"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/btnProfil" />

<Button
    android:id="@+id/btnLogOut"
    android:layout_width="0dp"
    android:layout_height="wrap_content"
    android:text="Log Out"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="@+id/btnInputData"
    app:layout_constraintStart_toStartOf="@+id/btnInputData"
    app:layout_constraintTop_toBottomOf=
        "@+id/btnInputData" />
</androidx.constraintlayout.widget.ConstraintLayout>
</androidx.constraintlayout.widget.ConstraintLayout>

```

7. MainActivity.kt (class)

```

package mi.polinema.appx10b

import android.content.Intent
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.view.View
import android.widget.Toast
import com.google.firebase.auth.FirebaseAuth
import com.google.firebase.auth.FirebaseUser
import com.google.firebase.auth.ktx.auth
import com.google.firebase.ktx.Firebase
import mi.polinema.appx10b.databinding.ActivityMainBinding

class MainActivity : AppCompatActivity(), View.OnClickListener {

    lateinit var auth: FirebaseAuth
    lateinit var b : ActivityMainBinding
    var currentUser : FirebaseUser? = null

    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        b = ActivityMainBinding.inflate(layoutInflater)
        setContentView(b.root)

        b.btnSignIn.setOnClickListener(this)
        b.txSignUp.setOnClickListener(this)

        auth = Firebase.auth
    }
}

```



```

override fun onClick(p0: View?) {
    when(p0?.id){
        R.id.btnSignIn ->{
            auth.signInWithEmailAndPassword(
                b.edUsername.text.toString(), b.edPassword.text.toString())
            .addOnCompleteListener {
                if(it.isSuccessful){
                    currentUser = auth.currentUser
                    if(currentUser!=null){
                        if (currentUser!!.isEmailVerified){
                            Toast.makeText(this,
                                "Login berhasil", Toast.LENGTH_LONG).show()
                            val intent =
                                Intent(this,DashboardActivity::class.java)
                            startActivity(intent)
                        }else{
                            Toast.makeText(this,
                                "Email anda belum terverifikasi",
                                Toast.LENGTH_LONG).show()
                        }
                    }
                }else{
                    Toast.makeText(this,
                        "Username/password salah",
                        Toast.LENGTH_LONG).show()
                }
            }
        }
        R.id.txSignUp ->{
            val intent = Intent(this, SignUpActivity::class.java)
            startActivity(intent)
        }
    }
}

```

8. DashboardActivity.kt (class)

```

package mi.polinema.appx10b

import android.os.Bundle
import android.view.View
import androidx.appcompat.app.AlertDialog
import androidx.appcompat.app.AppCompatActivity
import com.google.firebase.auth.FirebaseAuth
import com.google.firebase.auth.FirebaseUser
import com.google.firebase.auth.ktx.auth
import com.google.firebase.ktx.Firebase
import mi.polinema.appx10b.databinding.ActivityDashboardBinding

class DashboardActivity : AppCompatActivity(), View.OnClickListener {

```

```

lateinit var auth : FirebaseAuth
lateinit var b : ActivityDashboardBinding
var currentUser : FirebaseUser? = null

override fun onCreate(savedInstanceState: Bundle?) {
    super.onCreate(savedInstanceState)
    b = ActivityDashboardBinding.inflate(layoutInflater)
    setContentView(b.root)

    b.btnProfil.setOnClickListener(this)
    b.btnInputData.setOnClickListener(this)
    b.btnLogOut.setOnClickListener(this)

    auth = Firebase.auth
}

override fun onClick(p0: View?) {
    when(p0?.id){
        R.id.btnProfil ->{
            currentUser = auth.currentUser
            if(currentUser!=null){
                val builder = AlertDialog.Builder(this)
                builder.setTitle("User Profile").setMessage(
                    "Nama : ${currentUser!!.displayName}\nEmail : "+
                    "${currentUser!!.email}"
                ).setNeutralButton("OK",null)
                builder.show()
            }
        }
        R.id.btnLogOut ->{
            auth.signOut()
            finish()
        }
        R.id.btnInputData ->{
            //TODO : CALL SOME INTENT
        }
    }
}
}

```

9. SignUpActivity.kt

```

package mi.polinema.appx10b

import android.os.Bundle
import android.view.View
import android.widget.Toast
import androidx.appcompat.app.AppCompatActivity
import com.google.firebase.auth.FirebaseAuth
import com.google.firebase.auth.FirebaseUser
import com.google.firebase.auth.ktx.auth

```

```

import com.google.firebase.auth.ktx.userProfileChangeRequest
import com.google.firebase.ktx.Firebase
import mi.polinema.appx10b.databinding.ActivitySignupBinding

class SignUpActivity: AppCompatActivity(), View.OnClickListener {

    lateinit var auth: FirebaseAuth
    lateinit var b : ActivitySignupBinding
    var currentUser : FirebaseUser? = null

    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        b = ActivitySignupBinding.inflate(layoutInflater)
        setContentView(b.root)

        b.btnRegister.setOnClickListener(this)
        auth = Firebase.auth
    }

    override fun onClick(p0: View?) {
        when(p0?.id){
            R.id.btnRegister ->{
                auth.createUserWithEmailAndPassword(
                    b.edRegEmail.text.toString(), b.edRegPassword.text.toString())
                    .addOnCompleteListener {
                        if(it.isSuccessful){
                            currentUser = auth.currentUser
                            if(currentUser!=null){
                                currentUser!!.updateProfile(
                                    userProfileChangeRequest {
                                        displayName = b.edRegUsername.text.toString()
                                    }
                                )
                                currentUser!!.sendEmailVerification()
                            }
                            Toast.makeText(this,
                                "Berhasil mendaftarkan user, "+
                                "silahkan cek email anda untuk verifikasi",
                                Toast.LENGTH_LONG).show()
                            finish()
                        }else{
                            Toast.makeText(this, "Tidak dapat mendaftarkan",
                                Toast.LENGTH_SHORT).show()
                        }
                    }
        }
    }
}

```

10. Firebase Project Setting

Android apps

App x10.b
mi.polinema.appx10b

App x0d
polinema.mi.appx0d

App x0e
polinema.mi.appx0e

App x0e.b
polinema.mi.appx0eb

App x0f
polinema.mi.appx0f

**App x10.b
polinema.mi.appx10**

PJR8 B
polinema.mi.pjr8b

SDK setup and configuration

Need to reconfigure the Firebase SDKs for your app? Revisit the SDK setup instructions or just download the configuration file containing keys and identifiers for your app.

[See SDK instructions](#) [google-services.json](#)

App ID ⓘ
1:1065786419079:android:e7fd3483d442f4b89a9522

App nickname
App x10.b ✎

Package name
polinema.mi.appx10

SHA certificate fingerprints ⓘ

Type ⓘ

4e:4d:58:25:1e:fa:d9:31:90:99:35:e0:31:47:05:e5:9d:6b:2f:07

SHA-1

Referensi :

<https://firebase.google.com/docs/auth/android/email-link-auth>