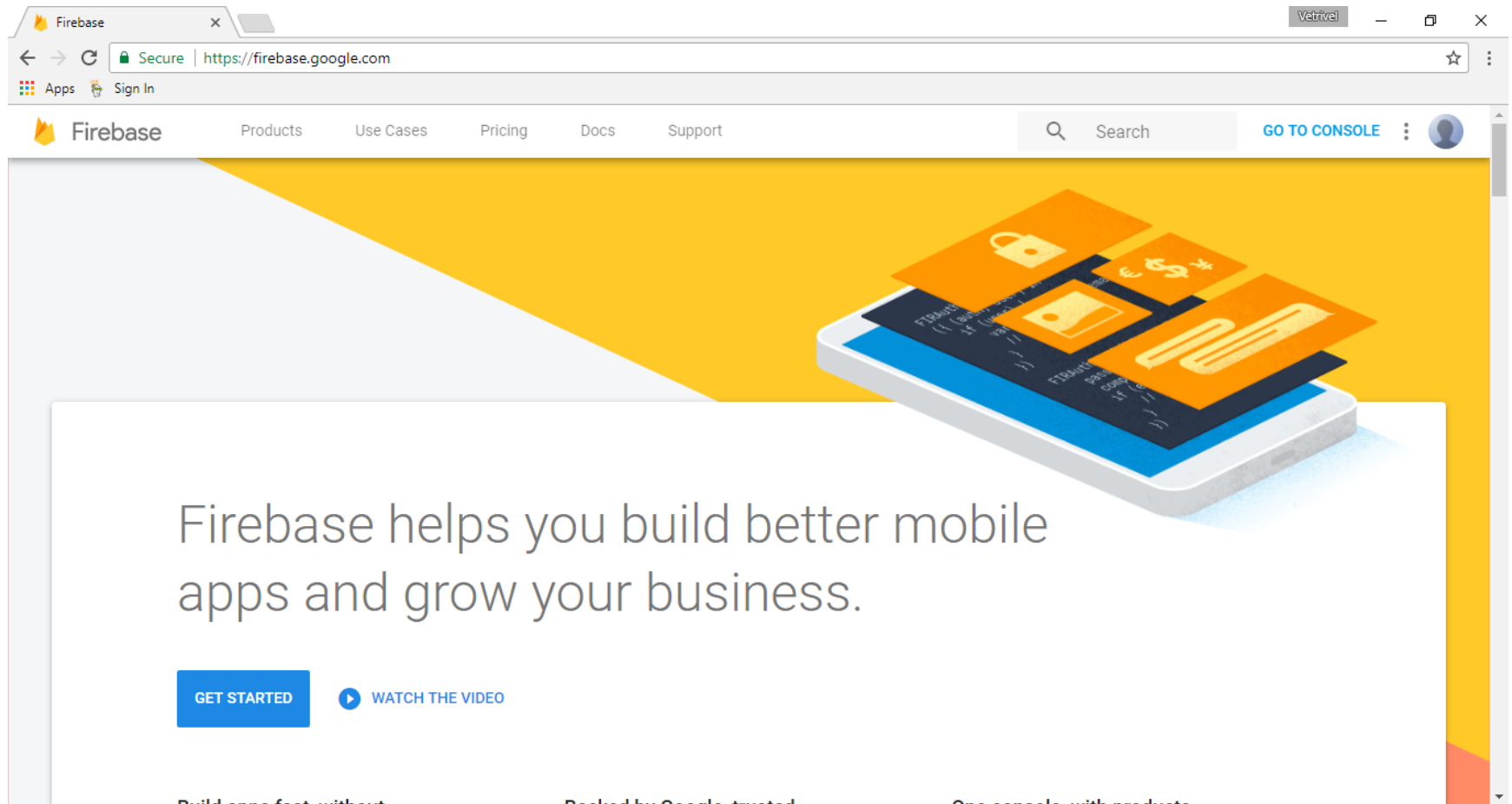


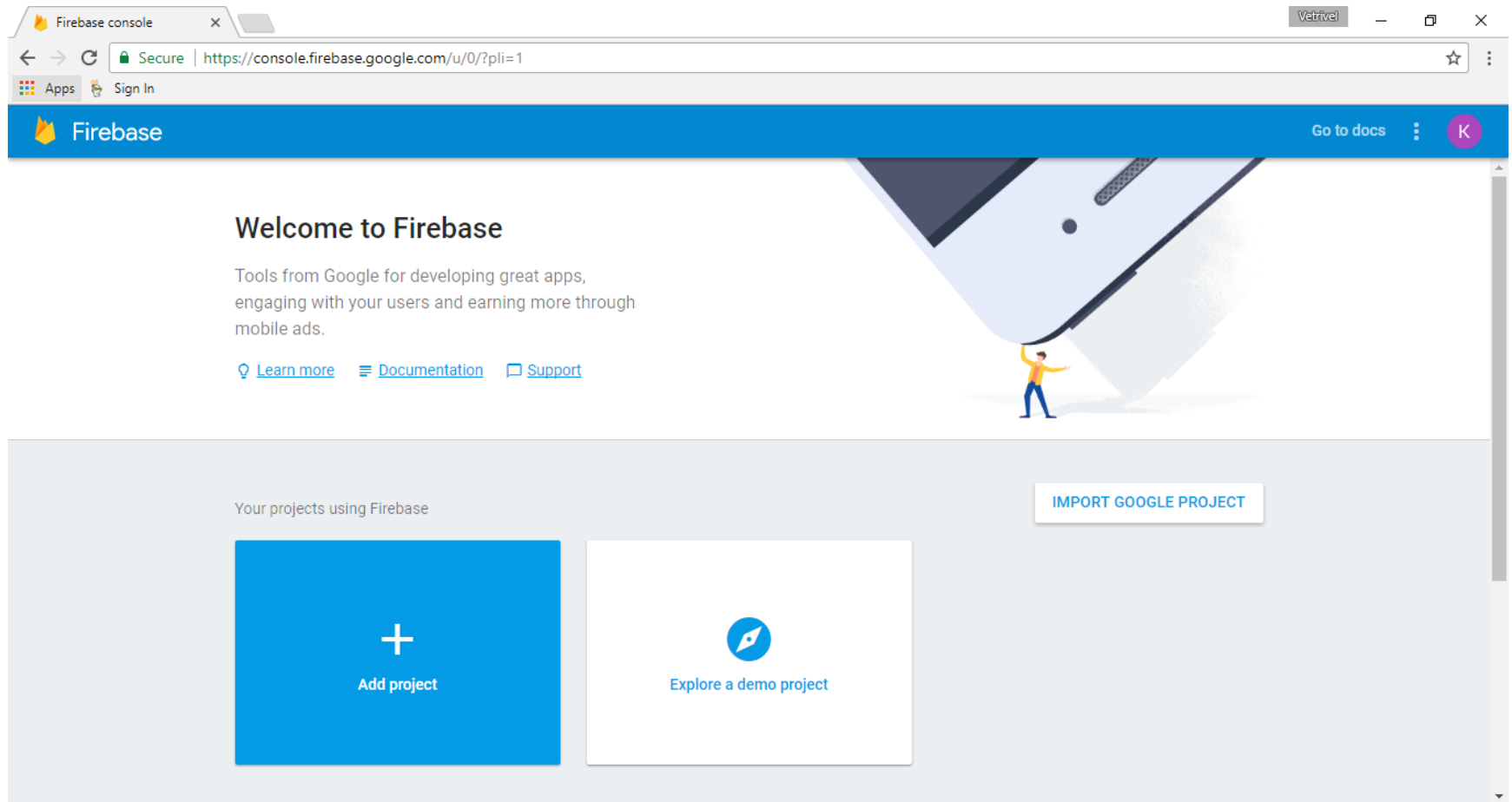
Android + Firebase

Lets Learn Together 😊 😊 😊

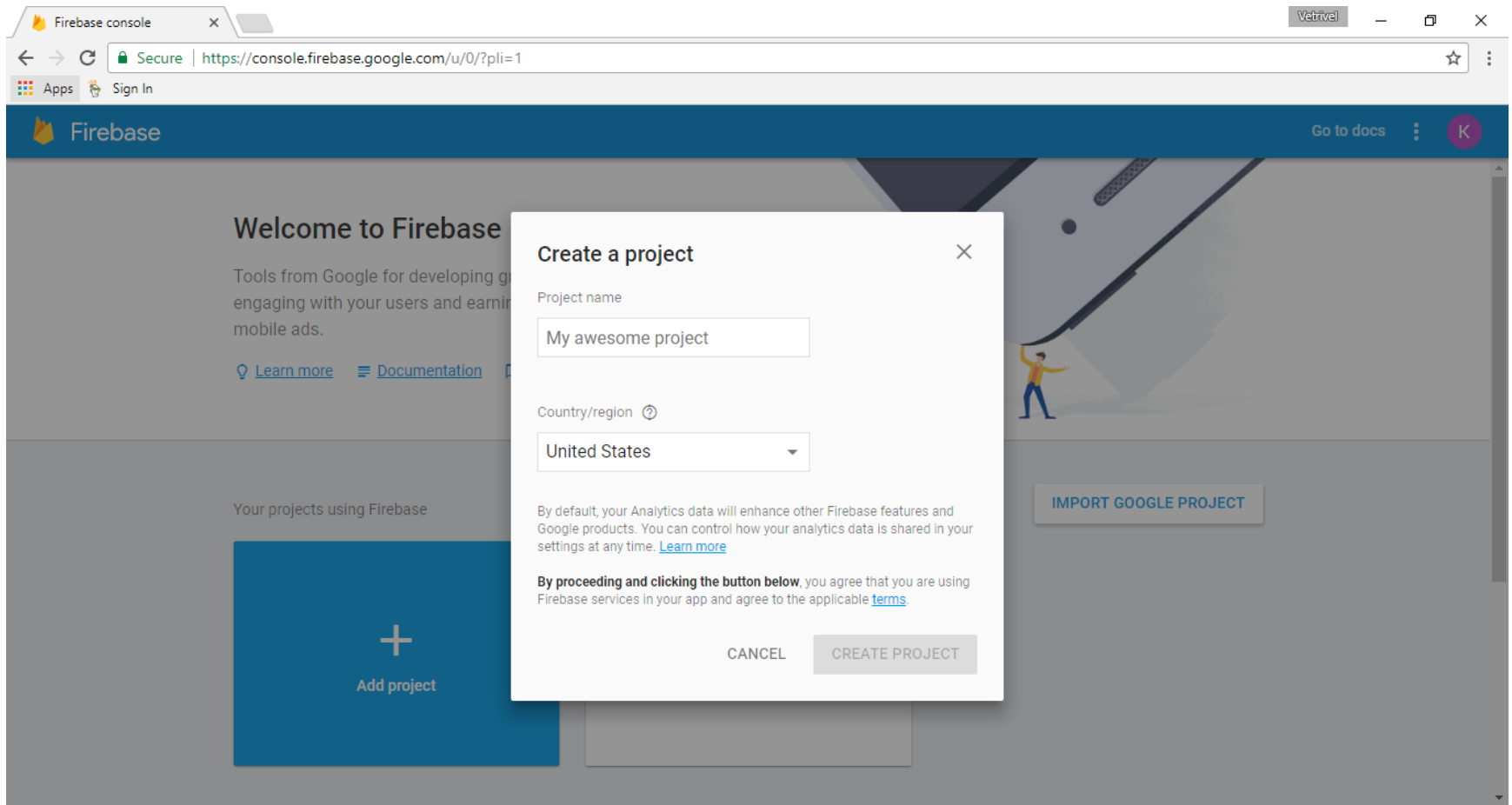
Firebase Environment Setup



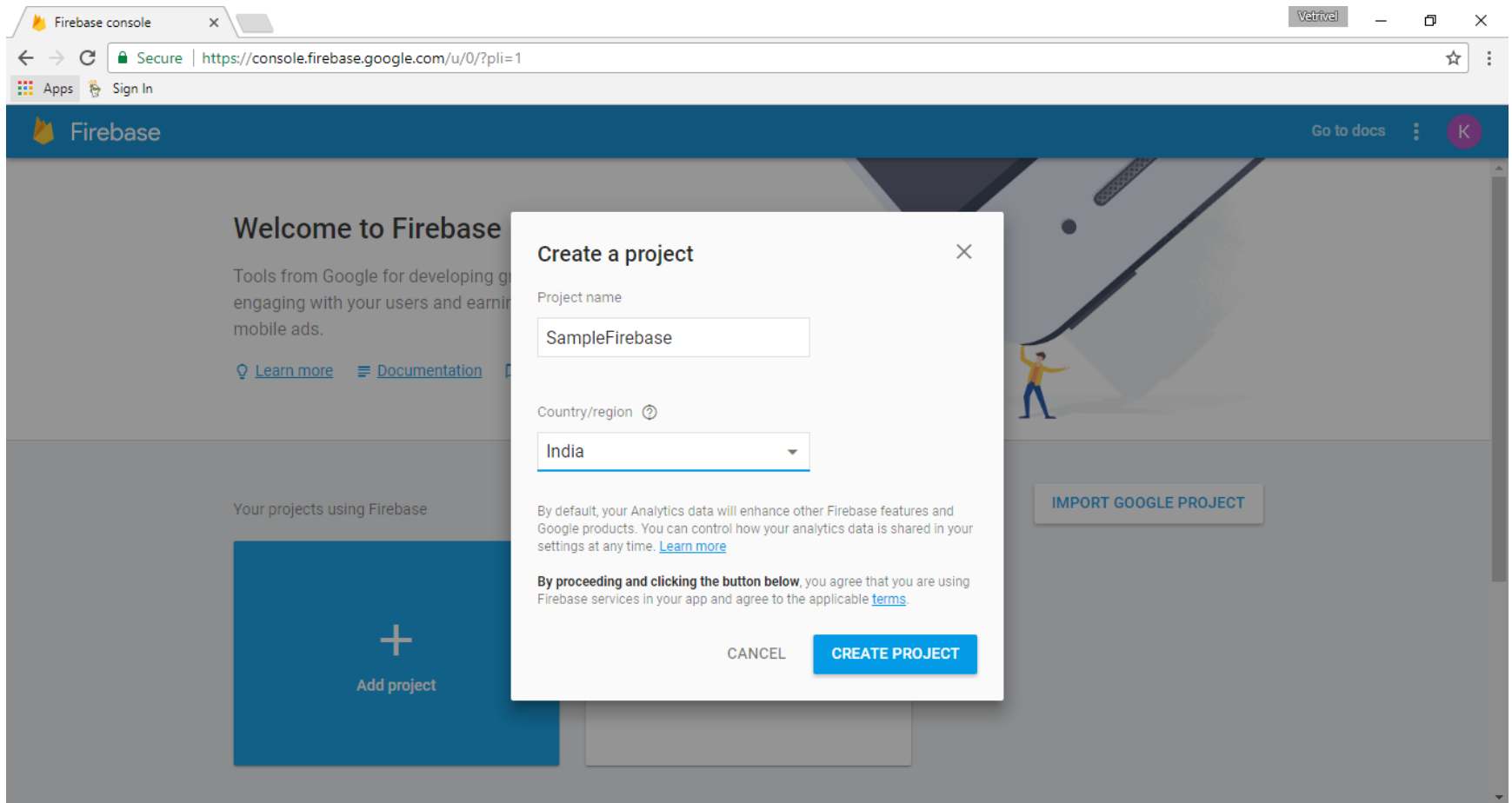
Firebase Environment Setup



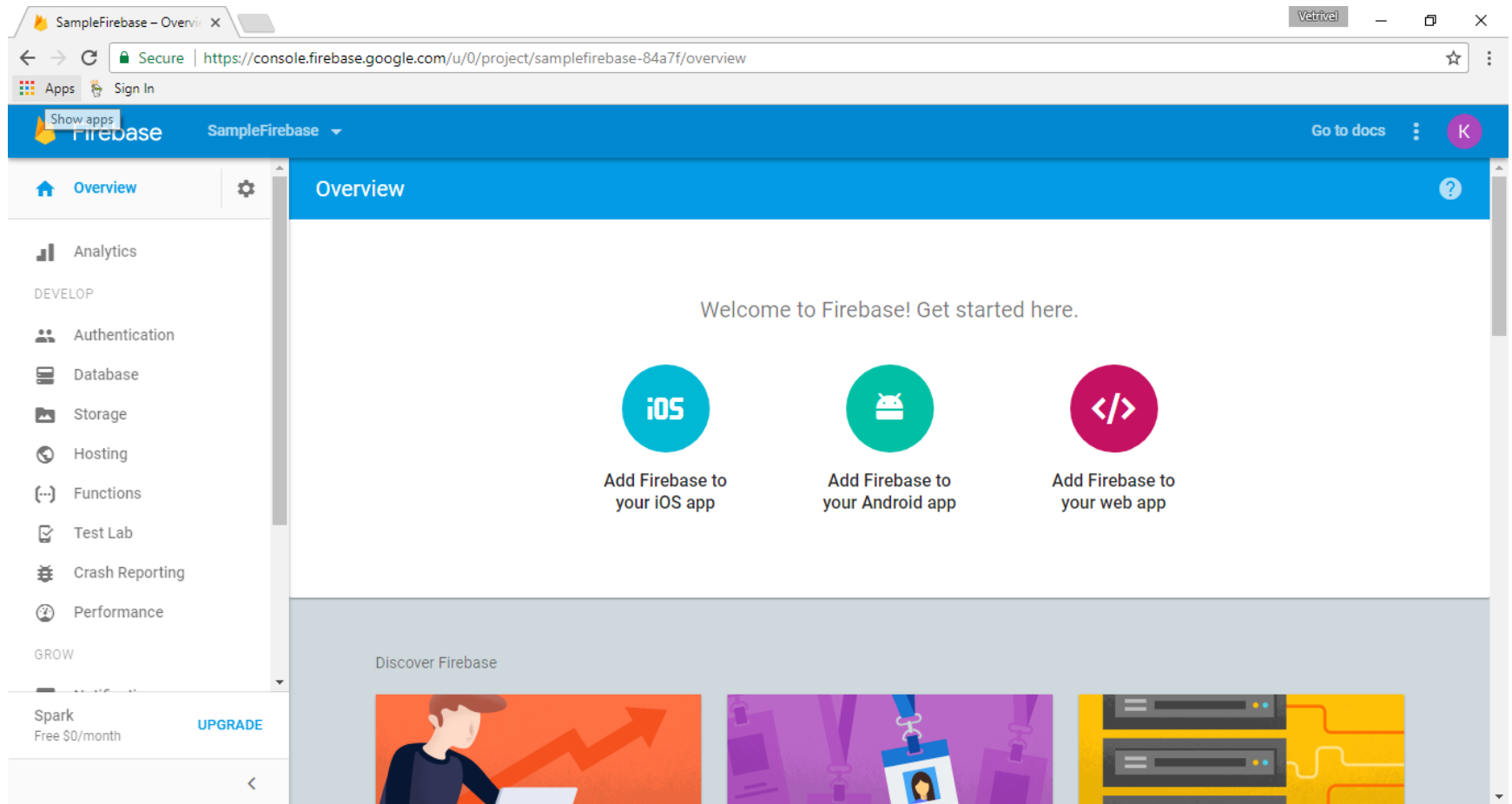
Firebase Environment Setup



Firebase Environment Setup



Firebase Environment Setup



Authentication

The screenshot shows the Firebase Authentication console in a web browser. The browser's address bar displays the URL `https://console.firebase.google.com/u/0/project/samplefirebase-84a7f/authentication/users`. The page features a blue header with the 'Firebase' logo and a 'SampleFirebase' dropdown menu. On the right of the header, there are links for 'Go to docs' and a user profile icon labeled 'K'. A left-hand sidebar contains a navigation menu with categories: 'Overview' (with a settings gear icon), 'Analytics', 'DEVELOP' (including Authentication, Database, Storage, Hosting, Functions, Test Lab, Crash Reporting, and Performance), and 'GROW' (including Notifications and Remote Config). At the bottom of the sidebar, it says 'Spark Free \$0/month' with an 'UPGRADE' button. The main content area is titled 'Authentication' and has three tabs: 'USERS', 'SIGN-IN METHOD', and 'TEMPLATES'. The 'USERS' tab is active, showing a search bar with the placeholder 'Search by email address, phone number or user UID', an 'ADD USER' button, and a refresh icon. Below the search bar is a table with columns: 'Identifier', 'Providers', 'Created', 'Signed In', and 'User UID' (with an upward arrow). The table is currently empty. A large purple circular graphic with a white ID card icon is positioned to the left of a text block that reads: 'Authenticate and manage users from a variety of providers without server-side code'. Below this text are two links: 'Learn more' and 'View the docs'. A prominent blue button labeled 'SET UP SIGN-IN METHOD' is located at the bottom of this section.

Authentication

The screenshot shows the Firebase Authentication console for a project named 'SampleFirebase'. The left sidebar contains navigation links for Overview, Analytics, Authentication (selected), Database, Storage, Hosting, Functions, Test Lab, Crash Reporting, Performance, Notifications, Remote Config, and Spark. The main content area is titled 'Authentication' and has tabs for USERS, SIGN-IN METHOD, and TEMPLATES. A modal is open for configuring the 'Email/Password' provider. The modal includes a toggle for 'Enable' (currently off), a description of the provider, and 'CANCEL' and 'SAVE' buttons. Below the modal, a table lists other providers: Phone, Google, Facebook, and Twitter, all of which are currently disabled.

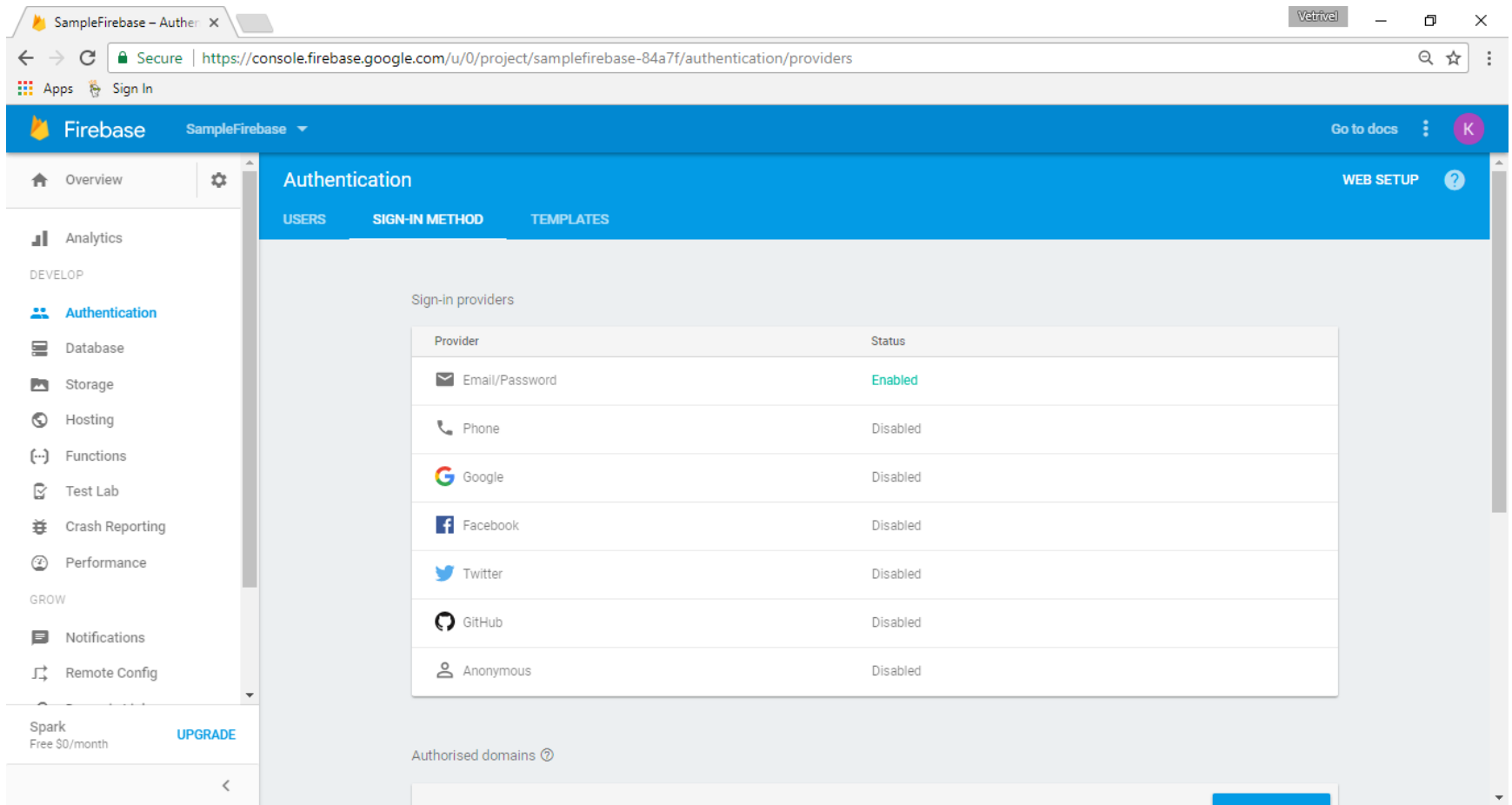
Provider	Status
Email/Password	Enabled
Phone	Disabled
Google	Disabled
Facebook	Disabled
Twitter	Disabled

Authentication

The screenshot shows the Firebase Authentication console for a project named 'SampleFirebase'. The left sidebar contains navigation links for Overview, Analytics, and various development tools. The main content area is titled 'Authentication' and has tabs for 'USERS', 'SIGN-IN METHOD', and 'TEMPLATES'. The 'SIGN-IN METHOD' tab is active, displaying a table of 'Sign-in providers'. A modal dialog is open for the 'Email/Password' provider, showing an 'Enable' toggle switch turned on and a 'SAVE' button. Below the modal, the table lists other providers: Phone, Google, Facebook, and Twitter, all currently disabled.

Provider	Status
Email/Password	Enabled
Phone	Disabled
Google	Disabled
Facebook	Disabled
Twitter	Disabled

Authentication



The screenshot displays the Firebase Authentication console in a web browser. The browser's address bar shows the URL `https://console.firebase.google.com/u/0/project/samplefirebase-84a7f/authentication/providers`. The page features a blue header with the 'Authentication' title and a 'WEB SETUP' link. Below the header, there are three tabs: 'USERS', 'SIGN-IN METHOD' (which is active), and 'TEMPLATES'. The main content area is titled 'Sign-in providers' and contains a table with the following data:

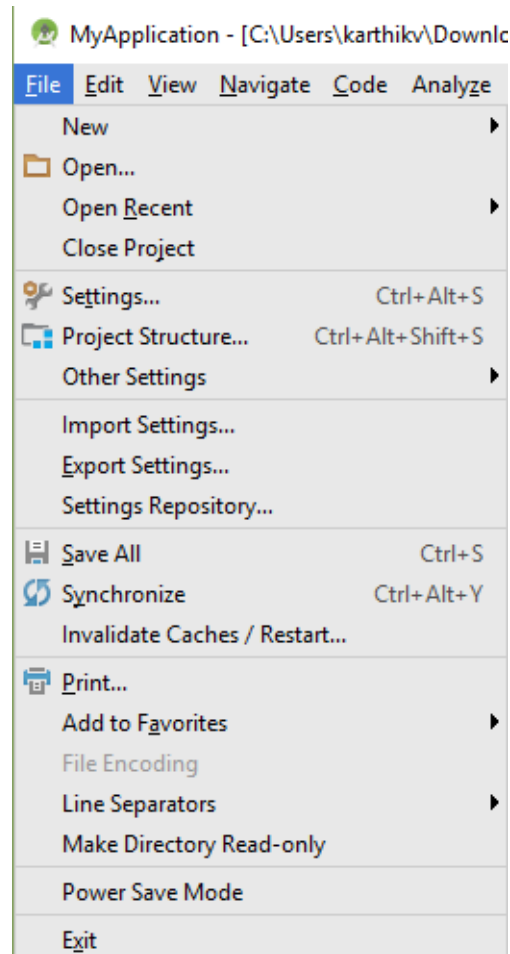
Provider	Status
Email/Password	Enabled
Phone	Disabled
Google	Disabled
Facebook	Disabled
Twitter	Disabled
GitHub	Disabled
Anonymous	Disabled

Below the table, there is a section for 'Authorised domains' with a help icon. On the left side of the console, a sidebar menu lists various Firebase services: Overview, Analytics, Authentication (highlighted), Database, Storage, Hosting, Functions, Test Lab, Crash Reporting, Performance, Notifications, and Remote Config. At the bottom of the sidebar, there is a 'Spark' section indicating 'Free \$0/month' and an 'UPGRADE' button.

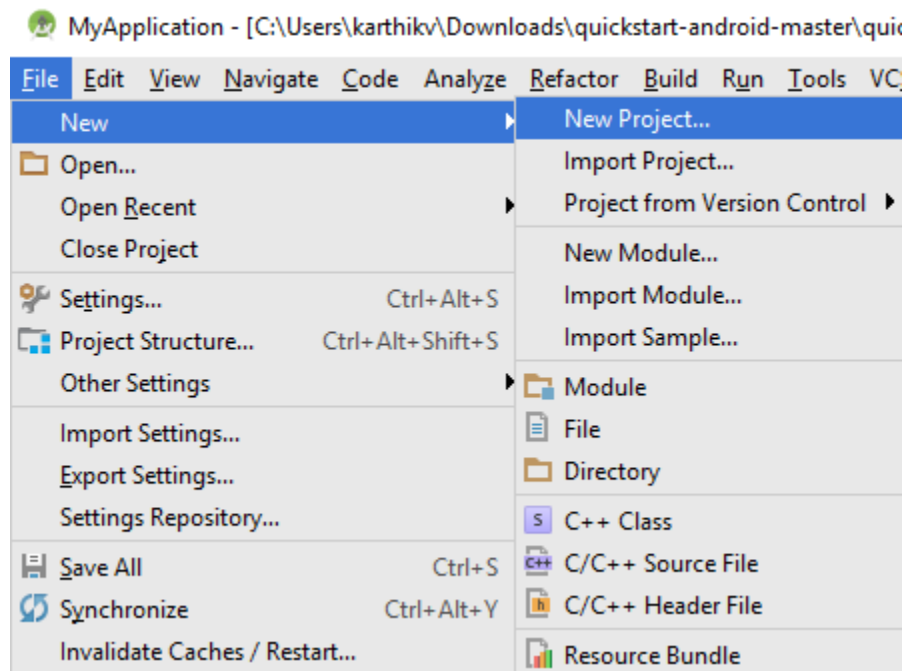
Getting things ready in android part



Getting things ready in android part




Getting things ready in android part



Getting things ready in android part

Create New Project

 New Project
Android Studio

Configure your new project

Application name:

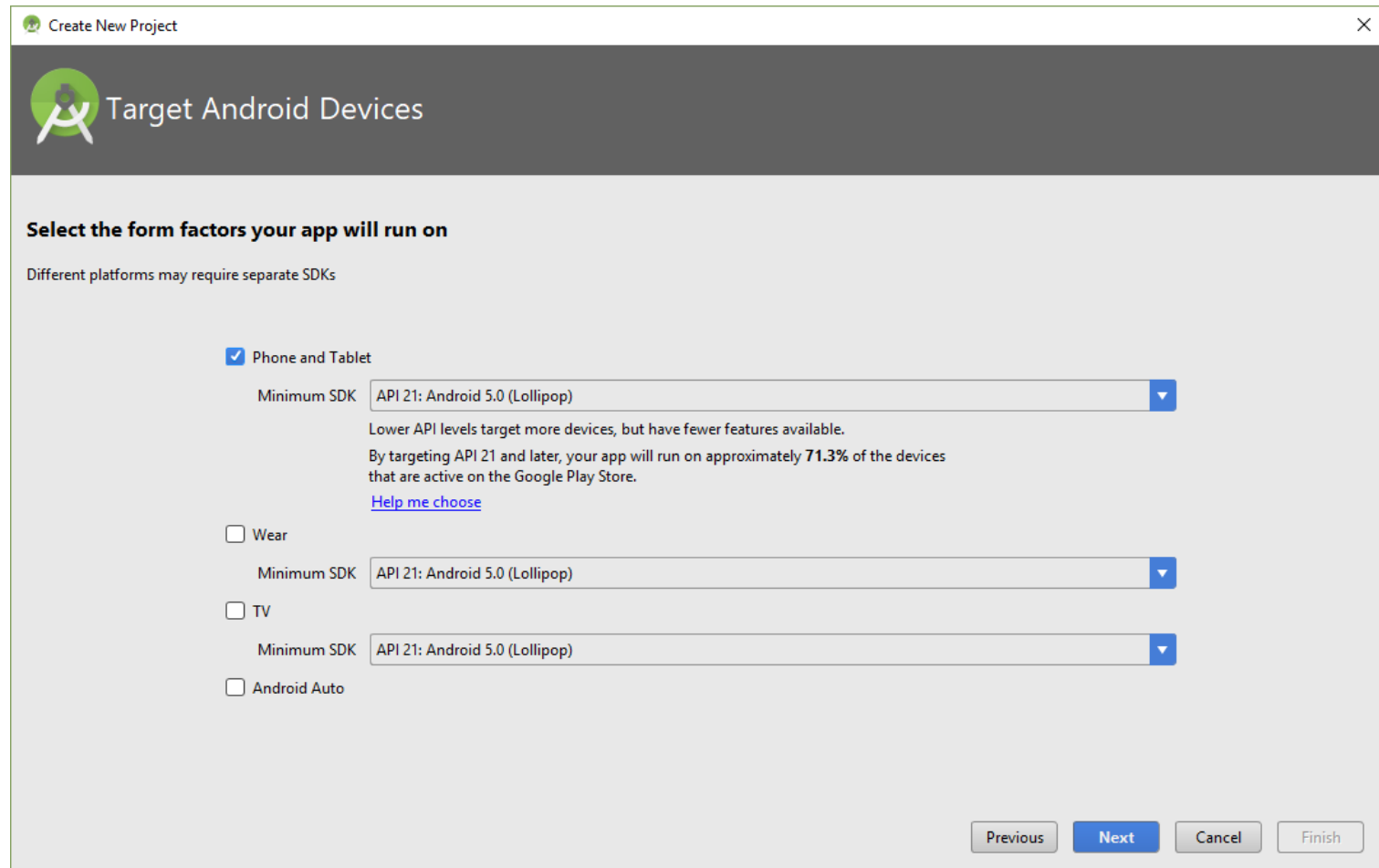
Company domain:

Package name: [Edit](#)


☐ Include C++ support

Project location:

Getting things ready in android part



Create New Project

 Target Android Devices

Select the form factors your app will run on

Different platforms may require separate SDKs

☒ Phone and Tablet

Minimum SDK

Lower API levels target more devices, but have fewer features available.
By targeting API 21 and later, your app will run on approximately **71.3%** of the devices that are active on the Google Play Store.
[Help me choose](#)

☐ Wear

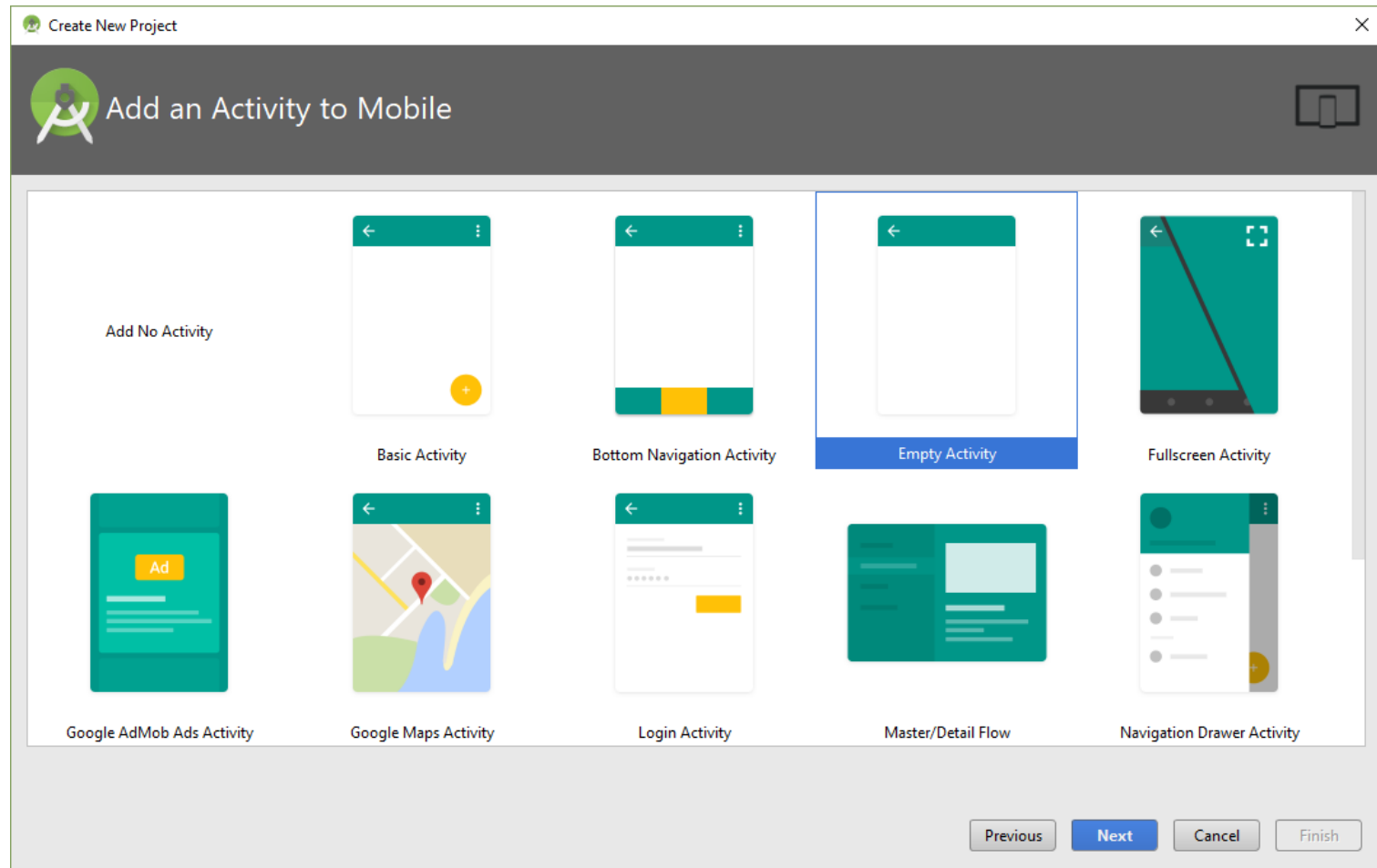
Minimum SDK

☐ TV

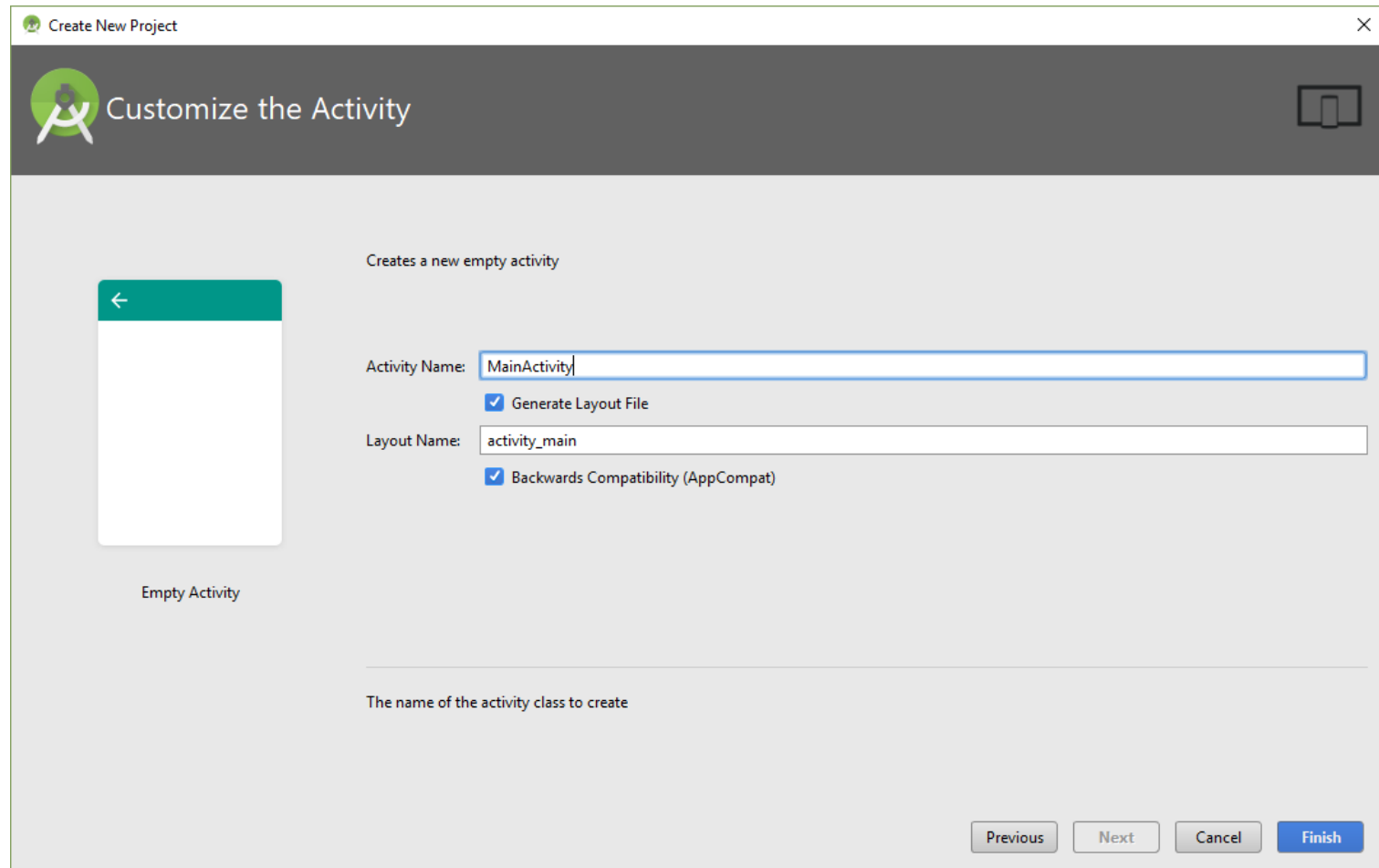
Minimum SDK

☐ Android Auto

Getting things ready in android part



Getting things ready in android part



The screenshot shows the 'Create New Project' dialog in Android Studio, specifically the 'Customize the Activity' screen. The dialog has a title bar 'Create New Project' and a close button. The main header area is dark gray with the Android logo and the text 'Customize the Activity'. On the right of the header is a small icon of a smartphone. The main content area is light gray. On the left, there is a preview of an 'Empty Activity' with a green header bar and a white body. To the right of the preview, the text 'Creates a new empty activity' is displayed. Below this, there are two text input fields: 'Activity Name' with the value 'MainActivity' and 'Layout Name' with the value 'activity_main'. Between these fields are two checked checkboxes: 'Generate Layout File' and 'Backwards Compatibility (AppCompat)'. At the bottom of the dialog, there are four buttons: 'Previous', 'Next', 'Cancel', and 'Finish'. The 'Finish' button is highlighted in blue.

Create New Project

Customize the Activity

Creates a new empty activity

Activity Name: MainActivity

☒ Generate Layout File

Layout Name: activity_main

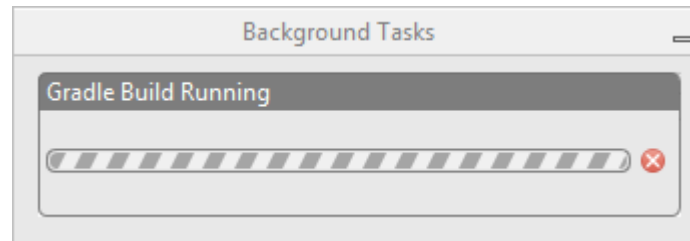
☒ Backwards Compatibility (AppCompat)

Empty Activity

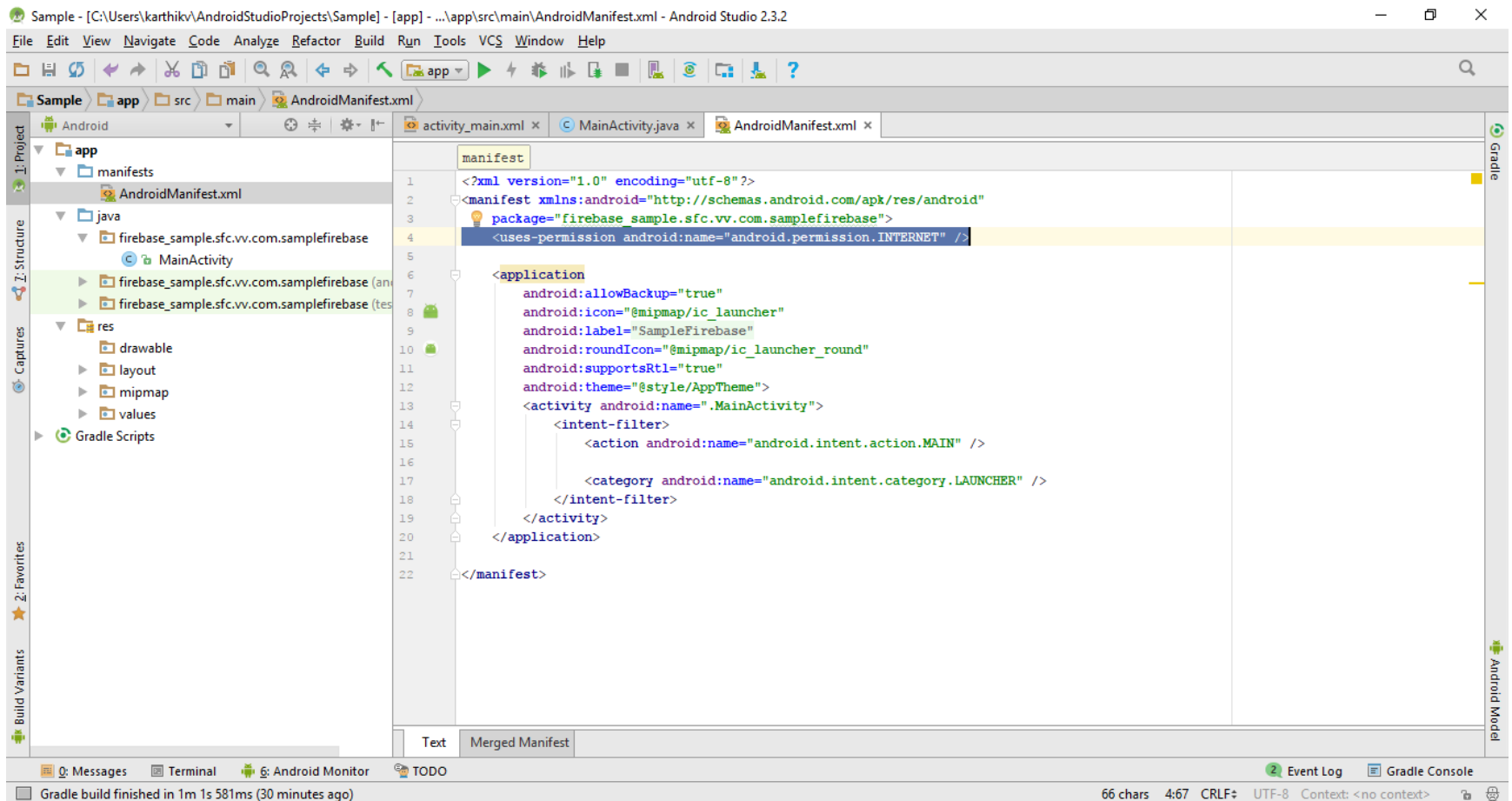
The name of the activity class to create

Previous Next Cancel Finish

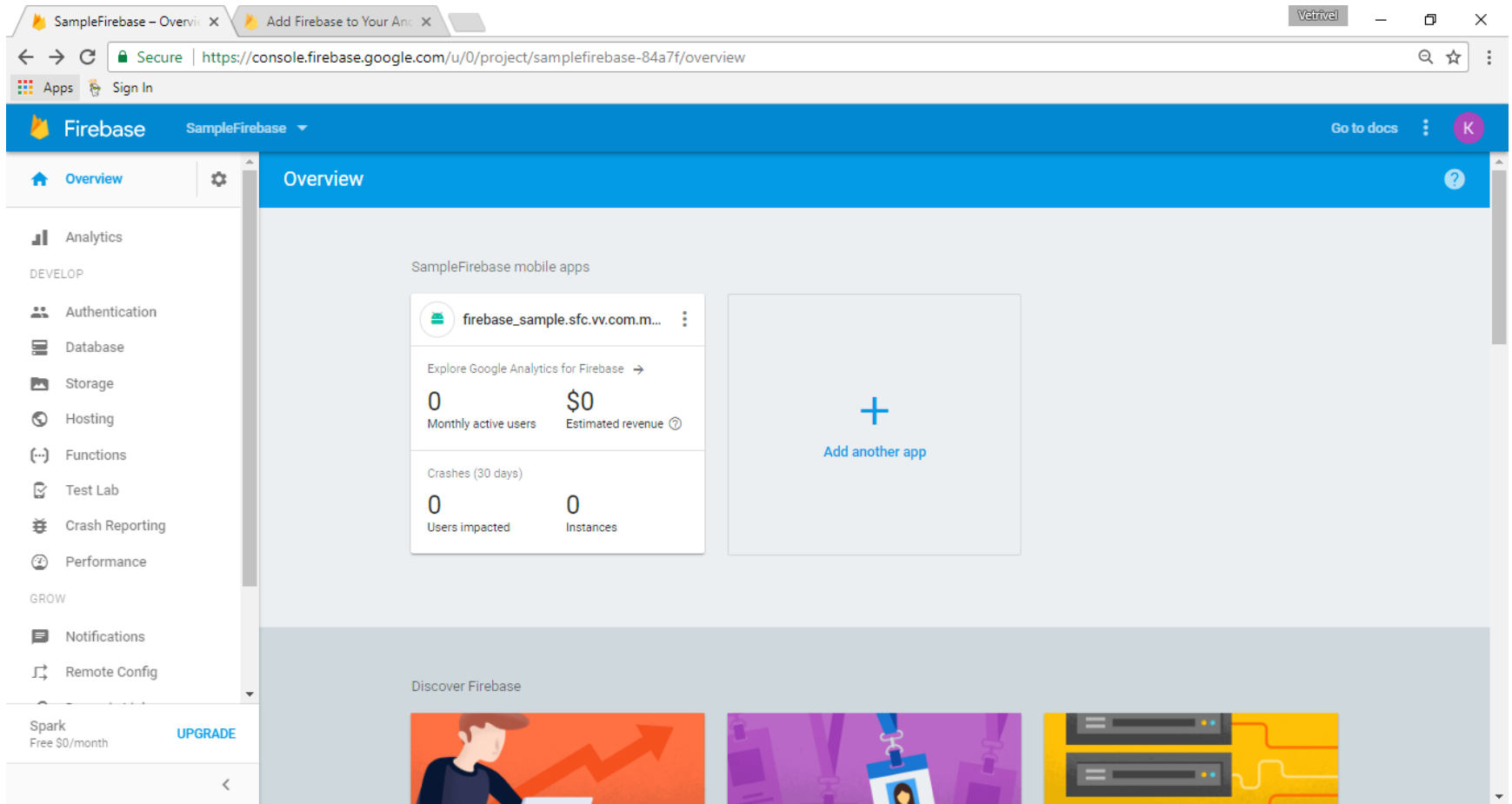
Getting things ready in android part



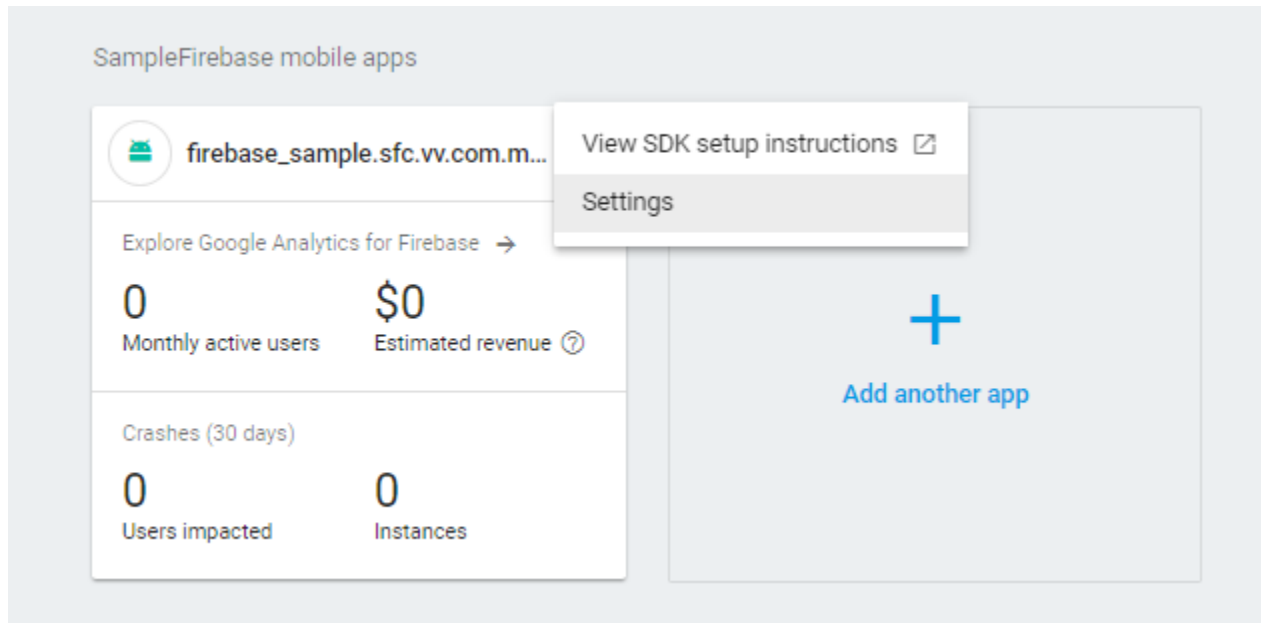
Getting things ready in android part



Getting Json file



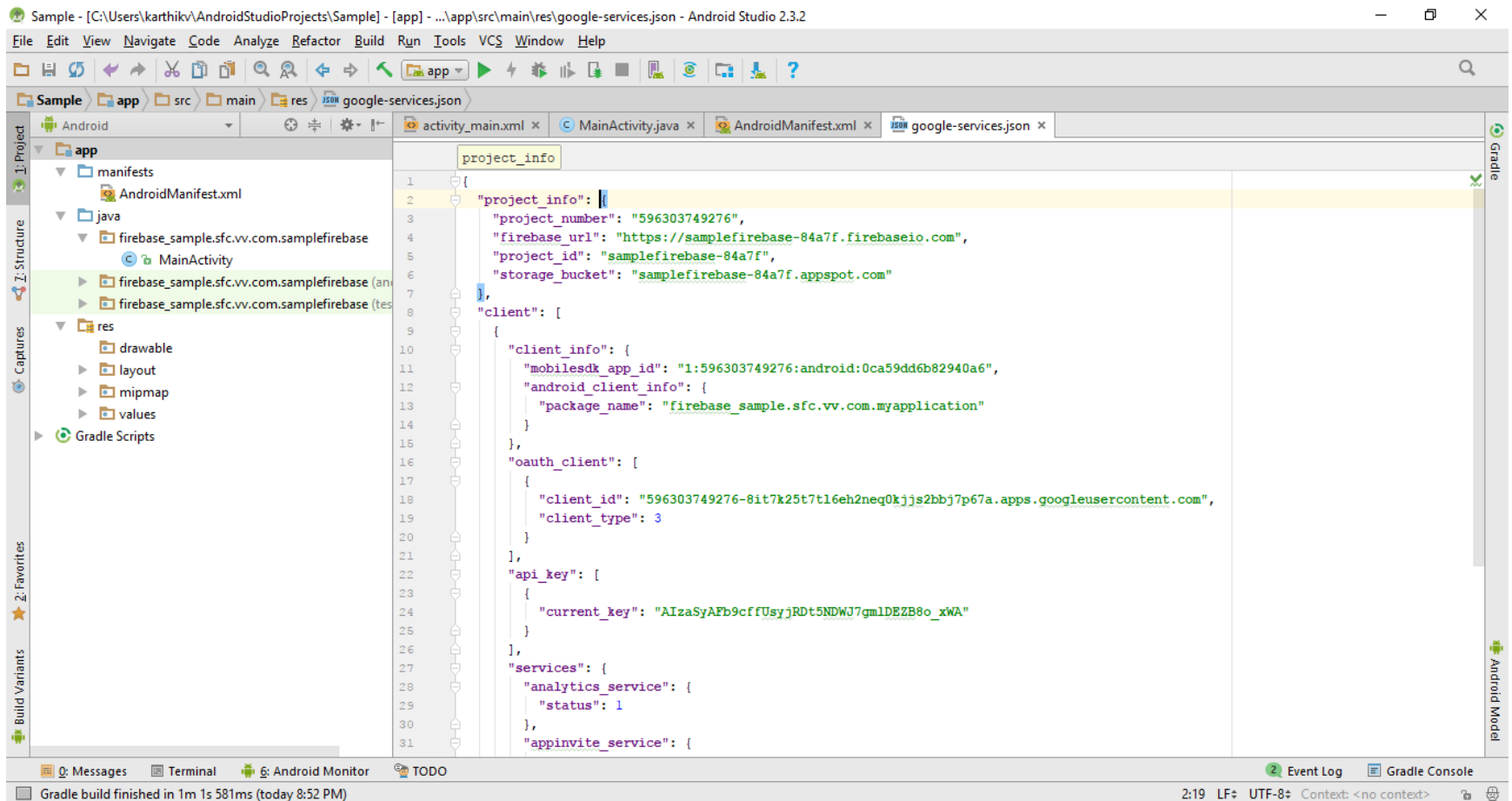
Getting Json file



Getting Json file

The screenshot shows the Firebase console interface. The browser address bar displays the URL: https://console.firebase.google.com/u/0/project/samplefirebase-84a7f/settings/general/android:firebase_sample.sfc.vv.com.myapplication. The page title is 'Settings' for the 'SampleFirebase' project. The left sidebar contains navigation links for Overview, Analytics, Authentication, Database, Storage, Hosting, Functions, Test Lab, Crash Reporting, Performance, Notifications, and Remote Config. The main content area shows project details: Project name (SampleFirebase), Public-facing name (SampleFirebase), Project ID (samplefirebase-84a7f), and Web API Key (AlzaSyByrxldr0ACDqxrOT3ppDhLN6yq-xEimlQ). Under 'Your apps', the 'Android apps' section lists an app named 'firebase_sample.sfc.vv.com.myap...'. A button 'Download the latest config file' is present, which leads to the 'google-services.json' file. The file is described as containing configuration details, such as keys and identifiers, for the services you have just enabled.

Getting Json file



The screenshot displays the Android Studio 2.3.2 interface. The top toolbar includes icons for File, Edit, View, Navigate, Code, Analyze, Refactor, Build, Run, Tools, VCS, Window, and Help. The left sidebar shows the Project structure with the following hierarchy: **Sample** > **app** > **src** > **main** > **res** > **google-services.json**. The main editor window shows the content of `google-services.json`, which is a JSON file containing Firebase configuration data. The JSON is as follows:

```
1 {
2   "project_info": {
3     "project_number": "596303749276",
4     "firebase_url": "https://samplefirebase-84a7f.firebaseio.com",
5     "project_id": "samplefirebase-84a7f",
6     "storage_bucket": "samplefirebase-84a7f.appspot.com"
7   },
8   "client": [
9     {
10      "client_info": {
11        "mobilesdk_app_id": "1:596303749276:android:0ca59dd6b82940a6",
12        "android_client_info": {
13          "package_name": "firebase_sample.sfc.vv.com.myapplication"
14        }
15      },
16      "oauth_client": [
17        {
18          "client_id": "596303749276-8it7k25t7t16eh2neq0kjj52bbj7p67a.apps.googleusercontent.com",
19          "client_type": 3
20        }
21      ],
22      "api_key": [
23        {
24          "current_key": "AIzaSyAFb9cffUusyJRDt5NDWJ7gm1DEZB8o_xWA"
25        }
26      ],
27      "services": {
28        "analytics_service": {
29          "status": 1
30        },
31        "appinvite_service": {
```

The bottom status bar indicates "Gradle build finished in 1m 1s 581ms (today 8:52 PM)". The right sidebar contains the "Android Model" tab.

build.gradle File

Sample - [C:\Users\karthik\AndroidStudioProjects\Sample] - Sample - Android Studio 2.3.2

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

Sample build.gradle

Project C:\Users\karthik\AndroidStudioProjects\Sample

Sample build.gradle

Gradle files have changed since last project sync. A project sync may be necessary for the IDE to work properly. [Sync Now](#)

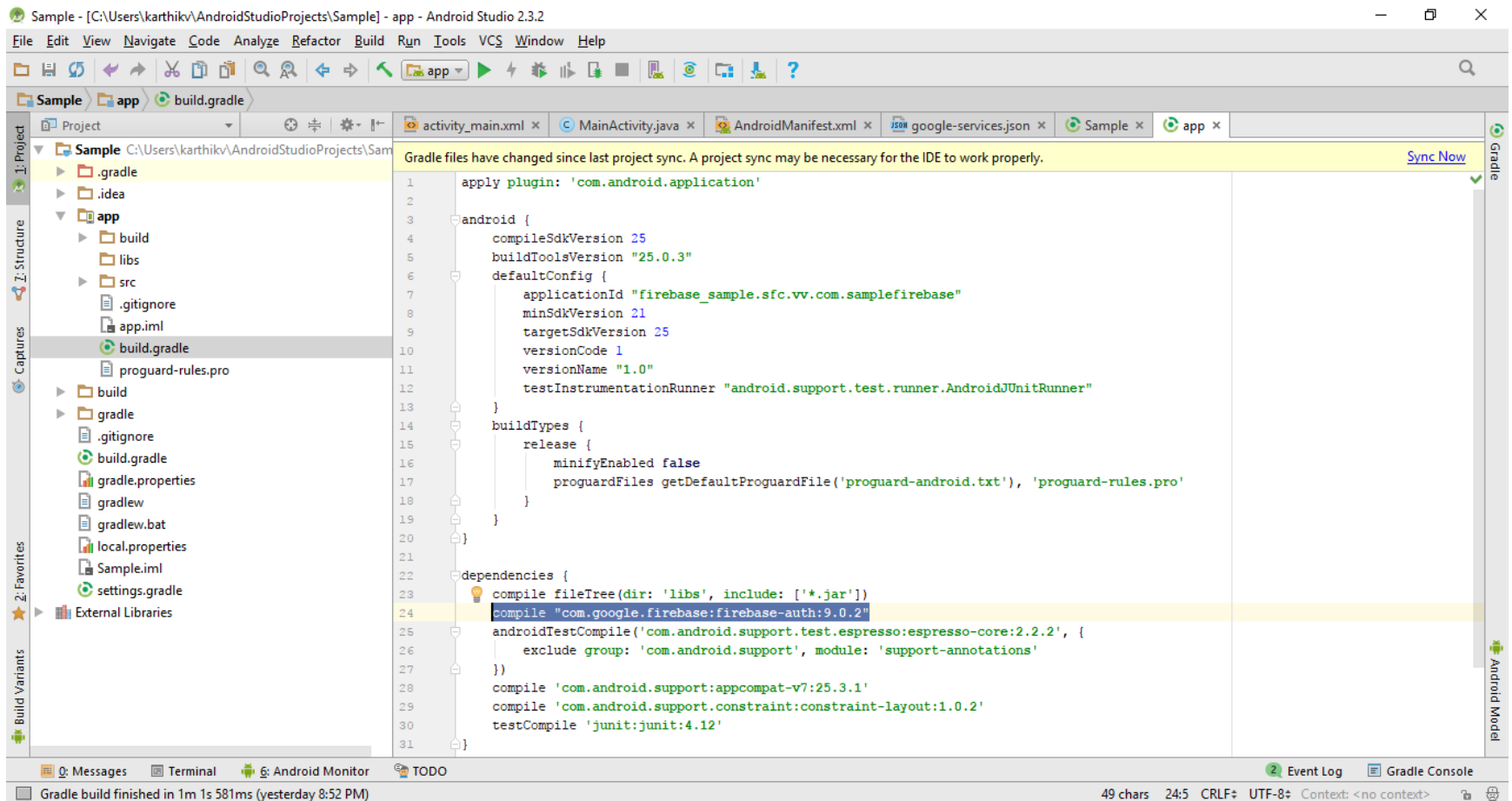
```
1 // Top-level build file where you can add configuration options common to all sub-projects/modules.
2
3 buildscript {
4     repositories {
5         jcenter()
6     }
7     dependencies {
8         classpath 'com.android.tools.build:gradle:2.3.2'
9         classpath 'com.google.gms:google-services:3.0.0'
10    }
11    // NOTE: Do not place your application dependencies here; they belong
12    // in the individual module build.gradle files
13 }
14
15 allprojects {
16     repositories {
17         jcenter()
18     }
19 }
20
21 task clean(type: Delete) {
22     delete rootProject.buildDir
23 }
24
```

Q: Messages Terminal Android Monitor TODO

Gradle build finished in 1m 1s 581ms (today 8:52 PM)

48 chars 9:9 CRLF UTF-8 Context: <no context>

build.gradle File in app folder

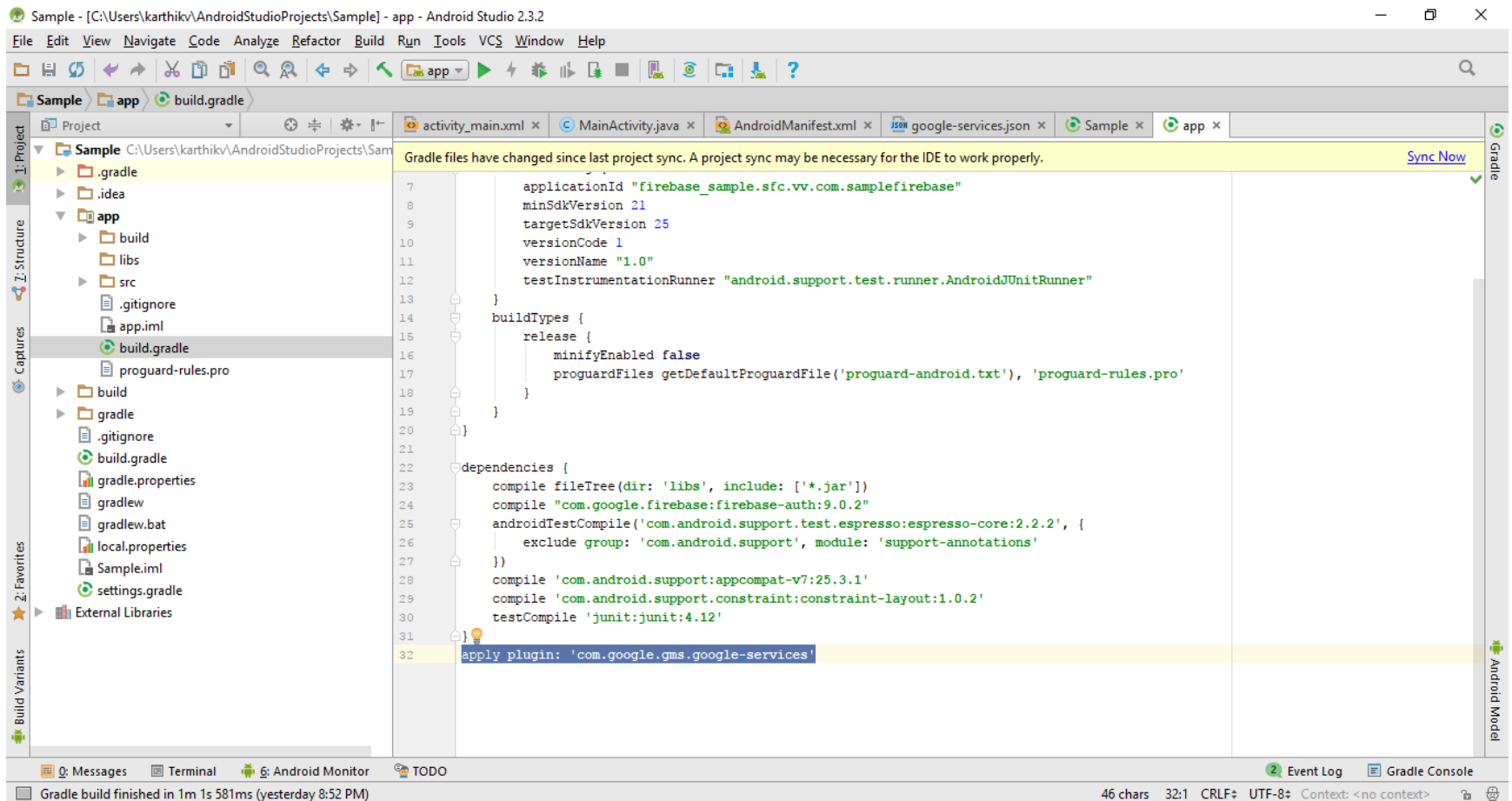


The screenshot displays the Android Studio 2.3.2 interface. The top toolbar includes icons for File, Edit, View, Navigate, Code, Analyze, Refactor, Build, Run, Tools, VCS, Window, and Help. The left sidebar shows the Project view with the 'Sample' project expanded, revealing the 'app' folder and its contents, including 'build.gradle'. The main editor window shows the 'build.gradle' file for the 'app' module. A yellow notification bar at the top of the editor states: 'Gradle files have changed since last project sync. A project sync may be necessary for the IDE to work properly.' with a 'Sync Now' link. The code in the 'build.gradle' file is as follows:

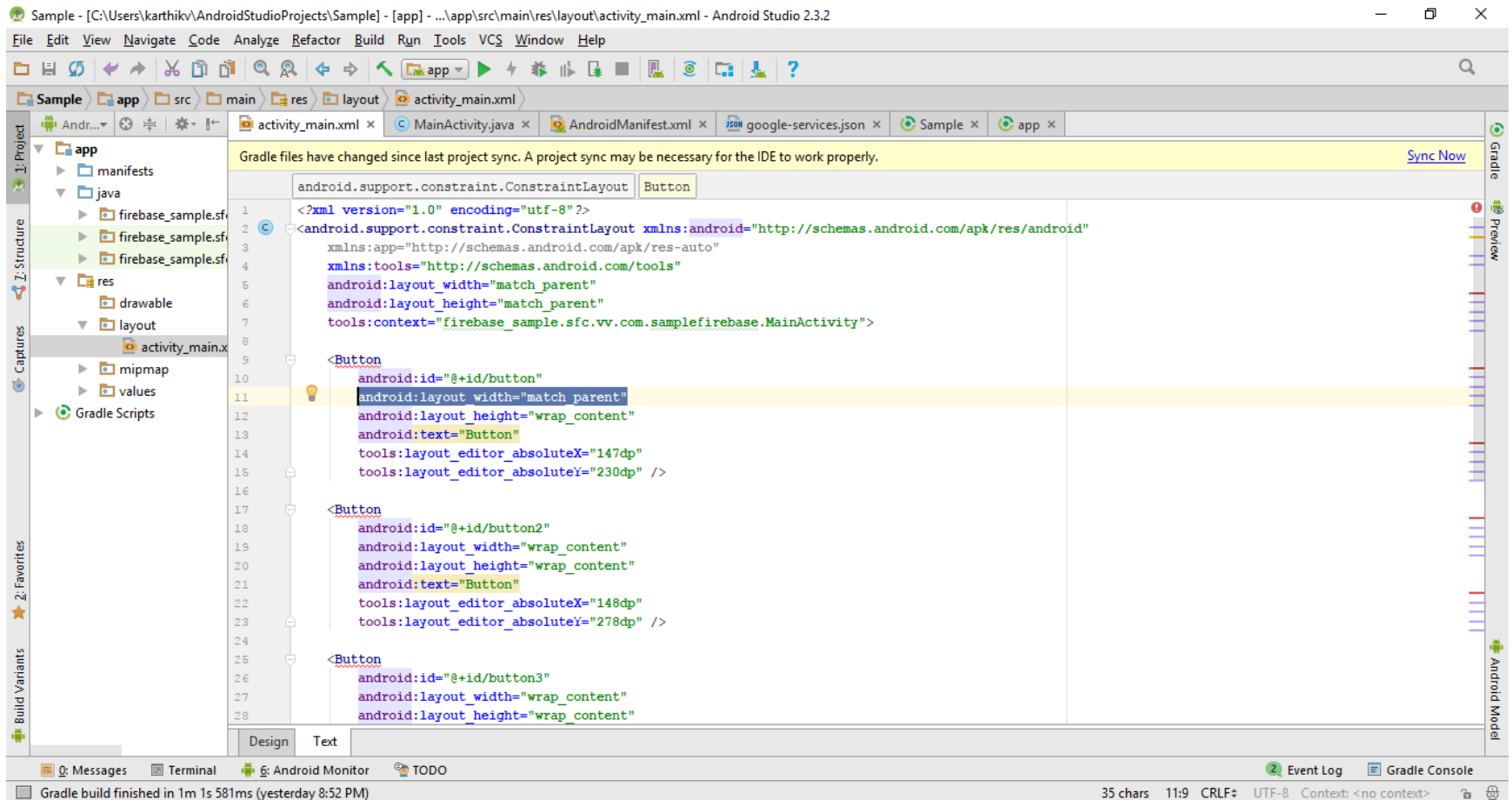
```
1  apply plugin: 'com.android.application'
2
3  android {
4      compileSdkVersion 25
5      buildToolsVersion "25.0.3"
6      defaultConfig {
7          applicationId "firebase_sample.sfc.vv.com.samplefirebase"
8          minSdkVersion 21
9          targetSdkVersion 25
10         versionCode 1
11         versionName "1.0"
12         testInstrumentationRunner "android.support.test.runner.AndroidJUnitRunner"
13     }
14     buildTypes {
15         release {
16             minifyEnabled false
17             proguardFiles getDefaultProguardFile('proguard-android.txt'), 'proguard-rules.pro'
18         }
19     }
20 }
21
22 dependencies {
23     compile fileTree(dir: 'libs', include: ['*.jar'])
24     compile "com.google.firebase:firebase-auth:9.0.2"
25     androidTestCompile('com.android.support.test.espresso:espresso-core:2.2.2', {
26         exclude group: 'com.android.support', module: 'support-annotations'
27     })
28     compile 'com.android.support:appcompat-v7:25.3.1'
29     compile 'com.android.support.constraint:constraint-layout:1.0.2'
30     testCompile 'junit:junit:4.12'
31 }
```

The bottom status bar shows 'Gradle build finished in 1m 1s 581ms (yesterday 8:52 PM)' and '49 chars 24:5 CRLF UTF-8 Context: <no context>'.

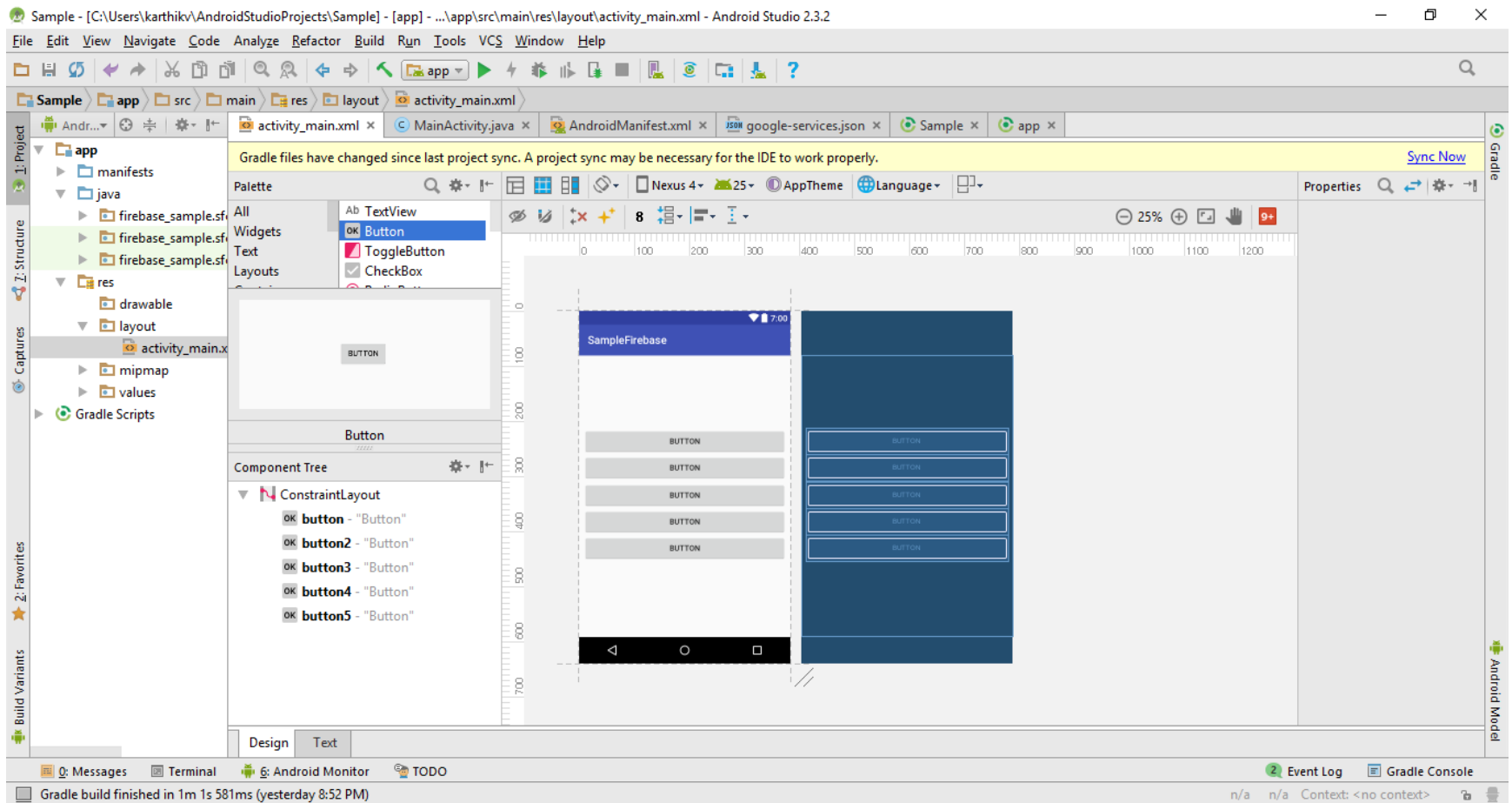
build.gradle File in app folder



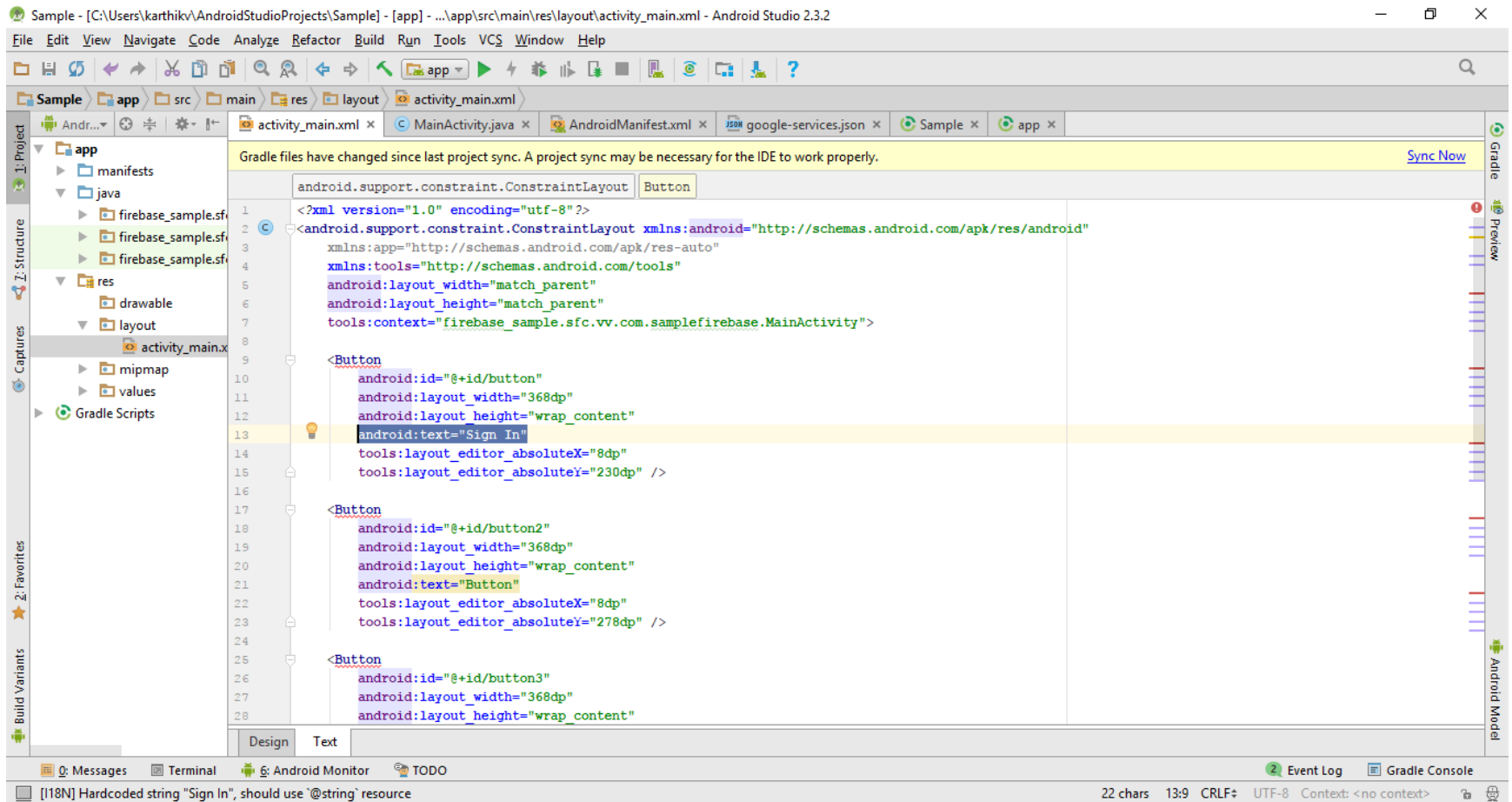
Designing Front End



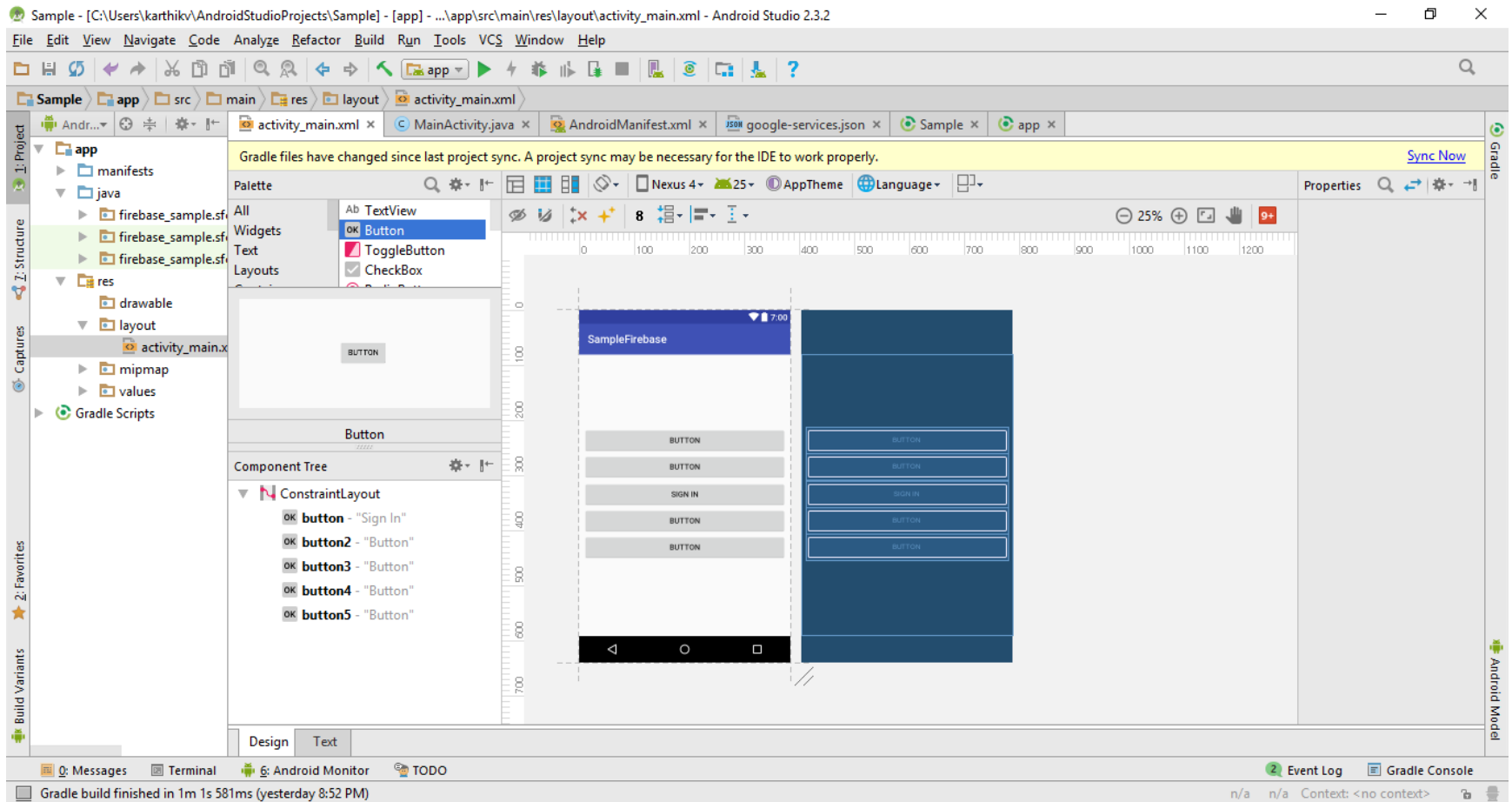
Designing Front End



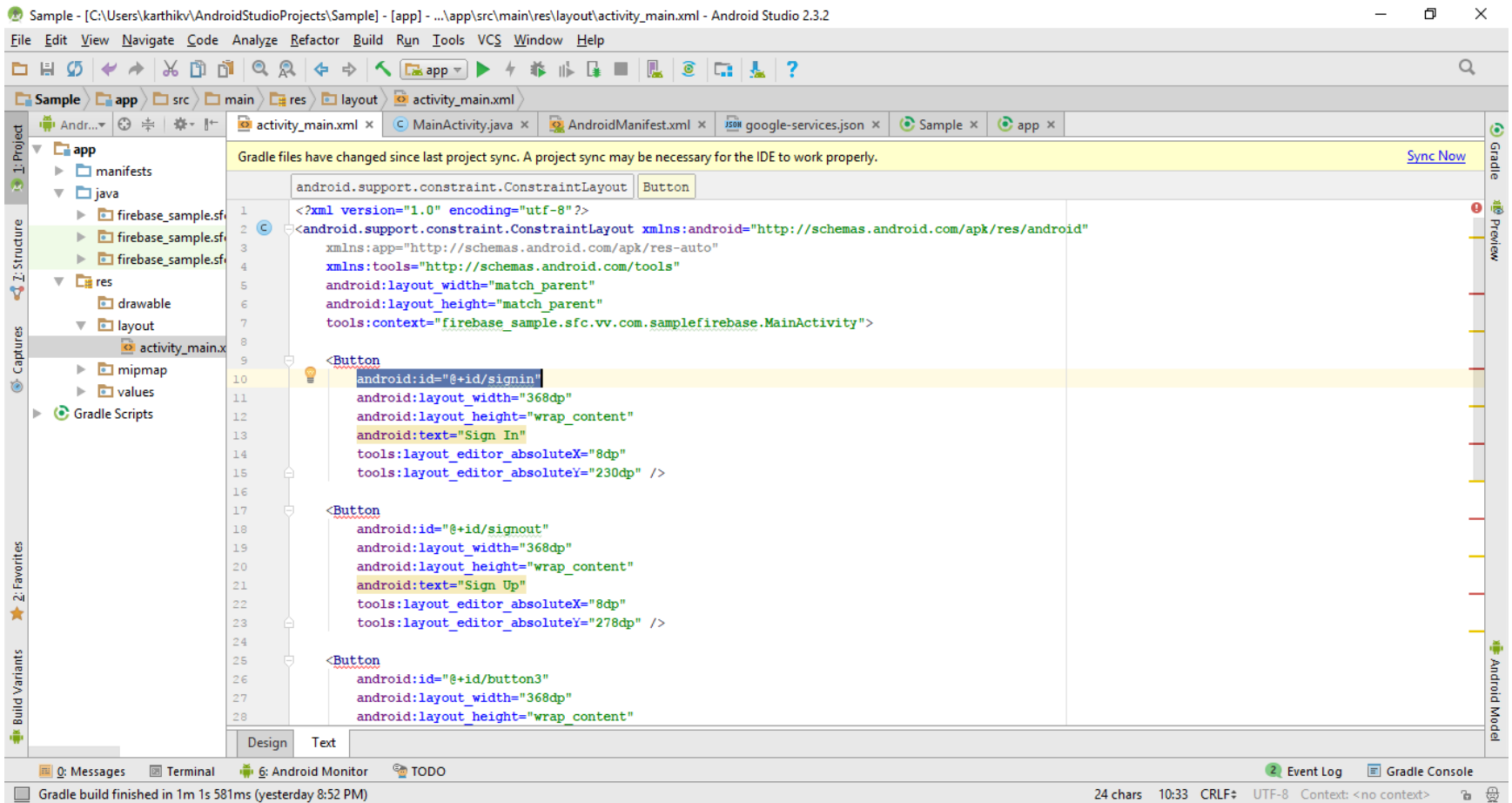
Designing Front End



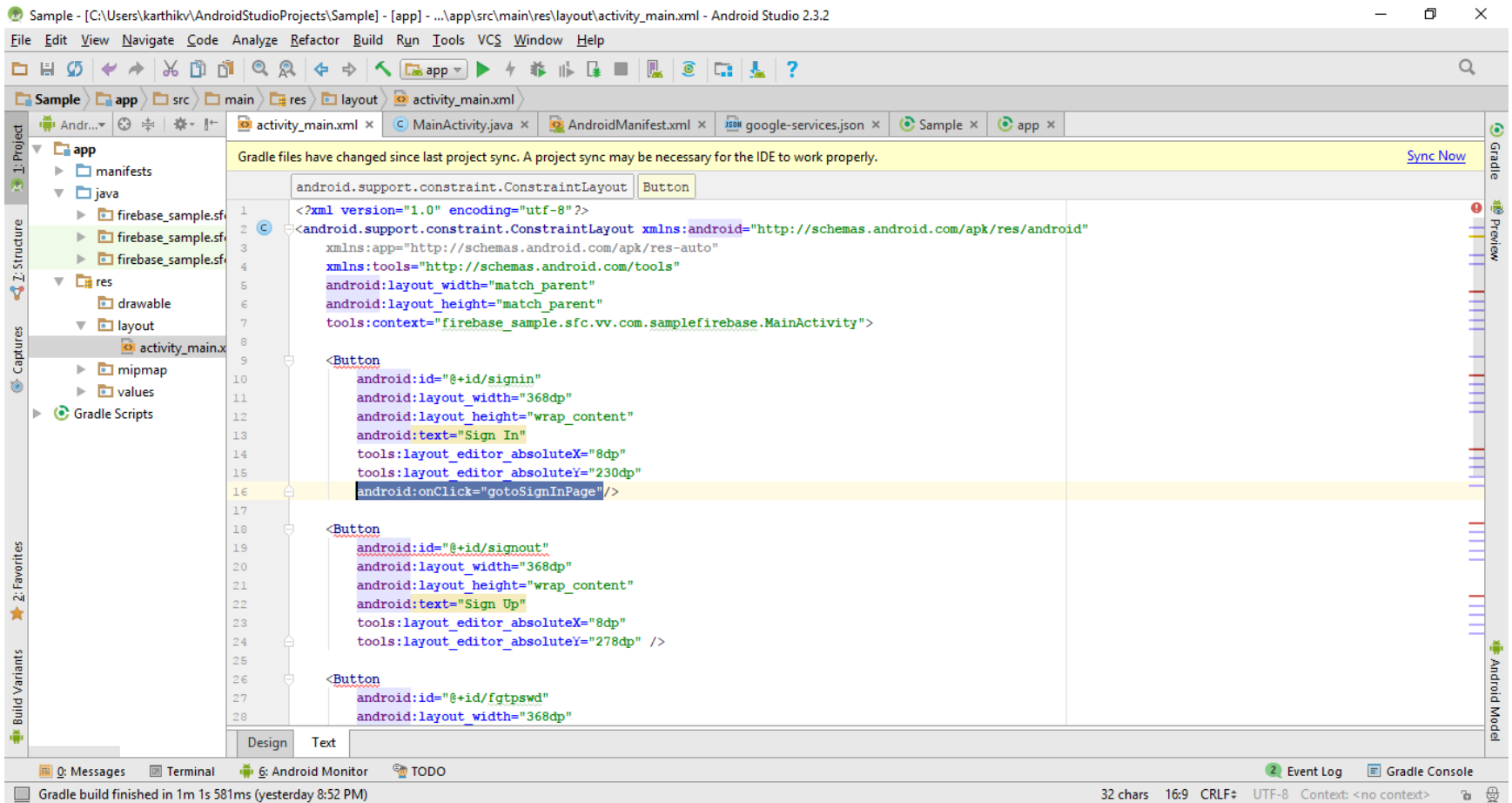
Designing Front End



Designing Front End



Designing Front End

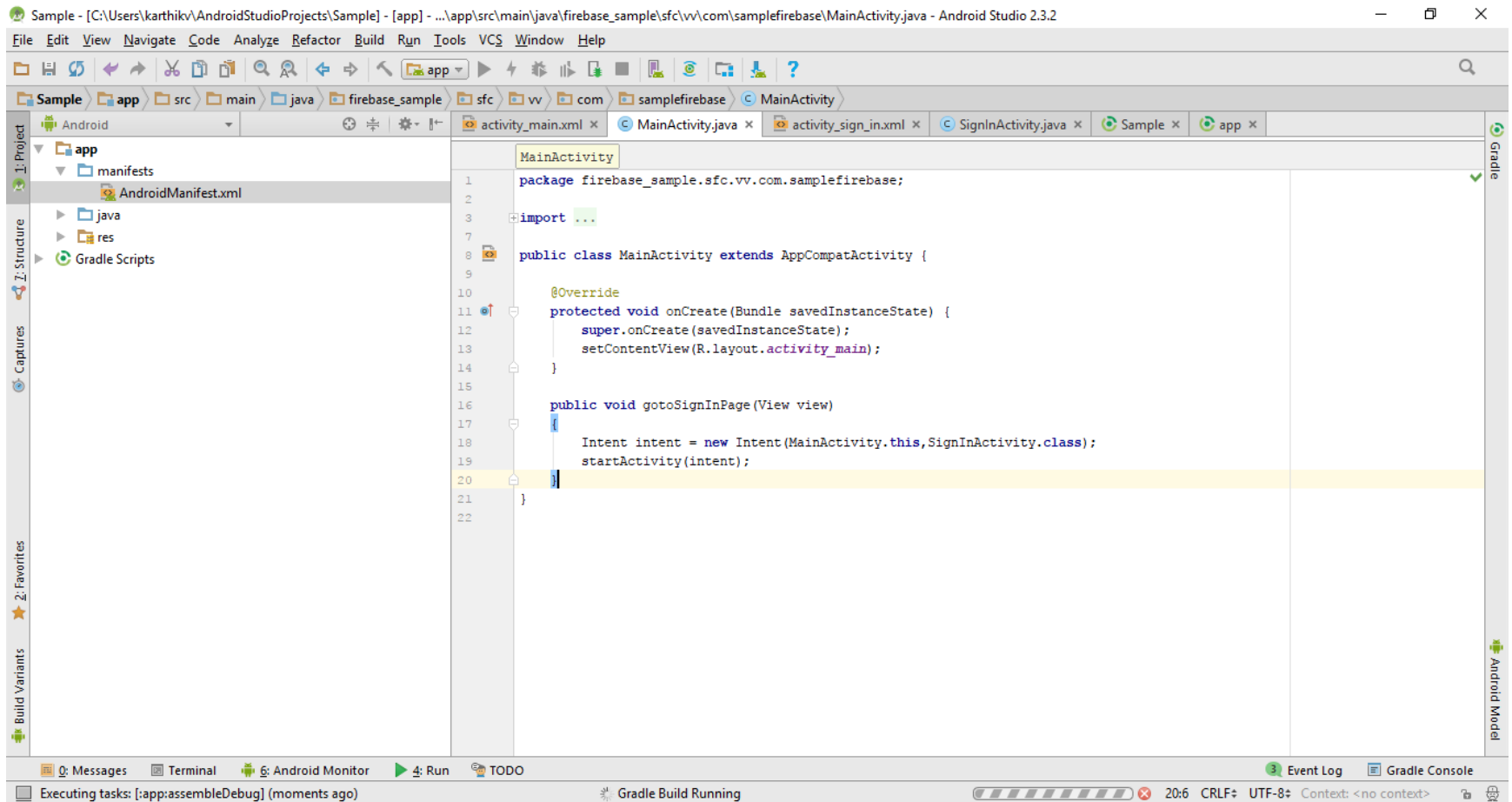


Designing Front End

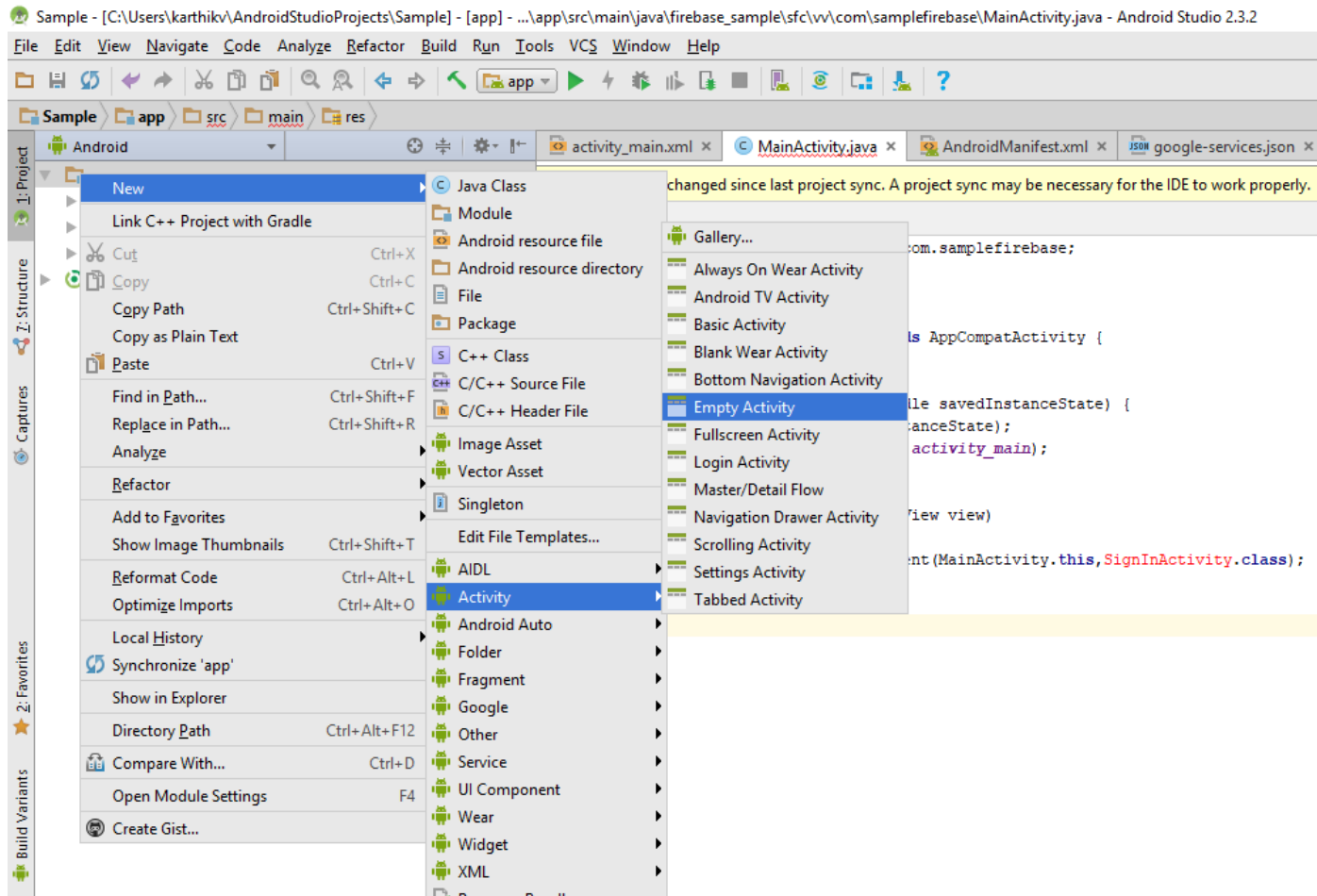
```
public class MainActivity extends AppCompatActivity {  
  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.activity_main);  
    }  
  
    public void gotoSignInPage(View view)  
    {  
    }  
}
```

? android.view.View? Alt+Enter

Designing Front End




Designing Front End



Designing Front End

New Android Activity

 **Configure Activity**
Android Studio

Creates a new empty activity

Activity Name:

☒ Generate Layout File

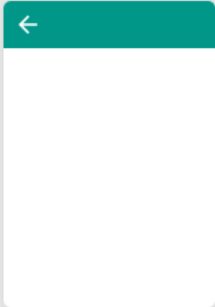
Layout Name:

☐ Launcher Activity

☒ Backwards Compatibility (AppCompat)

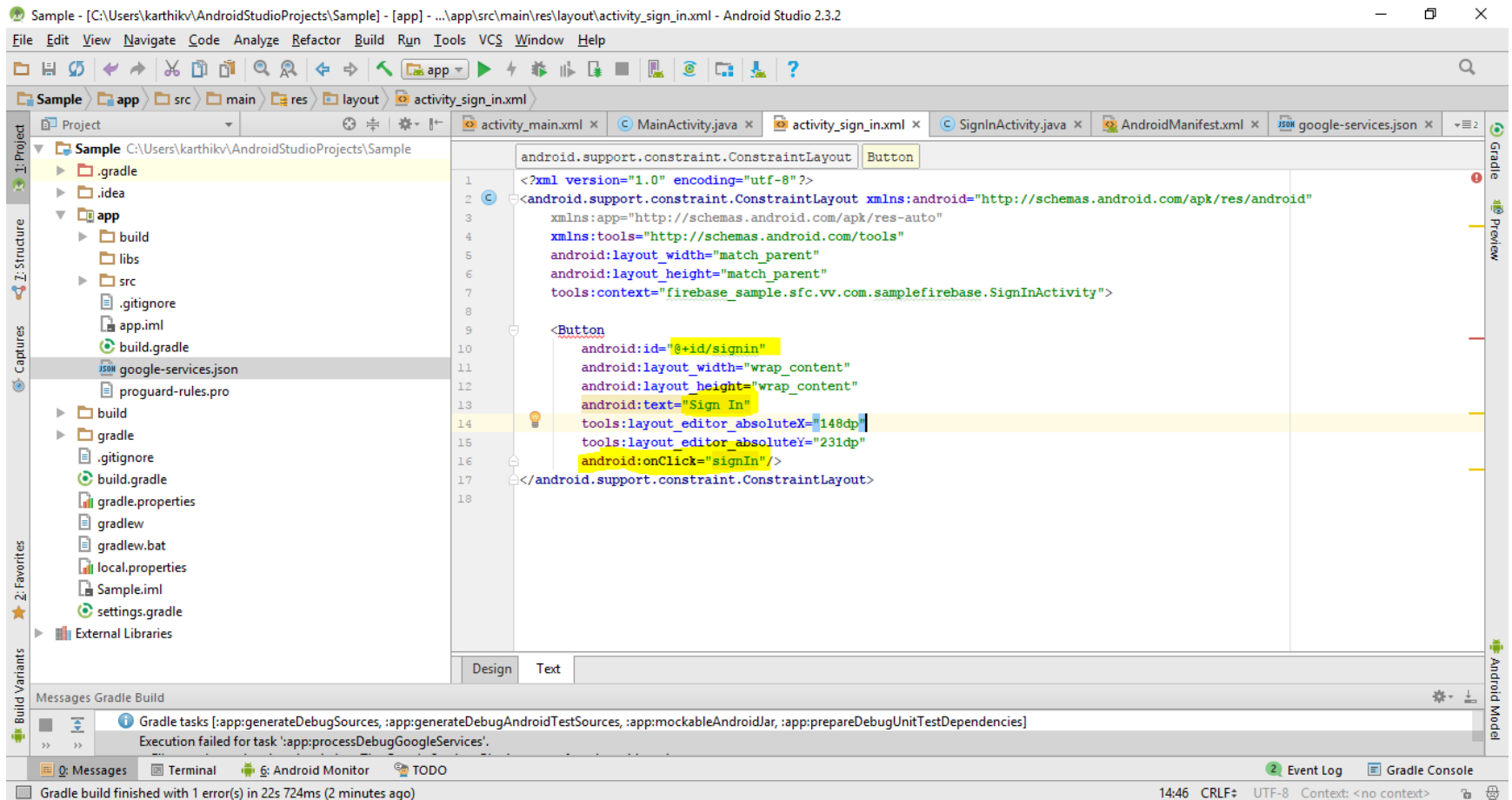
Package name:

Target Source Set:

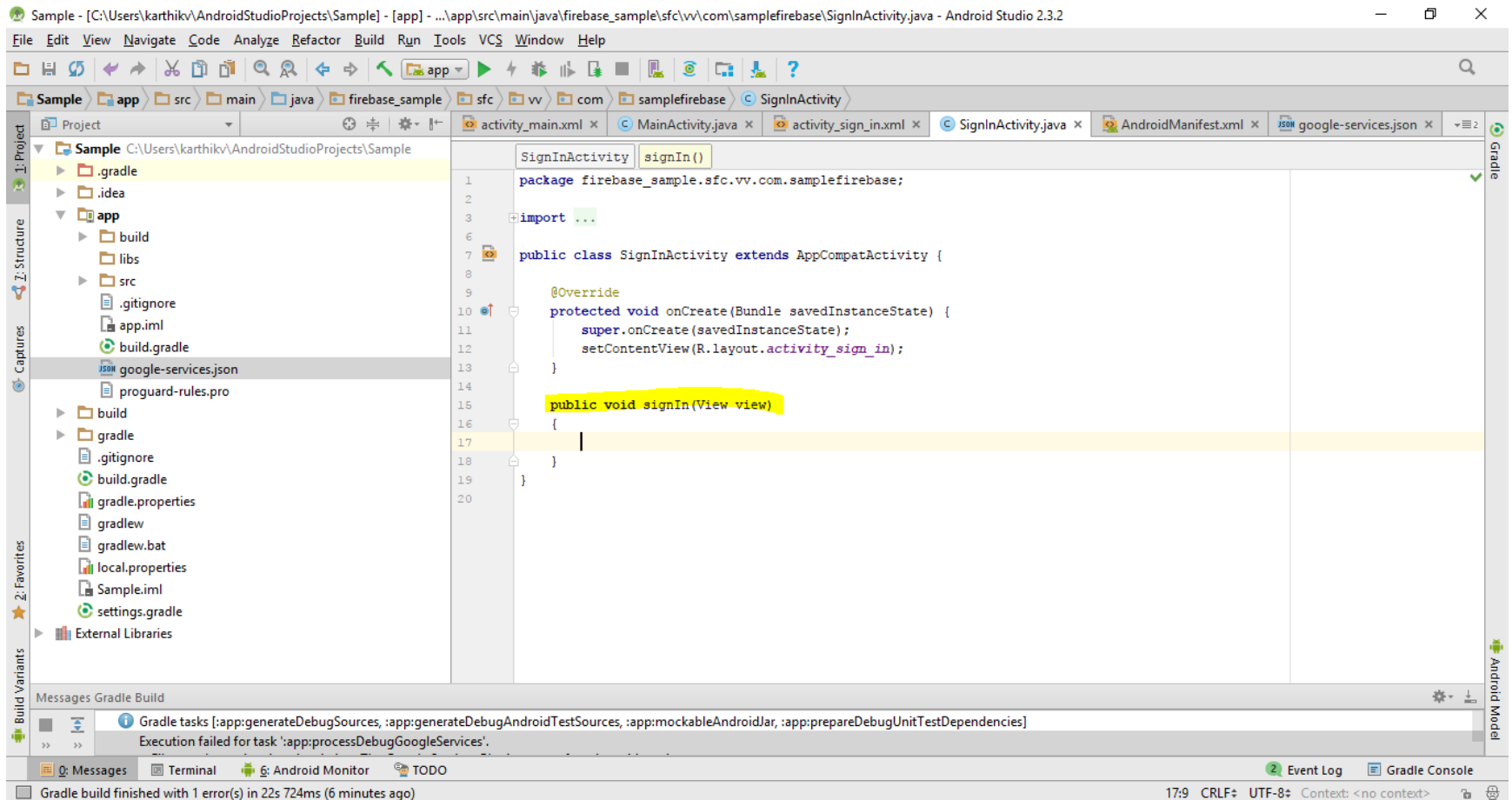


The name of the activity class to create

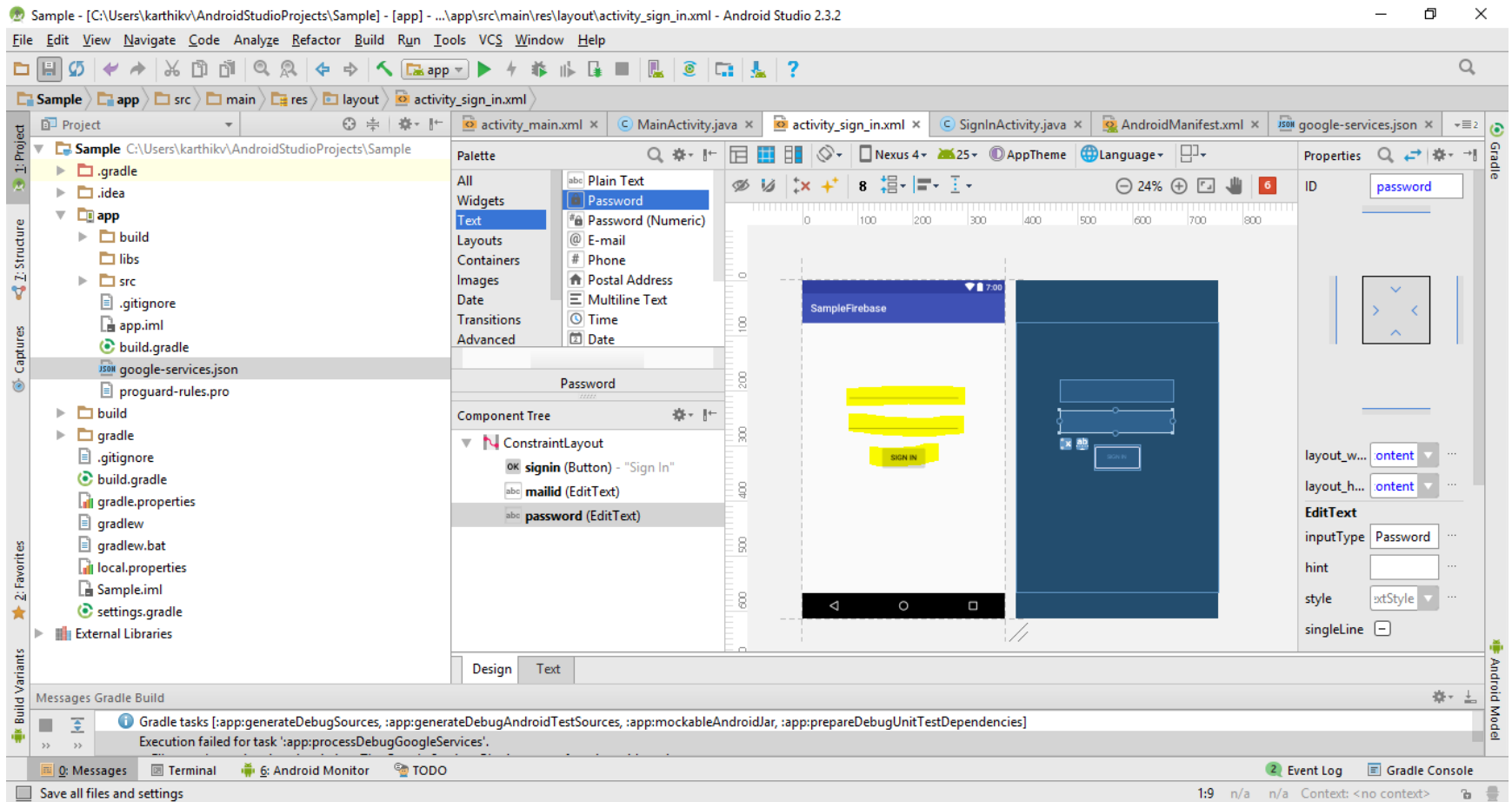
Designing Front End



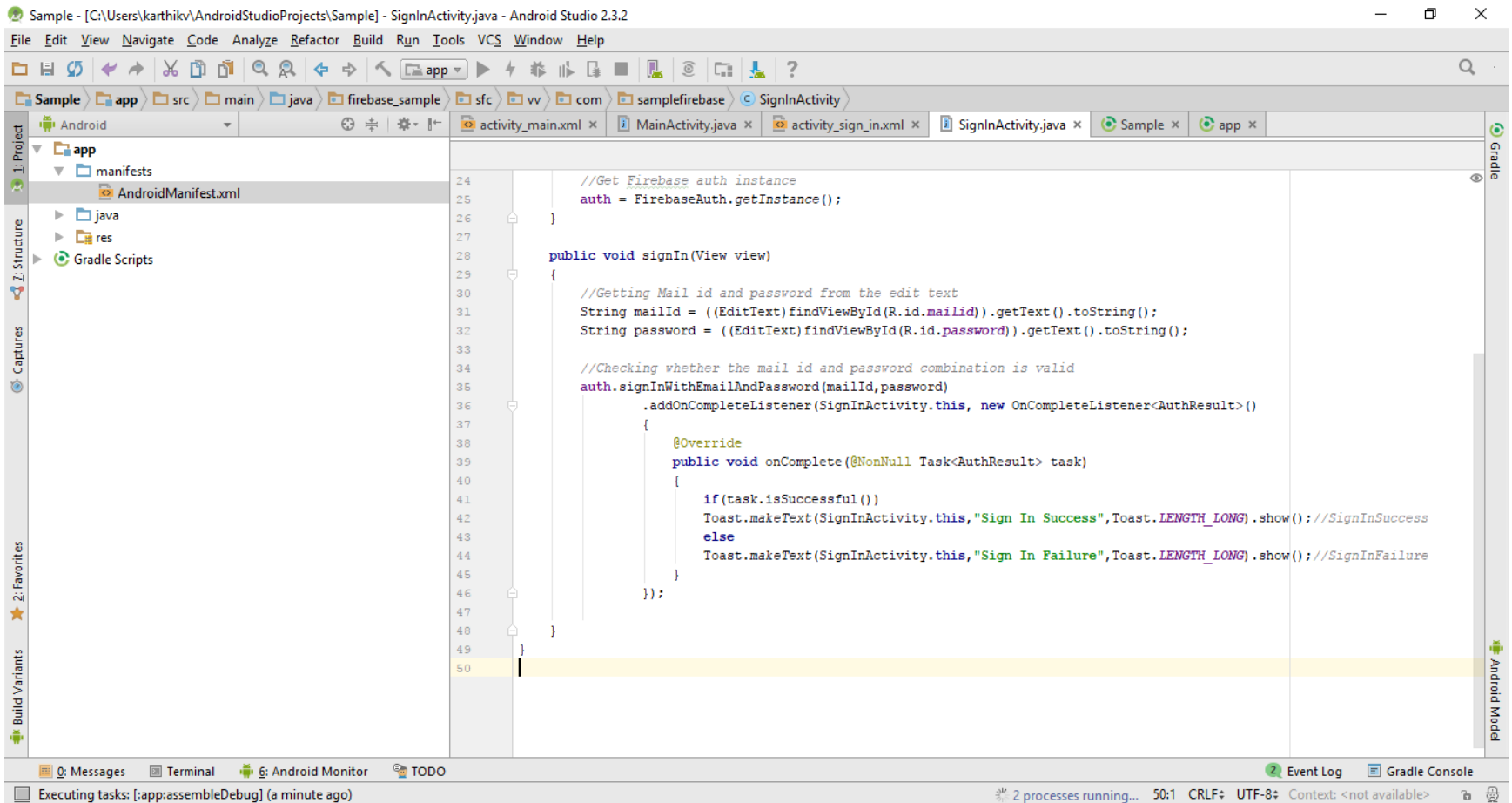
Designing Front End



Designing Front End



Designing Front End



Sample - [C:\Users\karthikv\AndroidStudioProjects\Sample] - SignInActivity.java - Android Studio 2.3.2

```
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

Sample app src main java firebase_sample sfc vv com samplefirebase SignInActivity
activity_main.xml x MainActivity.java x activity_sign_in.xml x SignInActivity.java x Sample x app x

Project
  app
    manifests
      AndroidManifest.xml
    java
    res
    Gradle Scripts

Captures

2 Favorites

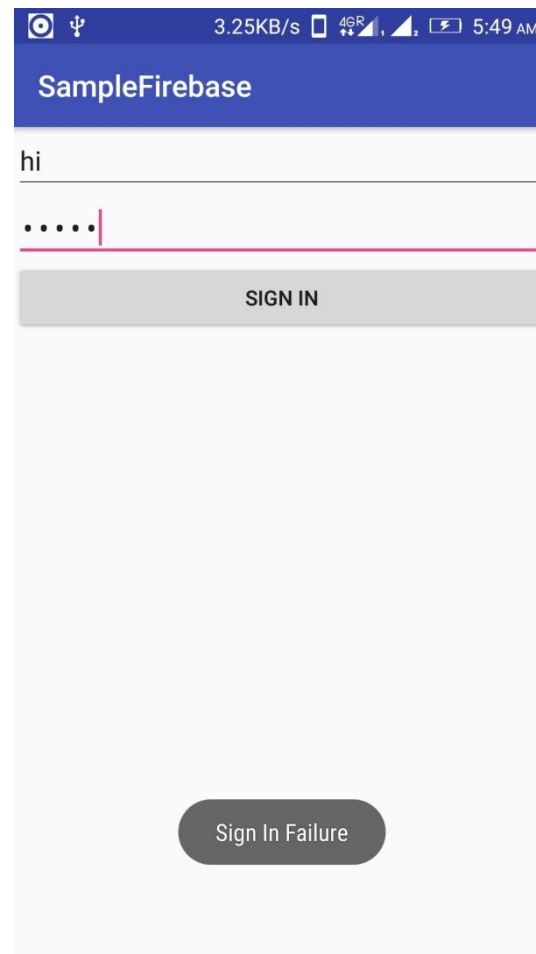
Build Variants

24 //Get Firebase auth instance
25 auth = FirebaseAuth.getInstance();
26 }
27
28 public void signIn(View view)
29 {
30     //Getting Mail id and password from the edit text
31     String mailId = ((EditText)findViewById(R.id.mailId)).getText().toString();
32     String password = ((EditText)findViewById(R.id.password)).getText().toString();
33
34     //Checking whether the mail id and password combination is valid
35     auth.signInWithEmailAndPassword(mailId,password)
36         .addOnCompleteListener(SignInActivity.this, new OnCompleteListener<AuthResult>()
37         {
38             @Override
39             public void onComplete(@NonNull Task<AuthResult> task)
40             {
41                 if(task.isSuccessful())
42                     Toast.makeText(SignInActivity.this,"Sign In Success",Toast.LENGTH_LONG).show();//SignInSuccess
43                 else
44                     Toast.makeText(SignInActivity.this,"Sign In Failure",Toast.LENGTH_LONG).show();//SignInFailure
45             }
46         });
47     }
48 }
49
50
```

Q: Messages Terminal Android Monitor TODO Event Log Gradle Console

Executing tasks: [:app:assembleDebug] (a minute ago) 2 processes running... 50:1 CRLF UTF-8 Context: <not available>

Designing Front End



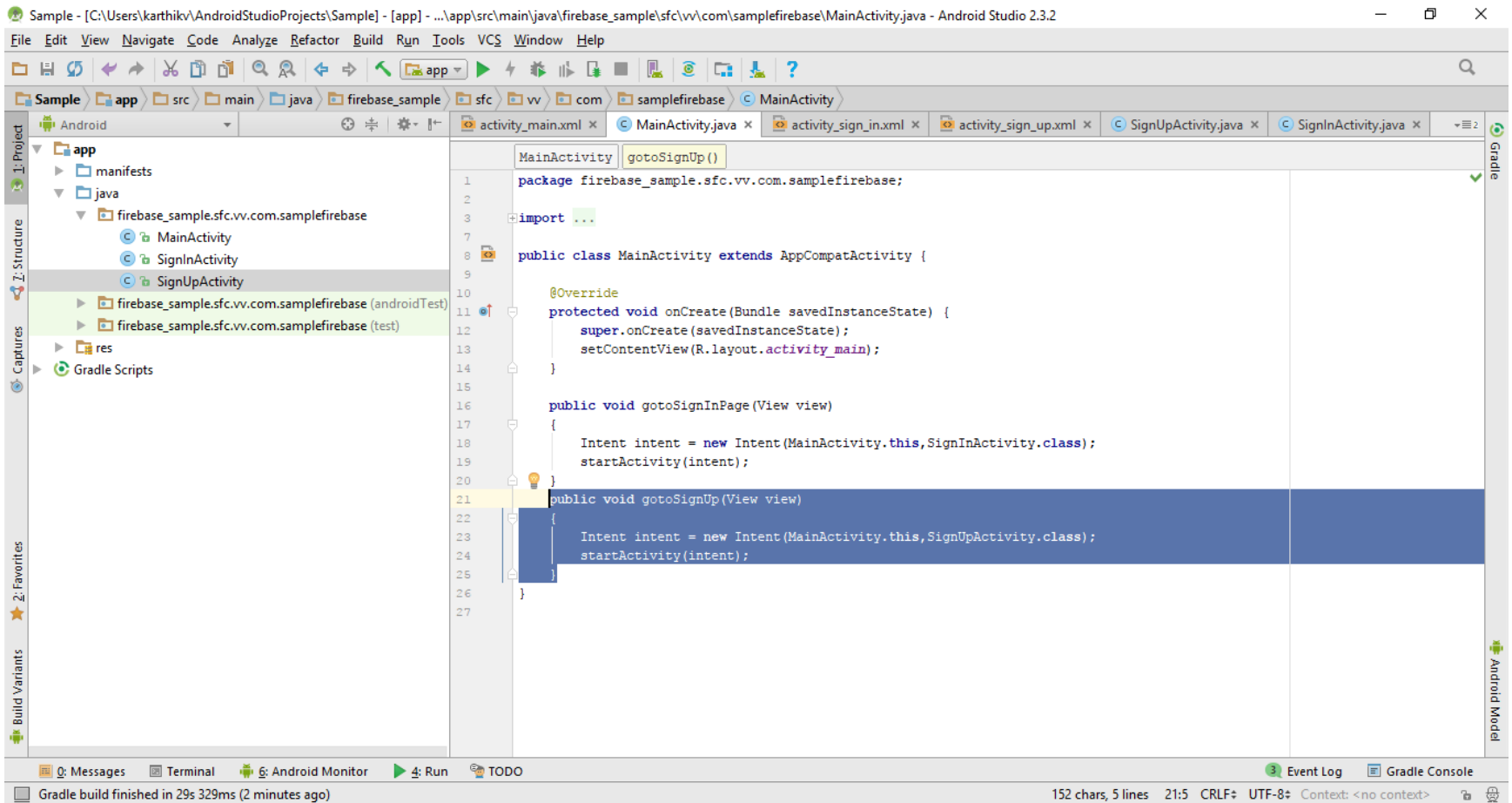
Designing Front End

- Create a new Activity named SignUpActivity

In Main Activity

```
<Button
    android:id="@+id/signup"
    android:layout_width="368dp"
    android:layout_height="wrap_content"
    android:text="Sign Up"
    tools:layout_editor_absoluteX="8dp"
    tools:layout_editor_absoluteY="278dp"
    android:onClick="gotoSignUp"/>
```

In Main Activity



Sample - [C:\Users\karthikv\AndroidStudioProjects\Sample] - [app] - ...app\src\main\java\firebase_sample\sfc\vv\com\samplefirebase\MainActivity.java - Android Studio 2.3.2

File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

Sample app src main java firebase_sample sfc vv com samplefirebase MainActivity

Android

Project Structure

- app
 - manifests
 - java
 - firebase_sample.sfc.vv.com.samplefirebase
 - MainActivity
 - SignInActivity
 - SignUpActivity
 - firebase_sample.sfc.vv.com.samplefirebase (androidTest)
 - firebase_sample.sfc.vv.com.samplefirebase (test)
 - res
 - Gradle Scripts

Captures

2 Favorites

Build Variants

```
1 package firebase_sample.sfc.vv.com.samplefirebase;
2
3 import ...
4
5 public class MainActivity extends AppCompatActivity {
6
7     @Override
8     protected void onCreate(Bundle savedInstanceState) {
9         super.onCreate(savedInstanceState);
10        setContentView(R.layout.activity_main);
11    }
12
13    public void gotoSignInPage(View view) {
14        Intent intent = new Intent(MainActivity.this, SignInActivity.class);
15        startActivity(intent);
16    }
17
18    public void gotoSignUp(View view) {
19        Intent intent = new Intent(MainActivity.this, SignUpActivity.class);
20        startActivity(intent);
21    }
22 }
```

Gradle

Android Model

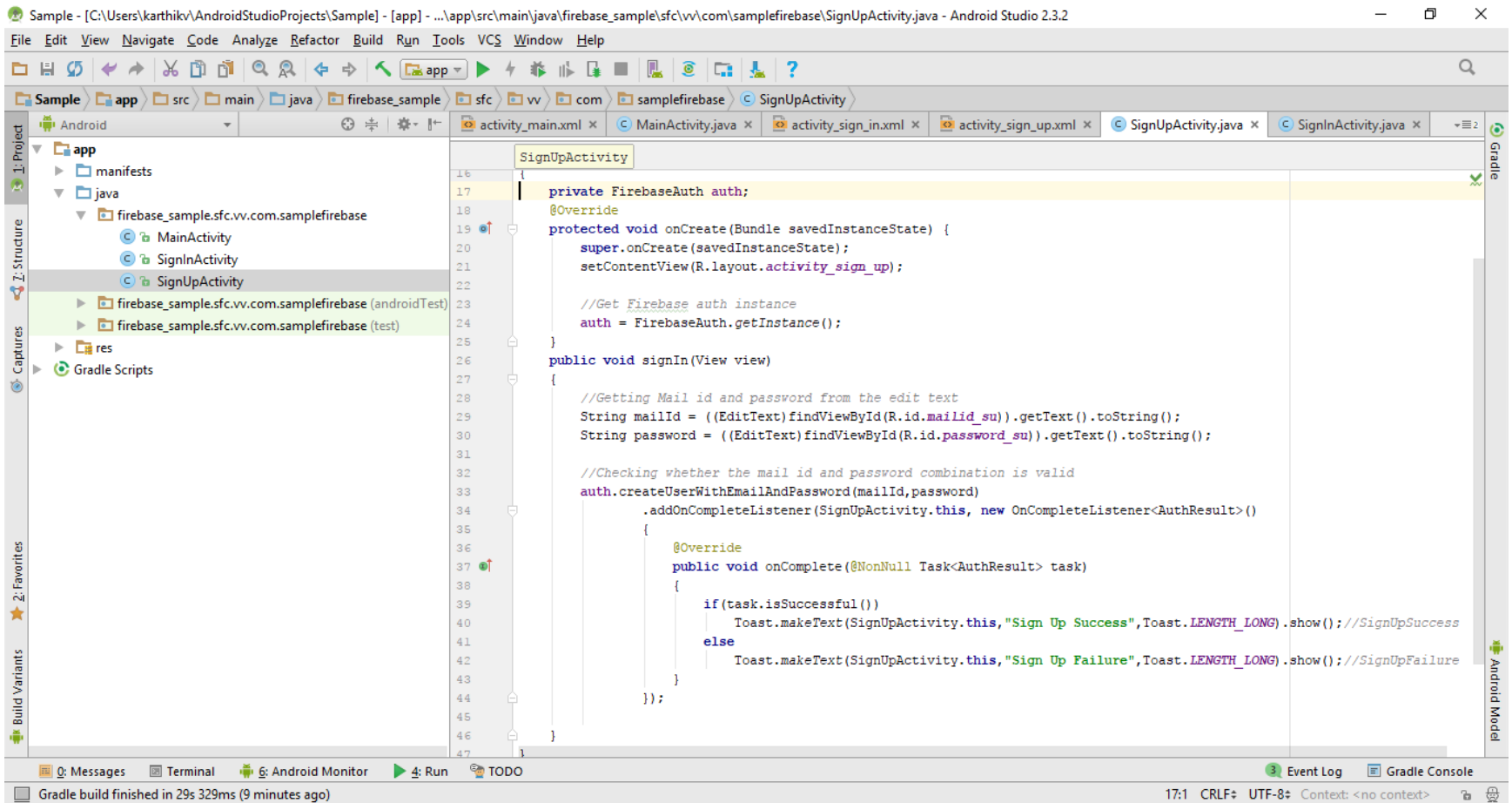
Q: Messages Terminal Android Monitor Run TODO

Event Log Gradle Console

Gradle build finished in 29s 329ms (2 minutes ago)

152 chars, 5 lines 21:5 CRLF UTF-8 Context: <no context>

Sign Up Activity



Sample - [C:\Users\karthikv\AndroidStudioProjects\Sample] - [app] - ...app\src\main\java\firebase_sample\sfc\vv\com\samplefirebase\SignUpActivity.java - Android Studio 2.3.2

```
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help

Sample app src main java firebase_sample sfc vv com samplefirebase SignUpActivity
activity_main.xml x MainActivity.java x activity_sign_in.xml x activity_sign_up.xml x SignUpActivity.java x SignInActivity.java x

Android
  app
    manifests
    java
      firebase_sample.sfc.vv.com.samplefirebase
        MainActivity
        SignInActivity
        SignUpActivity
      firebase_sample.sfc.vv.com.samplefirebase (androidTest)
      firebase_sample.sfc.vv.com.samplefirebase (test)
    res
    Gradle Scripts

Project Structure
Captures
2 Favorites
Build Variants

16
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SignUpActivity
{
    private FirebaseAuth auth;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_sign_up);

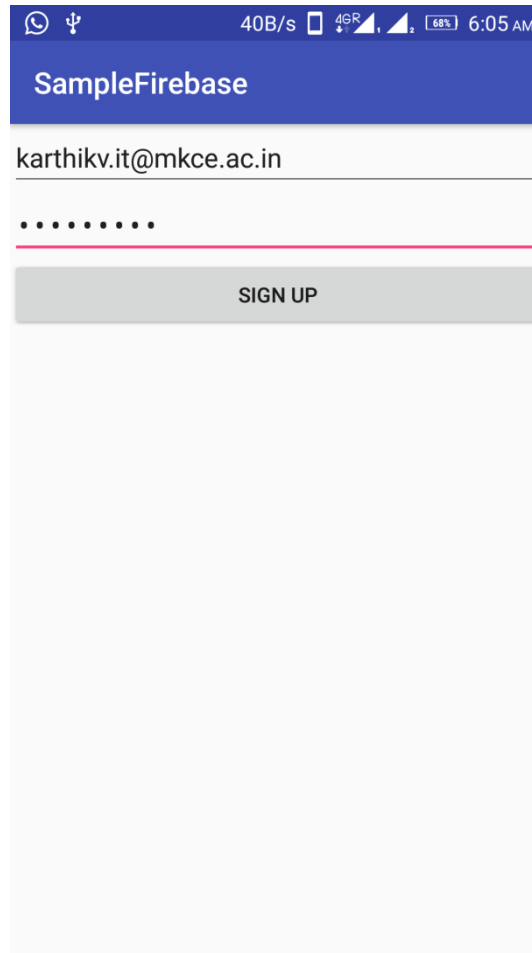
        //Get Firebase auth instance
        auth = FirebaseAuth.getInstance();
    }
    public void signIn(View view)
    {
        //Getting Mail id and password from the edit text
        String mailId = ((EditText)findViewById(R.id.mailid_su)).getText().toString();
        String password = ((EditText)findViewById(R.id.password_su)).getText().toString();

        //Checking whether the mail id and password combination is valid
        auth.createUserWithEmailAndPassword(mailId,password)
            .addOnCompleteListener(SignUpActivity.this, new OnCompleteListener<AuthResult>()
            {
                @Override
                public void onComplete(@NonNull Task<AuthResult> task)
                {
                    if(task.isSuccessful())
                        Toast.makeText(SignUpActivity.this,"Sign Up Success",Toast.LENGTH_LONG).show();//SignUpSuccess
                    else
                        Toast.makeText(SignUpActivity.this,"Sign Up Failure",Toast.LENGTH_LONG).show();//SignUpFailure
                }
            });
    }
}
```

Q: Messages Terminal Android Monitor Run TODO Event Log Gradle Console

Gradle build finished in 29s 329ms (9 minutes ago) 17:1 CRLF UTF-8 Context: <no context>

Sign Up Activity



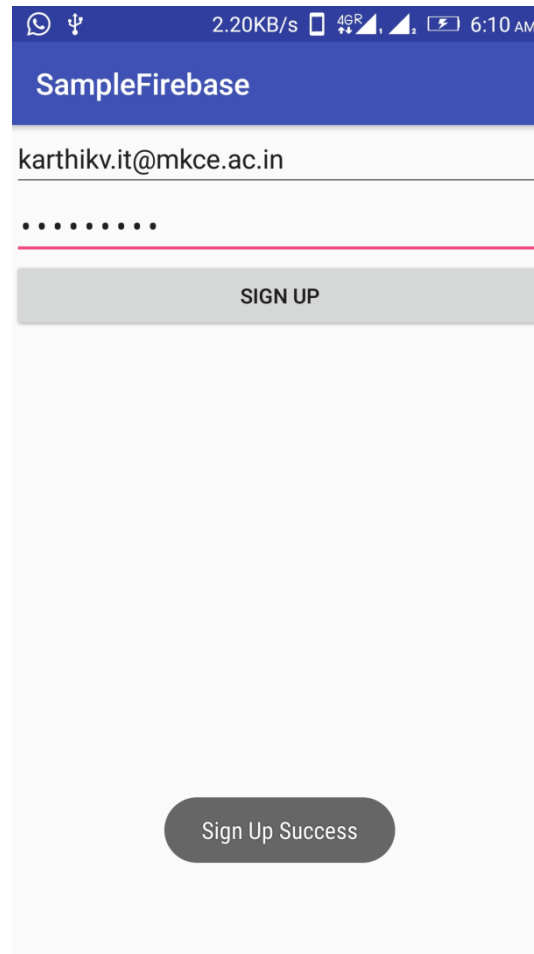
SampleFirebase

karthikv.it@mkce.ac.in

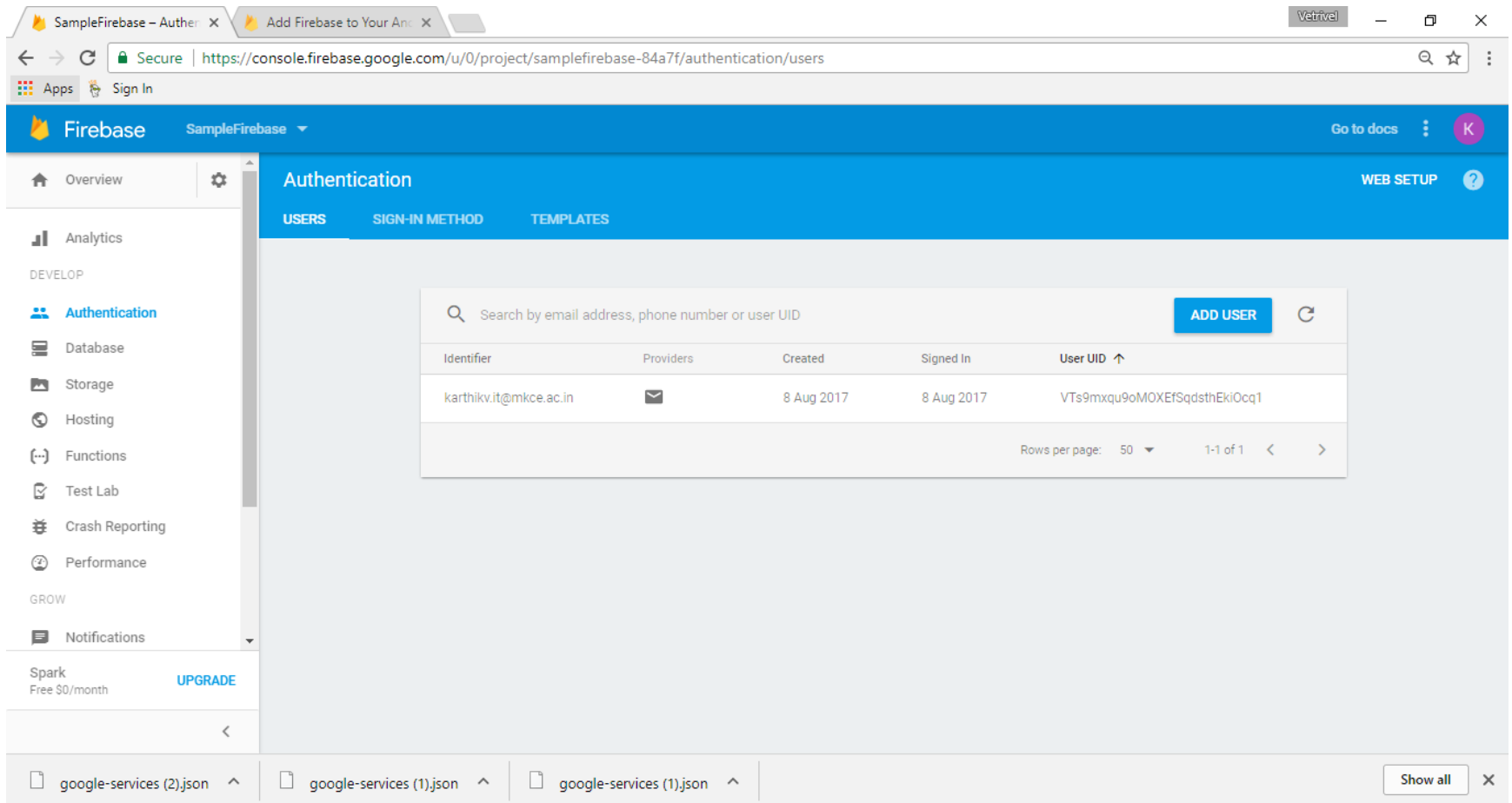
.....

SIGN UP


Sign Up Success



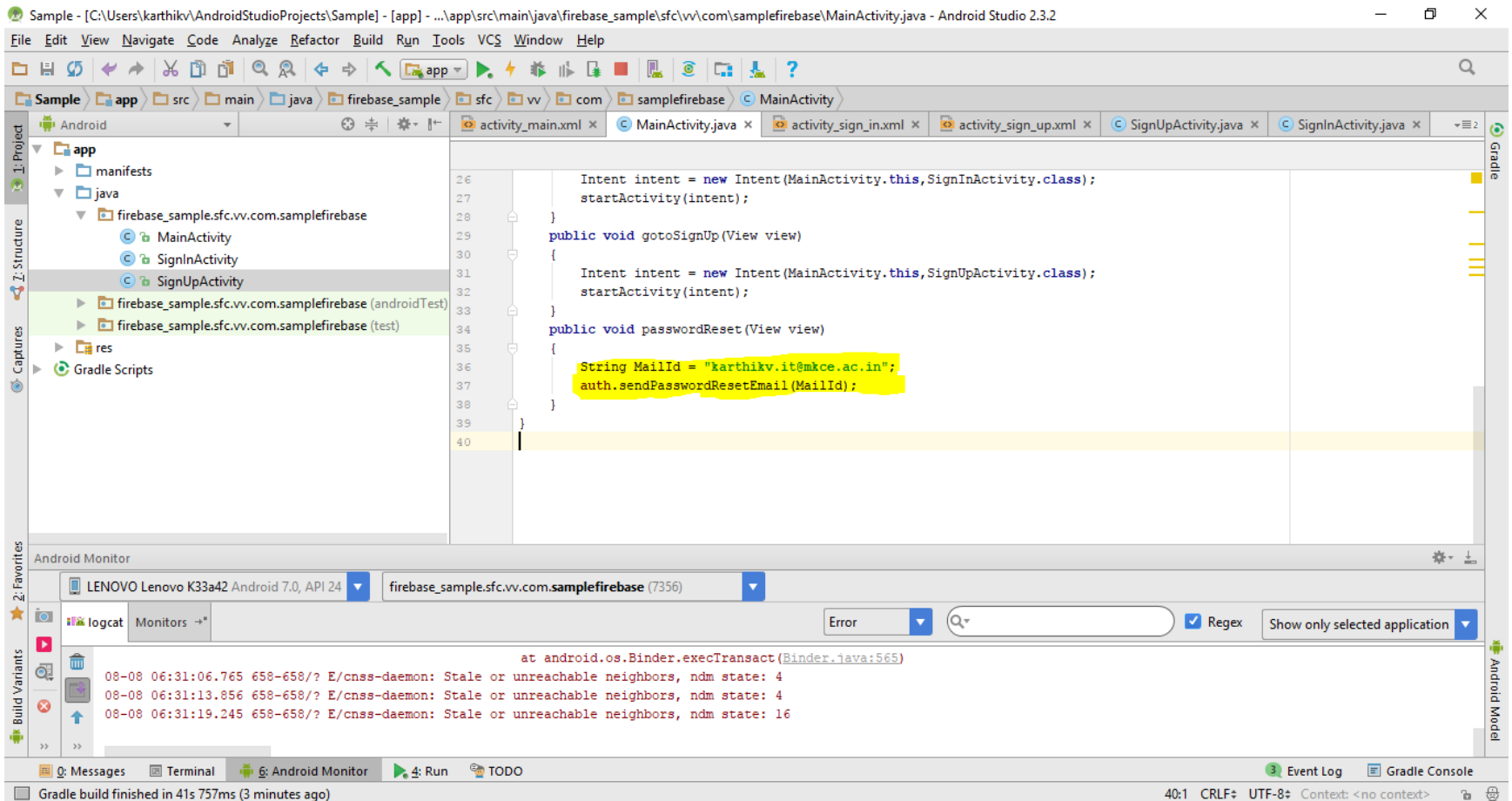
Sign Up Success



The screenshot shows the Firebase Authentication console in a web browser. The browser tabs include 'SampleFirebase - Authen...' and 'Add Firebase to Your And...'. The address bar shows the URL 'https://console.firebase.google.com/u/0/project/samplefirebase-84a7f/authentication/users'. The page title is 'Authentication' and the sub-header is 'USERS'. A search bar at the top of the table says 'Search by email address, phone number or user UID'. There is an 'ADD USER' button and a refresh icon. The table has five columns: Identifier, Providers, Created, Signed In, and User UID. One user is listed with the email 'karthikv.it@mkce.ac.in', a provider icon, and creation/sign-in dates of '8 Aug 2017'. The User UID is 'VTs9mxqu9oMOXEfSqdsthEki0cq1'. At the bottom right of the table, it says 'Rows per page: 50' and '1-1 of 1'. The left sidebar shows the Firebase logo, 'SampleFirebase', and a list of services: Overview, Analytics, Authentication (selected), Database, Storage, Hosting, Functions, Test Lab, Crash Reporting, Performance, and Notifications. At the bottom of the sidebar, it says 'Spark Free \$0/month' and 'UPGRADE'. The bottom of the browser shows three tabs for 'google-services (2).json', 'google-services (1).json', and 'google-services (1).json', with a 'Show all' button.

Identifier	Providers	Created	Signed In	User UID ↑
karthikv.it@mkce.ac.in		8 Aug 2017	8 Aug 2017	VTs9mxqu9oMOXEfSqdsthEki0cq1

Password Reset




Password Reset

Reset your password for SampleFirebase

Inbox x



 noreply@samplefirebase-84a7f.firebaseio.com
to me ▾

6:28 AM (1 minute ago) ☆



Hello,

Follow this link to reset your SampleFirebase password for your karthikv.it@mkce.ac.in account.

https://samplefirebase-84a7f.firebaseio.com/_/auth/action?mode=resetPassword&oobCode=b9_jvQKFCvzsl8kYcdUWXD1QT0cg8JnWTwAwv9d4EC0AAAFdv1oM2g&apiKey=AlzaSyByrxldr0ACDqxrOT3ppDhLN6yg-xEimlQ


If you didn't ask to reset your password, you can ignore this email.

Thanks,

Your SampleFirebase team

 Click here to [Reply](#) or [Forward](#)

Using 4.78 GB
[Manage](#)

[Program Policies](#)
Powered by 

Last account activity: 11 hours ago
[Details](#)

Update Password

```
FirebaseUser user = FirebaseAuth.getInstance().getCurrentUser();  
user.updatePassword("New Password")
```

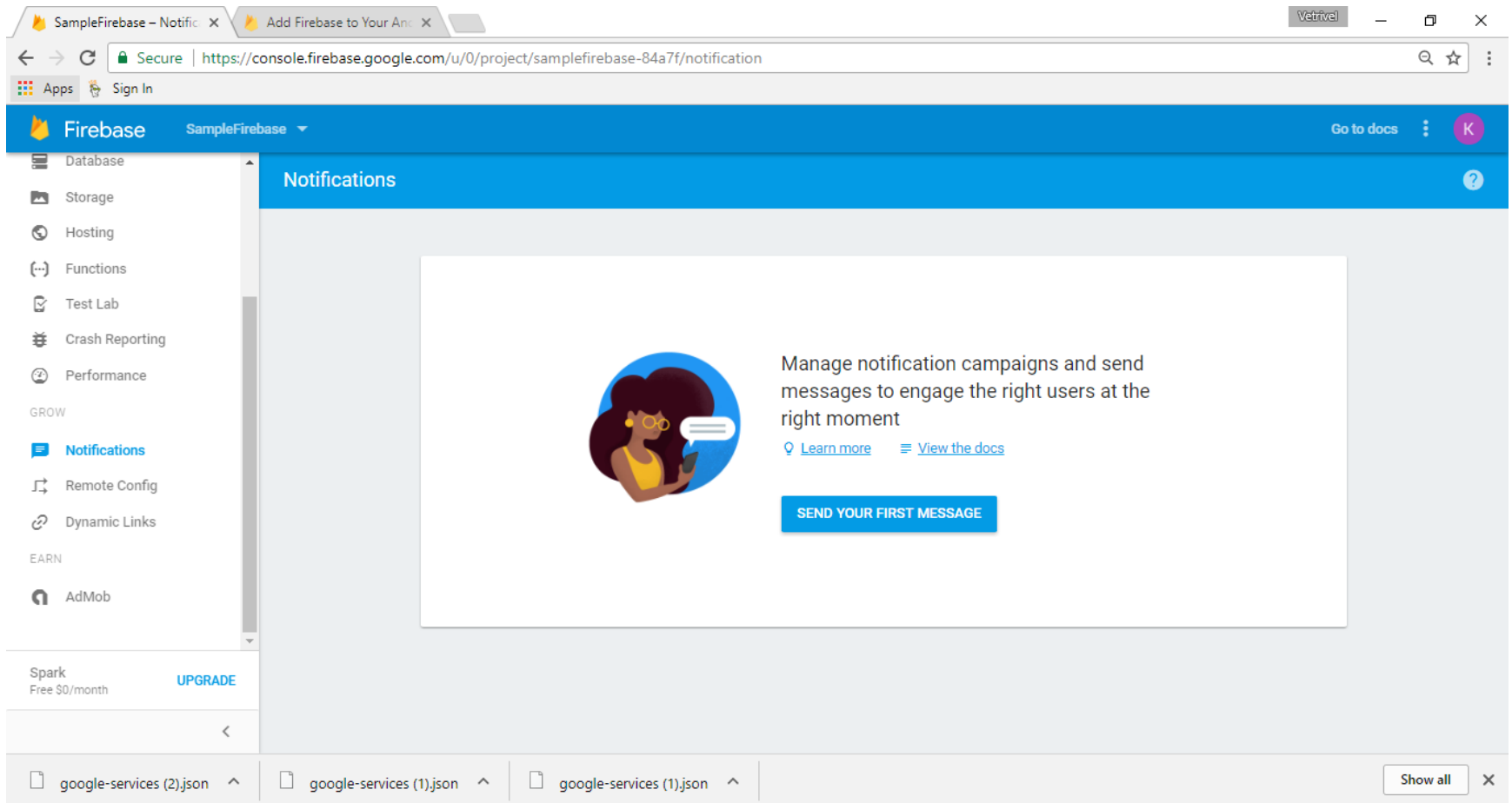
Delete User

```
FirebaseUser user = FirebaseAuth.getInstance().getCurrentUser();  
user.delete();
```

Sign Out

```
auth = FirebaseAuth.getInstance();  
auth.signout();
```

Push Notifications



Push Notifications

Message text

Hi this is important. Please Update your app

Message label (optional) ?

Important


Delivery date ?

Send Now


Target

☒ User segment ☐ Topic ☐ Single device

Target user if...

App  firebase_sample.sfc.vv.com.samplefirebase AND

TARGET ANOTHER APP

 Conversion events ?

Advanced options

SAVE AS DRAFT

SEND MESSAGE

Thanks for the opportunity... 😊 😊 😊

- Mail your queries and feedbacks
- karthik.venkatachalam1@gmail.com
- Youtube Channel
www.youtube.com/c/sixforceclassrooms
- Android App Channel Id
<https://play.google.com/store/apps/dev?id=9026064264982320445>