

SIMPLE SOCIAL MEDIA MOBILE APPLICATION

Czyli projektowanie aplikacji mobilnej

Plan prezentacji

1

Omówienie
środowiska

2

Technologie

3

Prezentacja
aplikacji

Dlaczego taki projekt?

- Nauka środowiska Android Studio
- Chęć zobaczenia jak wygląda projektowanie aplikacji mobilnych
- Chęć stworzenia aplikacji CRUD
- Doskonalenie pisanie kodu w języku Java

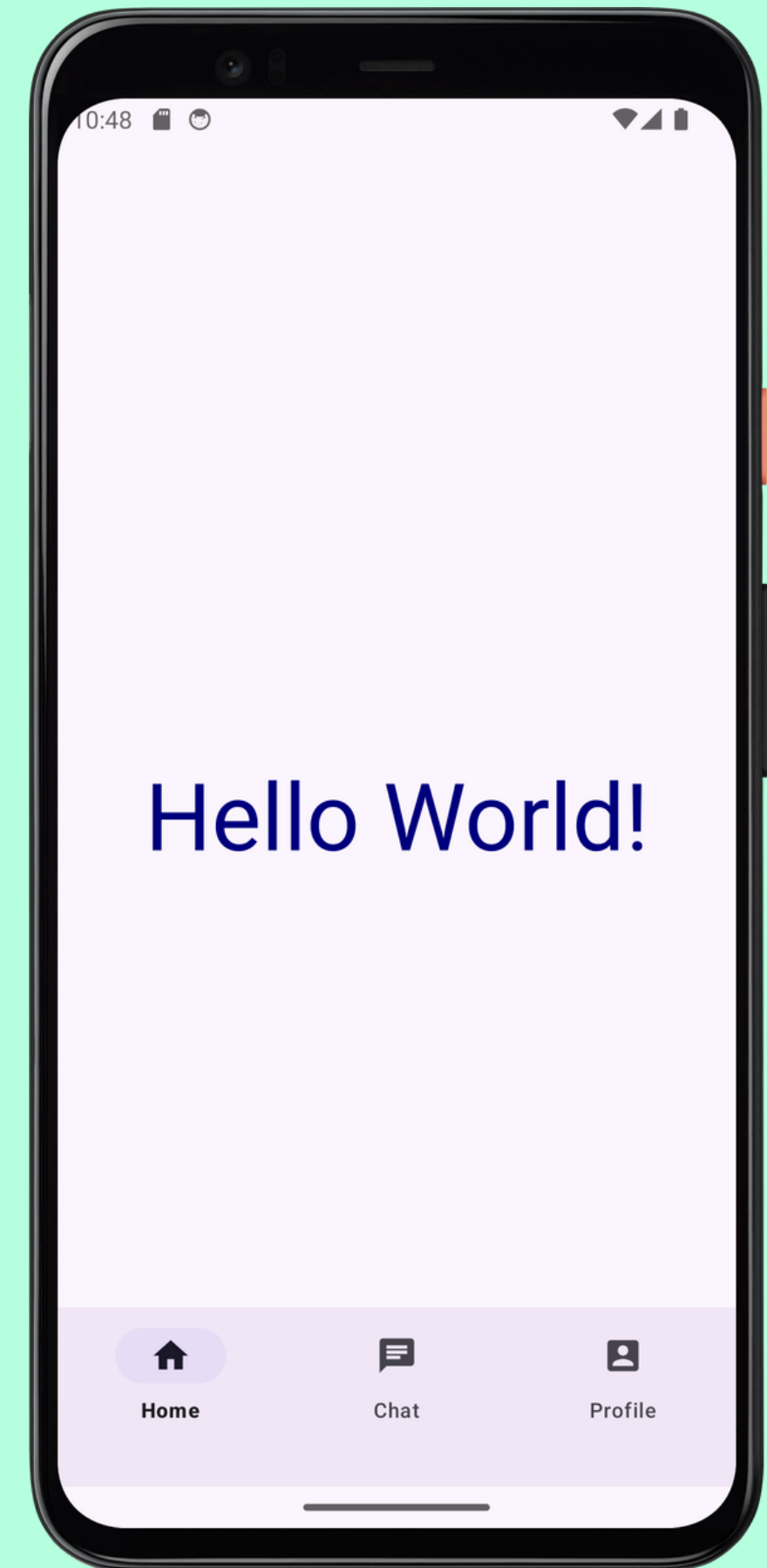


Technologie zastosowane w projekcie



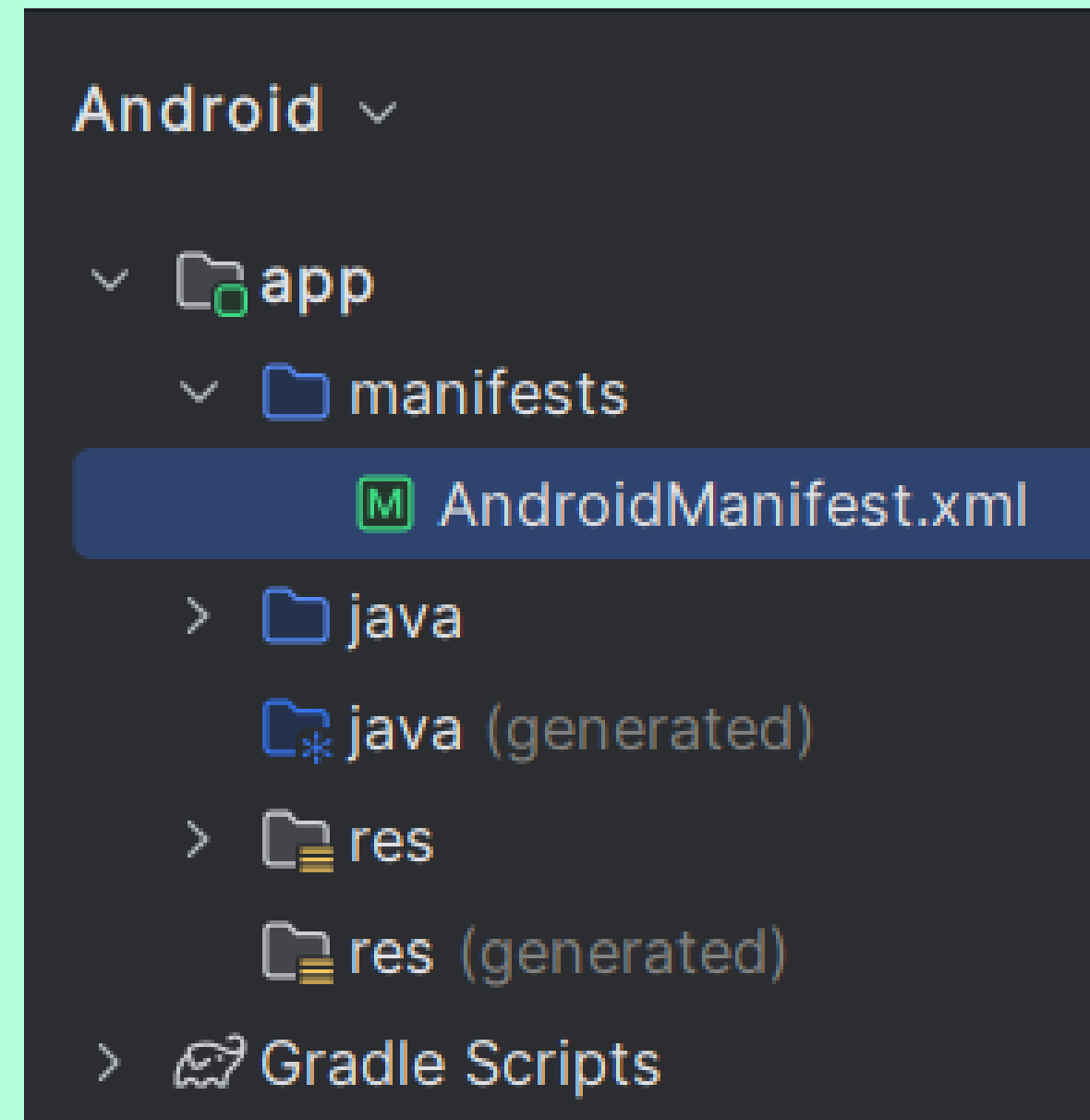
Komponenty aplikacj

- Activities
- Services
- Broadcast receivers
- Content providers

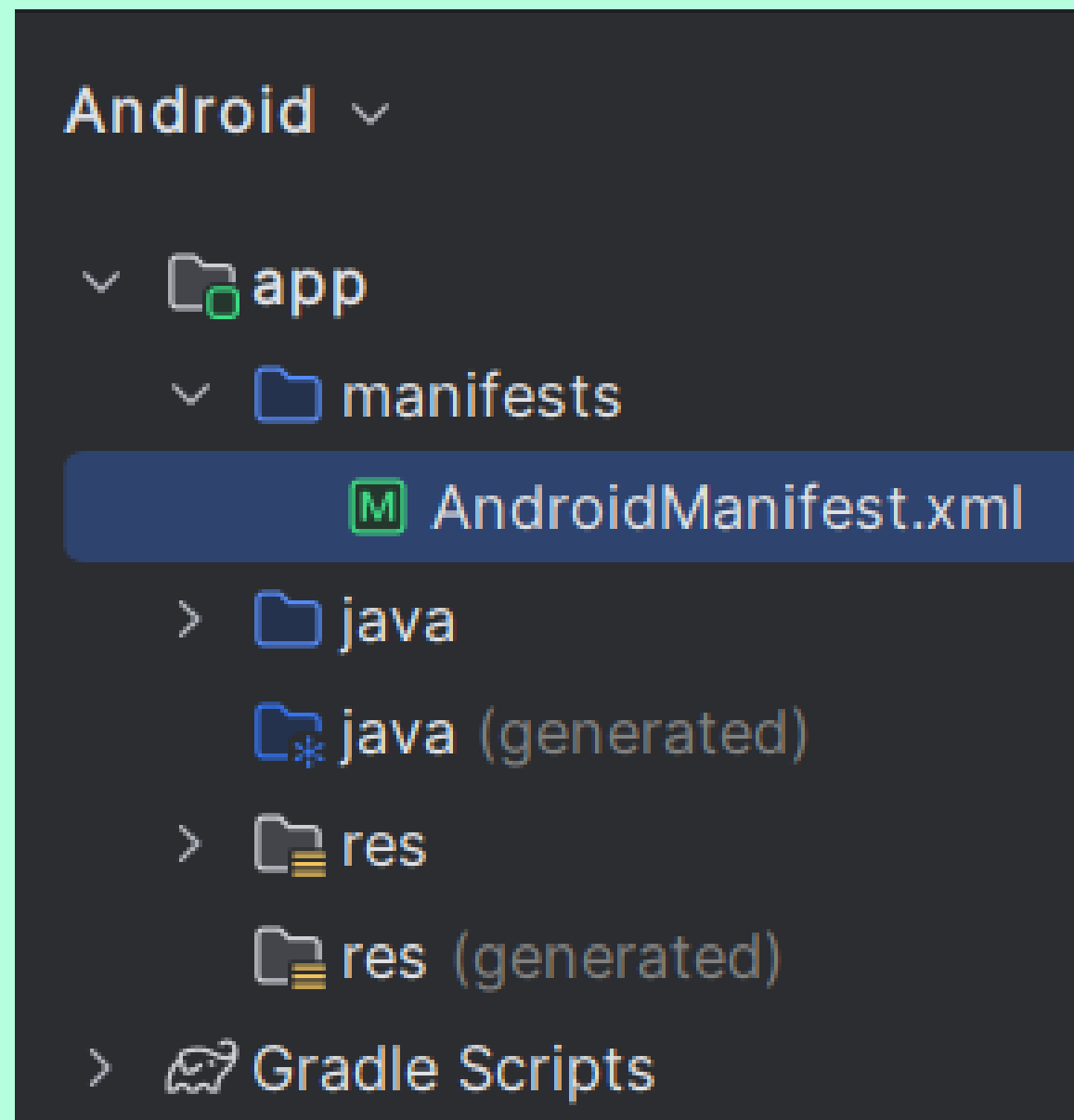


AndroidManifest.xml

- opisuje funkcjonalności i wymagania
- identyfikacja uprawnień
- deklaracja API
- nazwa pakietu
- etykiety, ikony, komponenty



Przykładowy plik manifest



```
<?xml version="1.0" encoding="utf-8"?>
<manifest
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:versionCode="1"
    android:versionName="1.0">

    <!-- Beware that these values are overridden by the build.gradle file -->
    <uses-sdk android:minSdkVersion="15" android:targetSdkVersion="26" />

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:label="@string/app_name"
        android:supportsRtl="true"
        android:theme="@style/AppTheme">

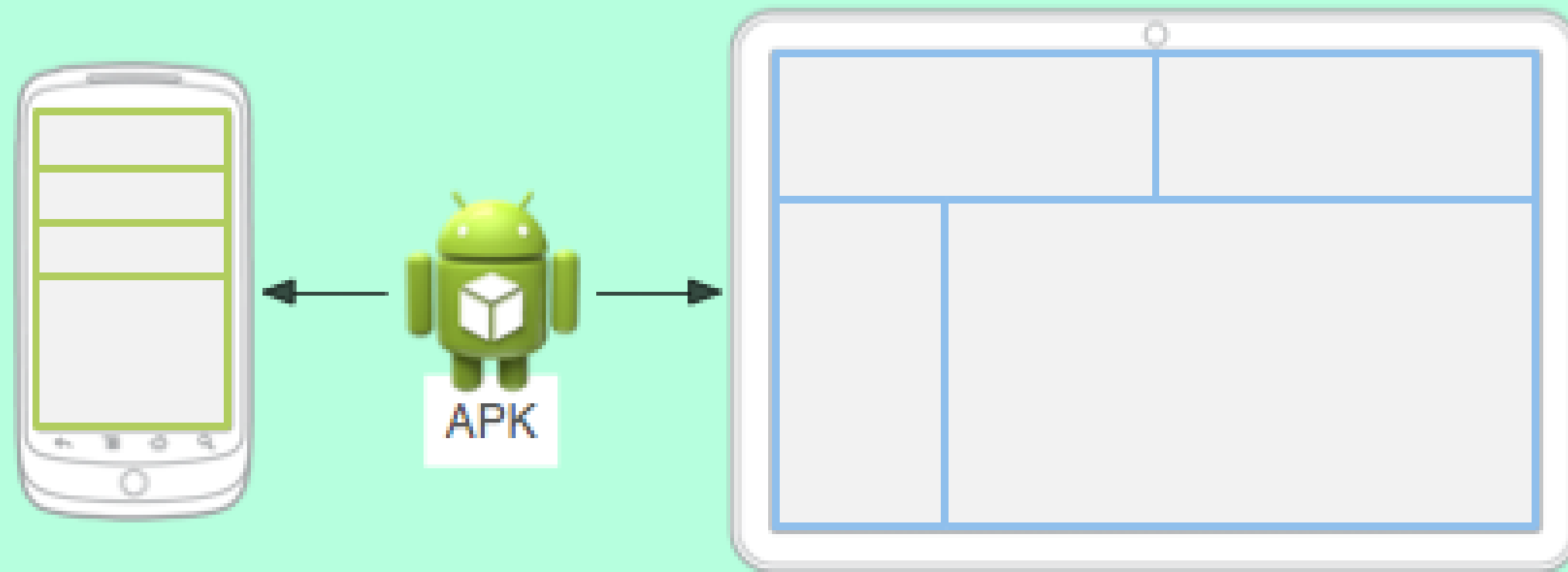
        <!-- This name is resolved to com.example.myapp.MainActivity
            based on the namespace property in the build.gradle file -->
        <activity android:name=".MainActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>

        <activity
            android:name=".DisplayMessageActivity"
            android:parentActivityName=".MainActivity" />

    </application>
</manifest>
```

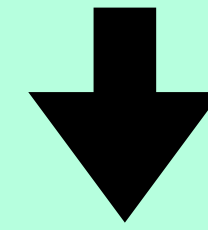
App resources

- drawable
- layout
- menu
- values
- font
- xml



LAYOUT RESOURCE

```
<TextView android:id="@+id/nameTextbox" />
```

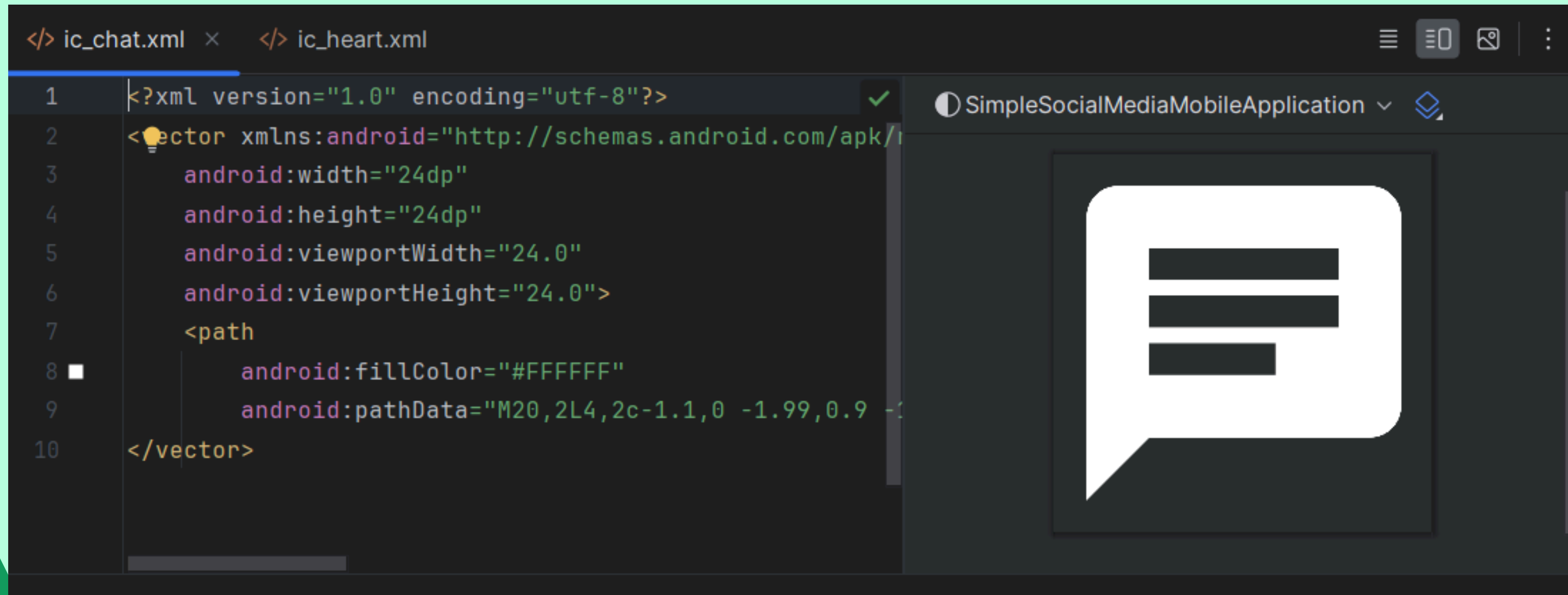


```
TextView textView = findViewById(R.id.nameTextbox);
```

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical" >
    <TextView android:id="@+id/text"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello, I am a TextView" />
    <Button android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello, I am a Button" />
</LinearLayout>
```

```
public void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.main_activity);
}
```

DRAWABLE



res/menu/menu_nav.xml

```
3 <menu xmlns:android="http://schemas.android.com/a
4 <!-- item - creates menu item-->
5 <item
6     android:id="@+id/nav_home"
7     android:icon="@drawable/ic_home"
8     android:title="@string/home" />
9
10 <item
11     android:id="@+id/nav_users"
12     android:icon="@drawable/ic_users"
13     android:title="@string/users" />
14
15 <item
16     android:id="@+id/nav_addblogs"
17     android:icon="@drawable/ic_add"
18     android:title="@string/add_blogs" />
19
20 <item
21     android:id="@+id/nav_chat"
22     android:icon="@drawable/ic_chat"
23     android:title="@string/chat_list" />
24
25 <item
26     android:id="@+id/nav_profile"
27     android:icon="@drawable/ic_account"
28     android:title="@string/profile" />
29
30 </menu>
```

Menu

res/layout/activity_dashboard.xml

```
<com.google.android.material.bottomnavigation.BottomNavigationView
    android:id="@+id/navigation"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_gravity="bottom"
    android:background="?android:attr/windowBackground"
    app:labelVisibilityMode="labeled"
    app:menu="@menu/menu_nav"
/>
```

Values

res/values/colors.xml

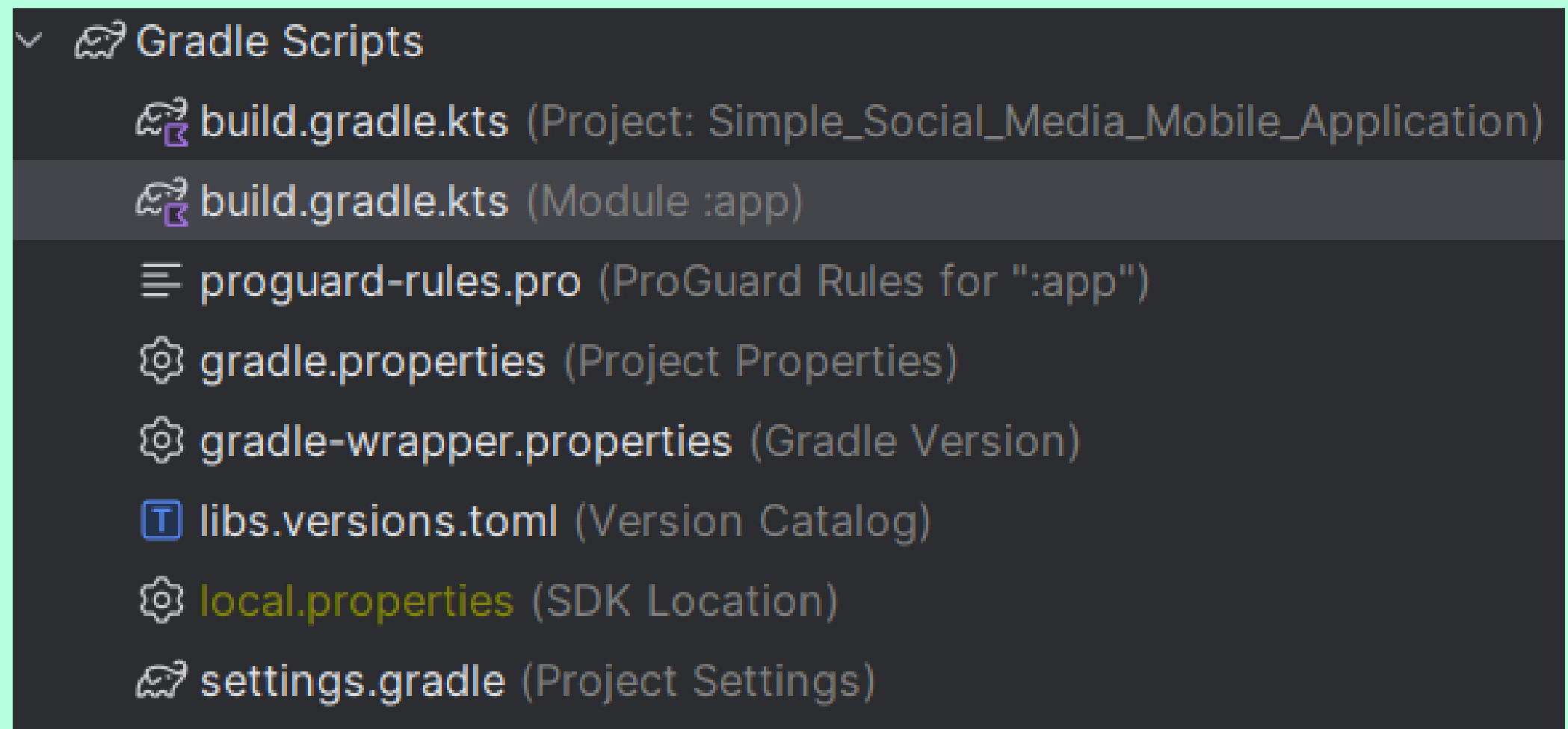
```
</> strings.xml    </> colors.xml ×
1  <?xml version="1.0" encoding="utf-8"?>
2  <resources>
3      <color name="black">#FF000000</color>
4      <color name="white">#FFFFFFFF</color>
5      <color name="green">#52BC6C</color>
6      <color name="colorPrimary">#CC2E76BE</color>
7      <color name="colorPrimaryDark">#CC073D74</color>
8      <color name="colorAccent">#0A527E</color>
9      <color name="colorBlack">#000000</color>
10     <color name="colorWhite">#fff</color>
11     <color name="colorGray">#F5F1F1</color>
12     <color name="colorgray01">#959595</color>
13     <color name="colorGray02">#f5f0f0</color>
14     <color name="colorGreen">#17581A</color>
15     <color name="colorRed">#F4511E</color>
16     <color name="colorDarkGrey">#554857</color>
17     <color name="btnRed">#E61313</color>
18     <color name="btncedit">#2CA7E0</color>
19     <color name="neutral">#0a1b97</color>
20     <color name="colordrawer">#2B2C2E</color>
21 </resources>
```

res/layout/activity_dashboard.xml

```
<TextView
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="50dp"
    android:text="@string/edit_profile_data"
    android:textAlignment="center"
    android:textColor="@color/black"
    android:textSize="26sp" />
```

Gradle

- oparty na Groovy
- automatyzacja kompilacji
- narzędzie do ściągania bibliotek
- multi-project builds
- dependencies
- unit tests



Czym jest Firebase?

- Platforma należąca do Google, która oferuje zestaw narzędzi do budowy i zarządzania aplikacjami internetowymi i mobilnymi.
- Oferuje darmowy plan i płatny którego koszty są związane z rozrastaniem się naszych potrzeb
- Integralność z innymi usługami od Googla
- Łatwość implementacji, posiada dobrą dokumentację z przykładami implementacji usług



Firebase



Firebase

 Cloud Firestore

 Extensions

 App Check

 Cloud Functions

 Authentication

 Hosting

 Cloud Storage

 Realtime Database

 Crashlytics

 Performance
Monitoring

 Test Lab

 App Distribution

 Google Analytics

 Machine Learning

 In-App Messaging

 A/B Testing

 Cloud Messaging

 Remote Config

Uwierzytelnianie

Firestore pozwala nam w łatwy sposób wprowadzić uwierzytelnianie odzyskiwania konta.

```
private final ActivityResultLauncher<Intent> signInLauncher = registerForActivityResult(  
    new FirebaseAuthUIActivityResultContract(),  
    new ActivityResultCallback<FirebaseAuthUIAuthenticationResult>() {  
        @Override  
        public void onActivityResult(FirebaseAuthUIAuthenticationResult result) {  
            onSignInResult(result);  
        }  
    }  
);
```

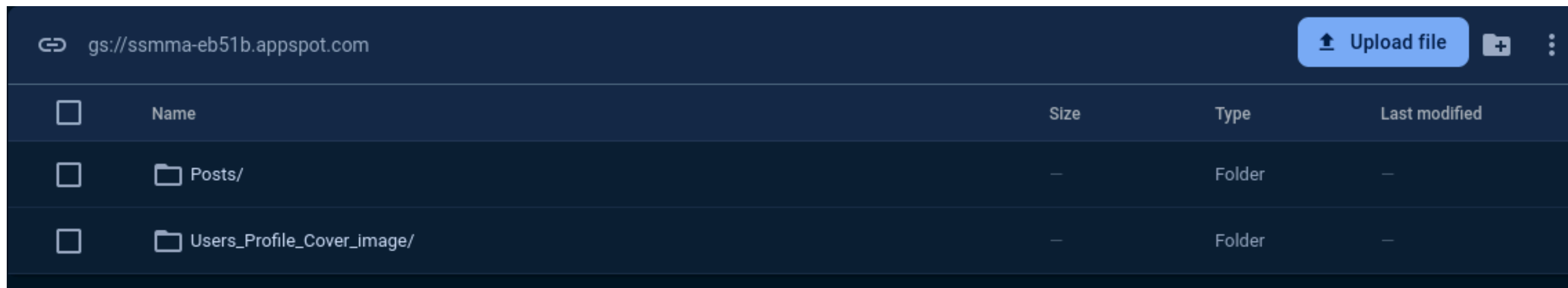
```
// Choose authentication providers  
List<AuthUI.IdpConfig> providers = Arrays.asList(  
    new AuthUI.IdpConfig.EmailBuilder().build(),  
    new AuthUI.IdpConfig.PhoneBuilder().build(),  
    new AuthUI.IdpConfig.GoogleBuilder().build(),  
    new AuthUI.IdpConfig.FacebookBuilder().build(),  
    new AuthUI.IdpConfig.TwitterBuilder().build());  
  
// Create and launch sign-in intent  
Intent signInIntent = AuthUI.getInstance()  
    .createSignInIntentBuilder()  
    .setAvailableProviders(providers)  
    .build();  
signInLauncher.launch(signInIntent);
```

Search by email address, phone number, or user UID					Add user	↺	⋮
Identifier	Providers	Created ↓	Signed In	User UID			
karol@slowiak.pl	✉	May 3, 2024	May 3, 2024	wwLw89TYMsU9ryYBRsiU8ZC...	...		
ksycz@gmail.com	✉	May 2, 2024	May 2, 2024	VF0IRUJgvdU6ehhR4CMtxd24...	...		
wisla@krakow.pl	✉	May 2, 2024	May 5, 2024	5hV8fR3CLcWR4S9PNfFaIn1p...	...		
test420@test.pl	✉	May 2, 2024	May 2, 2024	CXrWlmgRK3NuhJ8uuXhnXjf...	...		
test112@test.pl	✉	May 2, 2024	May 2, 2024	oEerw2ifjhZBkkDfXuHMyufCM...	...	📄	
klocu@klocu.pl	✉	May 1, 2024	May 1, 2024	XnM2HrvXqtMcHOuo2sp4EV...	...		
pablo@agh.edu.pl	✉	Apr 30, 2024	May 2, 2024	3JdlrwuccJQNVkXRIit39fj4bP...	...		
kamil@hebda.pl	✉	Apr 30, 2024	May 11, 2024	sMeRVxxcWleOnU36SOU5sGZ...	...		
email@gmail.com	✉	Apr 30, 2024	Apr 30, 2024	AVRnD1UYTeeAdW0qMsD9m...	...		
fdsf@gmail.com	✉	Apr 30, 2024	Apr 30, 2024	s1DDU2pMpEV0jSdKEDXcMJ...	...		
Rows per page: 50					1 – 10 of 10	<	>



Storage

Możemy przechowywać różne pliki np zdjęcia profilowe czy zdjęcia zamieszczone w postach

```
FirebaseStorage storage = FirebaseStorage.getInstance();
```



The screenshot shows the Google Cloud Storage console interface. At the top, the bucket name 'gs://ssmma-eb51b.appspot.com' is displayed. To the right, there is an 'Upload file' button and a menu icon. Below this, a table lists the contents of the bucket:

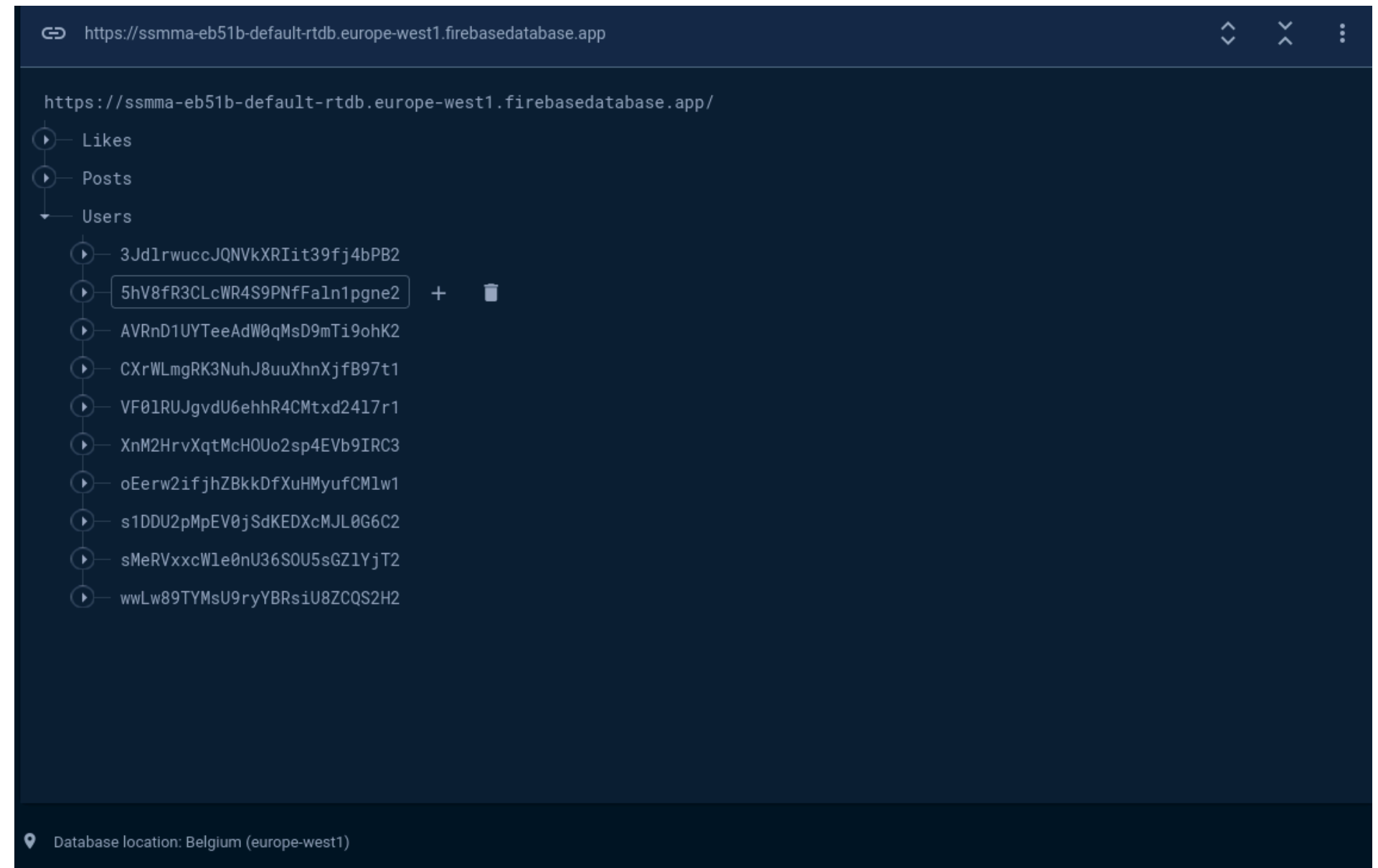
<input type="checkbox"/>	Name	Size	Type	Last modified
<input type="checkbox"/>	 Posts/	—	Folder	—
<input type="checkbox"/>	 Users_Profile_Cover_image/	—	Folder	—

Realtime Database

Informacje o użytkownikach aktualizowane w czasie rzeczywistym. Baza jest NoSQL mająca format JSON

```
// Write a message to the database
FirebaseDatabase database = FirebaseDatabase.getInstance();
DatabaseReference myRef = database.getReference("message");

myRef.setValue("Hello, World!");
```



Analytics



Daily active users

2 +100%



Day 1 retention

0%



Track your revenue!

[Link to AdMob](#)

[Link to Google Play](#)

— This week - - Last week

Build



Realtime Database

Downloads (7d total)

216KB -86.2%



Storage (current)

7.35KB +14.3%



— This week - - Last week

Storage

Storage (current) ⓘ

12.6MB +171.6%



— This week - - Last week

Bibliografia

- <https://developer.android.com/guide?hl=pl>
- <https://firebase.google.com/docs?hl=pl>
- <https://www.geeksforgeeks.org/introduction-to-android-development/>
- <https://www.freecodecamp.org/news/android-app-development-for-beginners/>
- https://www.youtube.com/watch?v=QAKq8UBv4GI&ab_channel=CodesEasy
- <https://www.youtube.com/@Firebase>