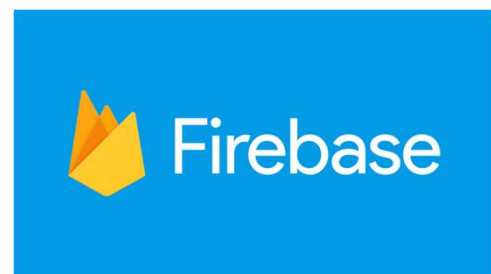# Mobile Programming

Chapter 6: GOOGLE FIREBASE

Mobile programming

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Introduction

➢ Firebase is a platform owned by google that helps us develop mobile and web applications.

➢ Firebase provides users with cloud-based database services with Google's extremely powerful servers.

➢ With firebase, you can create real-time applications like app chat, along with many features such as user authentication, Cloud Messaging.

➢ Firebase's services are free, but you'll need to pay extra if you want to upgrade. https://firebase.google.com/pricing

Mobile programming

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Introduction

Firebase development history

➢ 2011: a startup founded by James Tamplin and Andrew Lee and created Firebase.

➢ 2012: Firebase was announced globally.

➢ 2014: Google acquires Firebase and becomes a cross-platform mobile and web app.

Mobile programming

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Introduction

Firebase features

➢ Firebase Realtime Database

➢ Firebase Authentication

➢ Firebase Cloud Storage

➢ Firebase Cloud Function

➢ Machine Learning Kit

➢ ….

Authentication

Realtime Database

Firestore

Storage

ML

Hosting

Cloud Functions

Security Rules

App Check

Extensions

Mobile programming

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Firebase with react native

Website: https://rnfirebase.io/

Install:

Using npm

npm install --save @react-native-firebase/app

Using Yarn

yarn add @react-native-firebase/app

Note: React Native Firebase cannot be used in the "Expo Go" app

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Firebase with react native

Configure Firebase with Android credentials

First, add the google-services plugin as a dependency inside of your **/android/build.gradle** file:

```
buildscript {
  dependencies {
    // ... other dependencies
    classpath 'com.google.gms:google-services:4.4.0'
    // Add me --- /\
  }
}
```

Lastly, execute the plugin by adding the following to your **/android/app/build.gradle** file:

```
apply plugin: 'com.android.application'
apply plugin: 'com.google.gms.google-services' // <- Add this line
```

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Firebase with react native

Create a new Firebase project

Login https://console.firebase.google.com/u/0/ With a Google Account

Step 1: Add project.

Step 2: Enter your project name
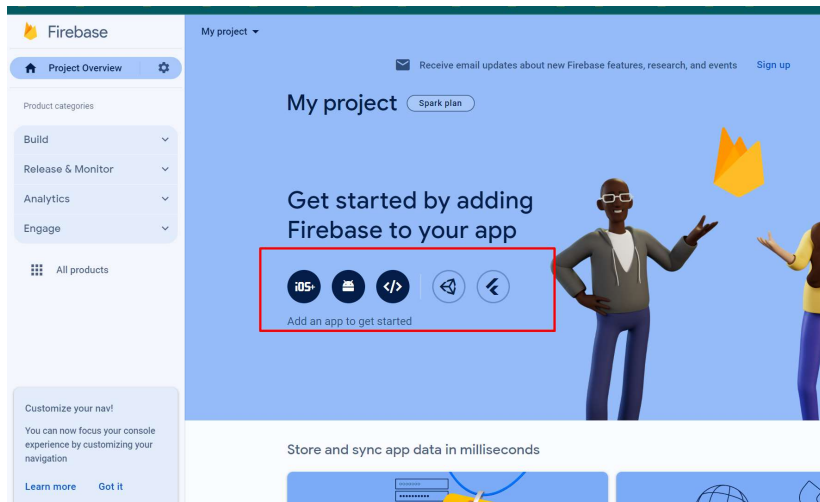
….

Mobile programming

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Firebase with react native

Create a new Firebase project

Click android or iOS

Mobile programming

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Firebase with react native

Create a new Firebase project

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Firebase with react native

Create a new Firebase project

1. Package: android/app/src/main/java/MainActivity.java

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Firebase with react native

Create a new Firebase project

2. App nickname: package.json

Mobile programming

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Firebase with react native

Create a new Firebase project

3. SHA-1: **cd android**

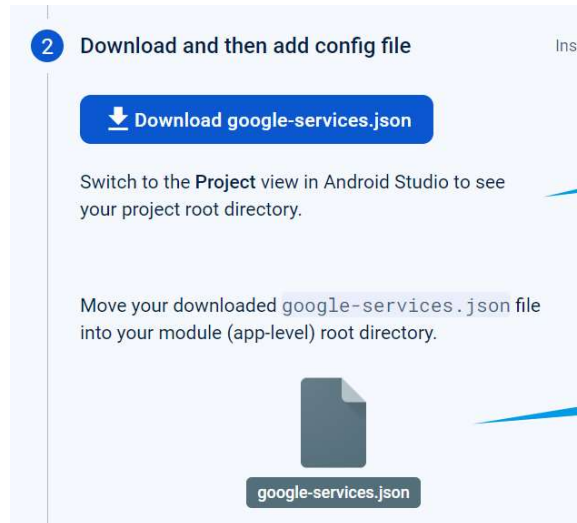**./gradlew signingReport**

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Firebase with react native

Create a new Firebase project

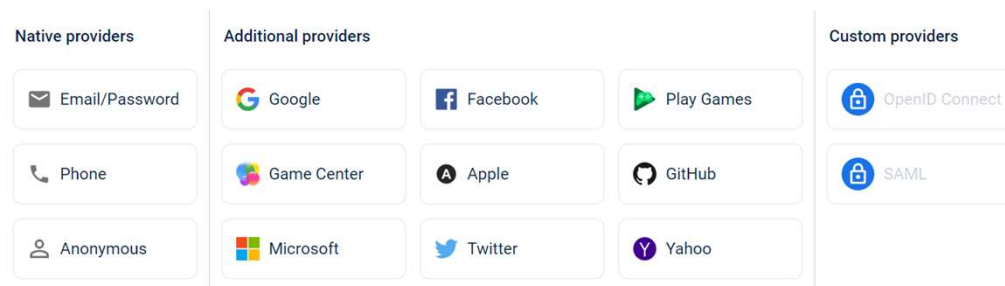Download and then add config file: android/app/google-services.json

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Firebase with react native

Firebase Authentication

➤ Firebase Authentication is a function that authenticates users.

➤ Your app needs to be logged in/registered for an account to use it.

➤ Firebase provides us with the ability to authenticate users by email, phone number, or Facebook, Google accounts....

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Firebase with react native

Firebase Authentication: Google sign-in

Install: *npm install @react-native-google-signin/google-signin   @react-native-firebase/auth*

GoogleSignin.configure({

 webClientId: ' ',

});

You can be found in the android/app/google-services.json file as the client/oauth_client/client_id property

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Firebase with react native

Firebase Authentication: Google sign-in

The function allows google account sign-in

async function onGoogleButtonPress() {
  // Check if your device supports Google Play
  await GoogleSignin.hasPlayServices({ showPlayServicesUpdateDialog: true });
  // Get the users ID token
  const { idToken } = await GoogleSignin.signIn();
  // Create a Google credential with the token
  const googleCredential = auth.GoogleAuthProvider.credential(idToken);
  // Sign-in the user with the credential
  return auth().signInWithCredential(googleCredential);
}

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Firebase with react native

Firebase Authentication: Google sign-in

The function allows google account sign-out

```
const handleSignOut = async () => {
   try {
     // Sign out the user
     await auth().signOut();
     // Set the user state to null
//     setUser(null);
   } catch (error) {
     console.log(error);
   }
 };
```

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Firebase with react native

Firebase Authentication: Google sign-in

Apple sign-in: https://rnfirebase.io/auth/social-auth#apple

Facebook sign-in https://rnfirebase.io/auth/social-auth#facebook

Phone number sign-in: https://rnfirebase.io/auth/phone-auth

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Firebase with react native

Demo: https://github.com/taitv86/DemoLoginGoogle

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Exercise

Develop Login screen using Facebook authentication method

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Q&A

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