Mobile Application Development

Produced by

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Waterford Institute *of* Technology
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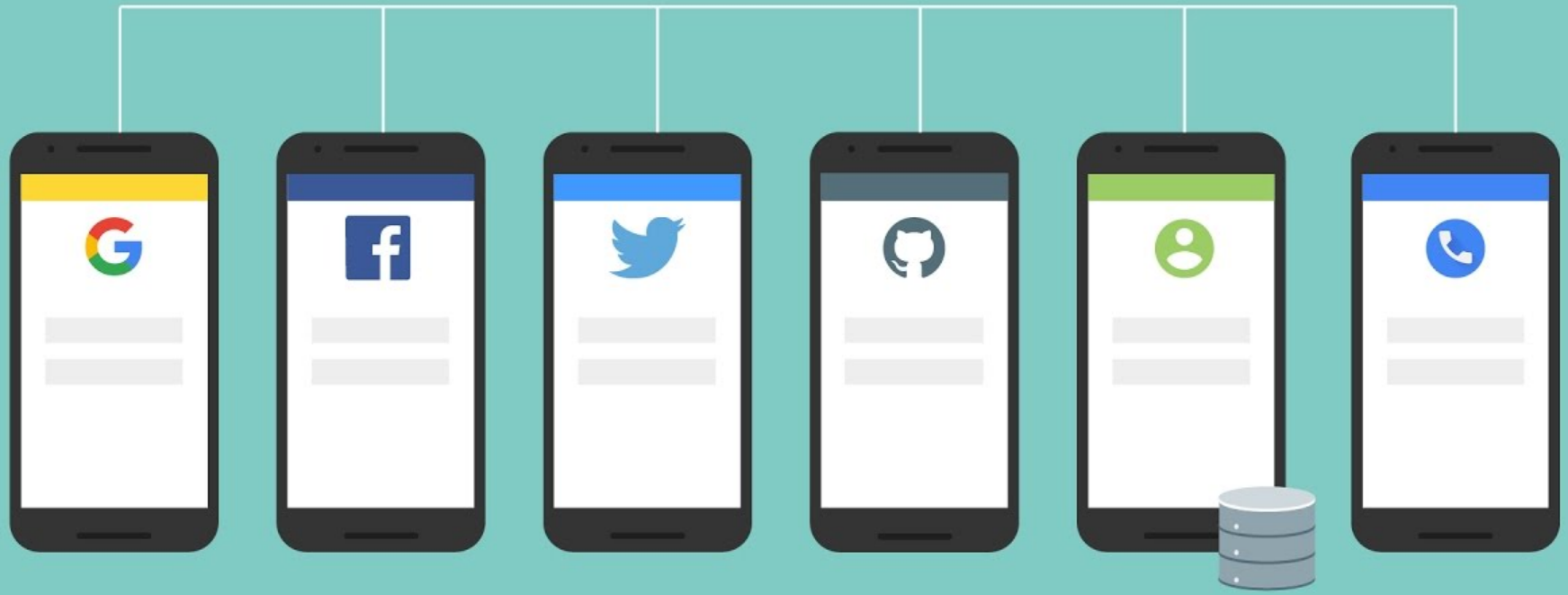


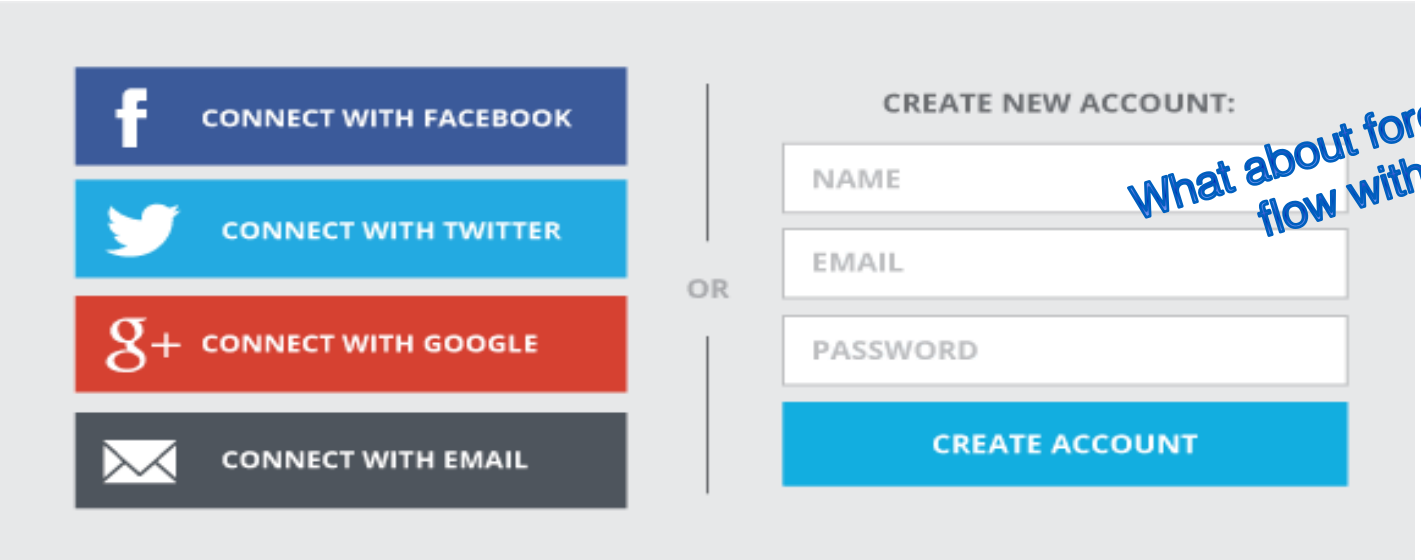
Authentication

Overview

- Most apps need to know the identity of a user. Knowing a user's identity allows an app to securely save user data in the cloud and provide the same personalized experience across all of the user's devices
- **Firebase Authentication** provides backend services, easy-to-use SDKs, and ready-made UI libraries to authenticate users to your app. It supports authentication using passwords, phone numbers and popular federated identity providers (later)

Overview

- A type of screen present in almost all apps these days…



- How long would it take you to develop this???

Overview

- Integrate easily with popular identity providers like Google, Facebook, Twitter and more

Key Capabilities

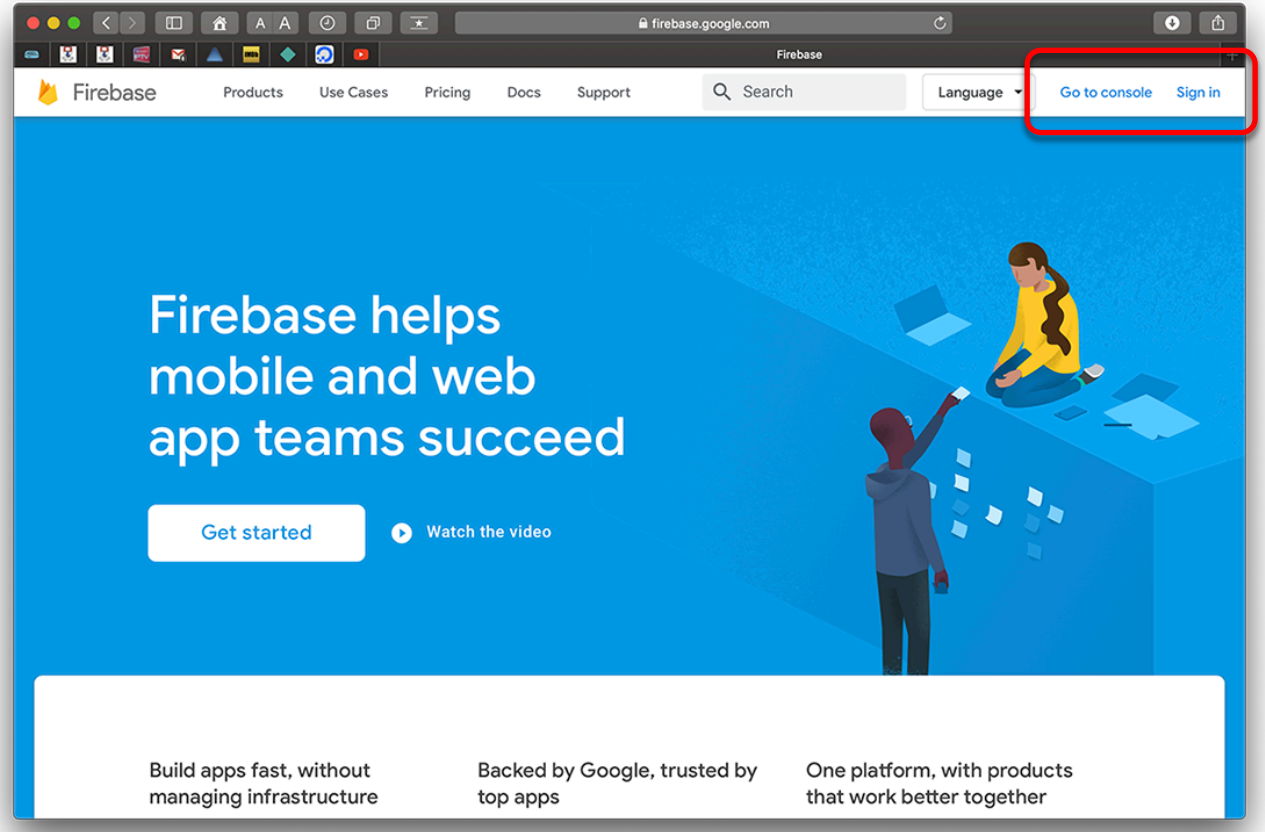
- You can sign in users to your Firebase app either by using **FirebaseUI** as a complete drop-in auth solution or by using the Firebase Authentication SDK to manually integrate one or several sign-in methods into your app
- The **Firebase Authentication SDK** provides methods to create and manage users that use their email addresses and passwords to sign in
- Firebase Authentication also handles sending password reset emails

Firebase Authentication

- Of course you will need to register your app with individual service providers.
- Minimal client side handling, integrates seamlessly with firebase
- Ready made ‘forgot password’ flow with customizable email template

Firebase Authentication

1. Create your Firebase Project



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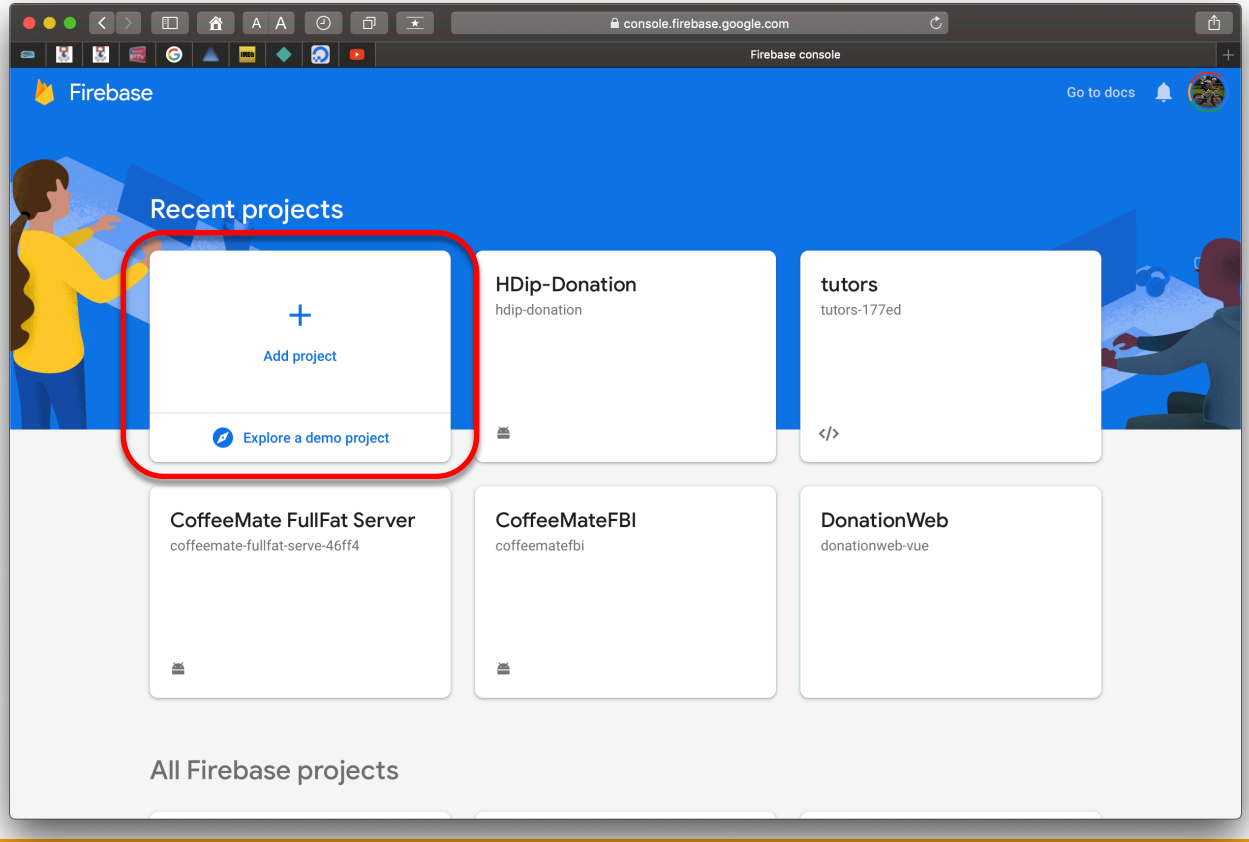

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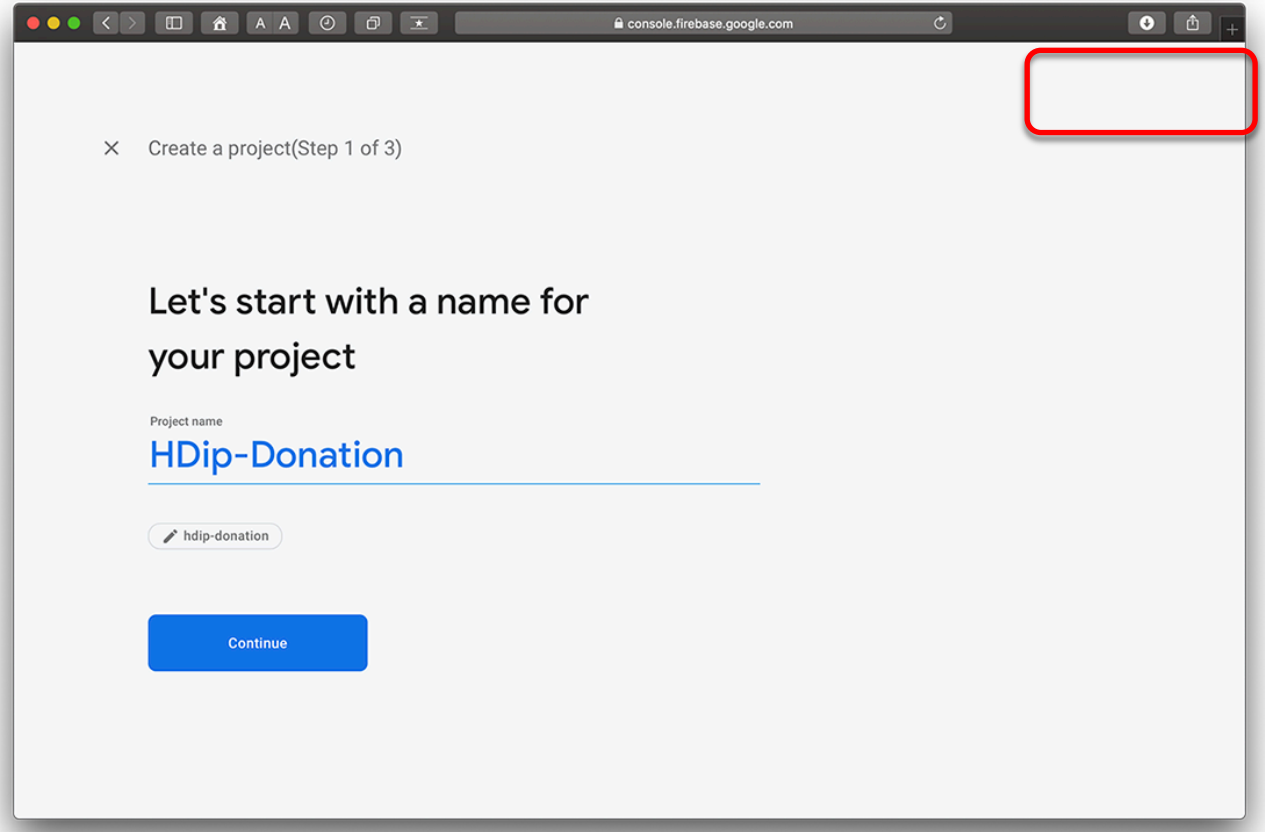

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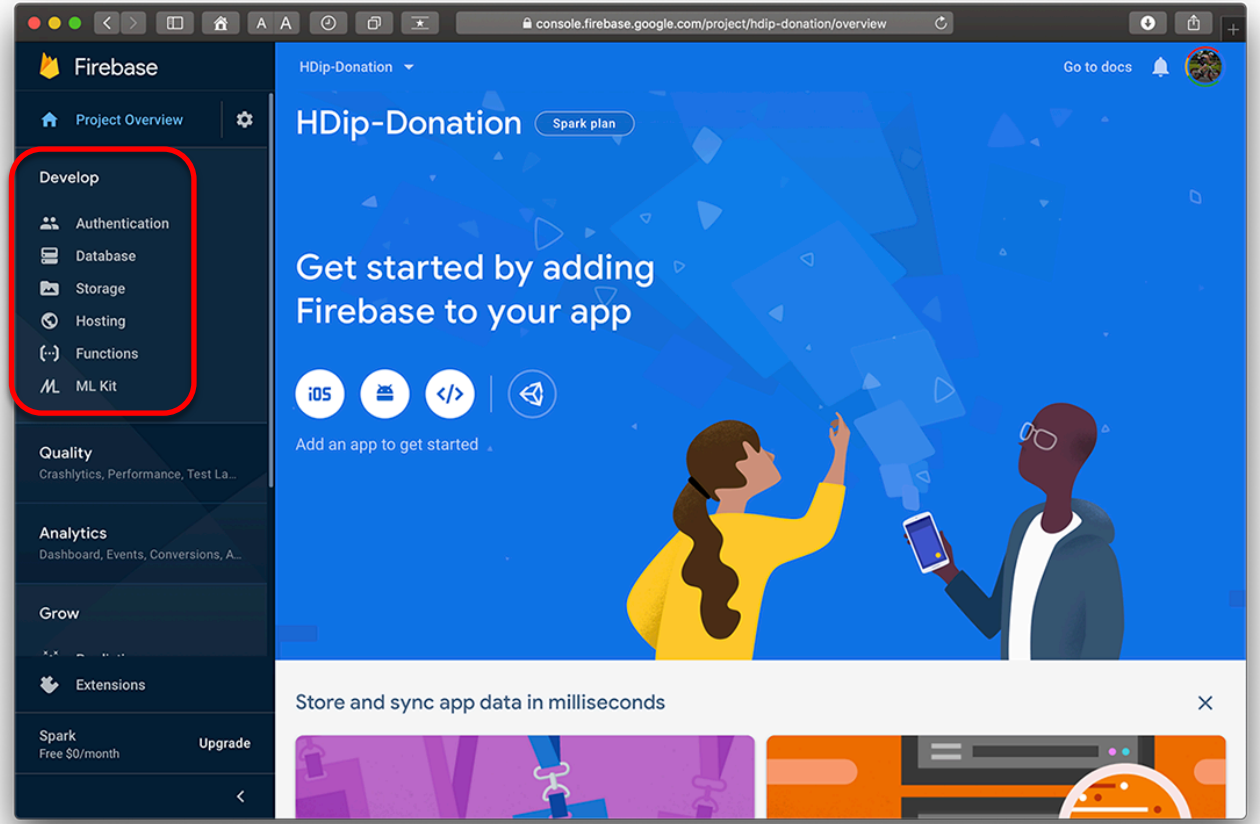

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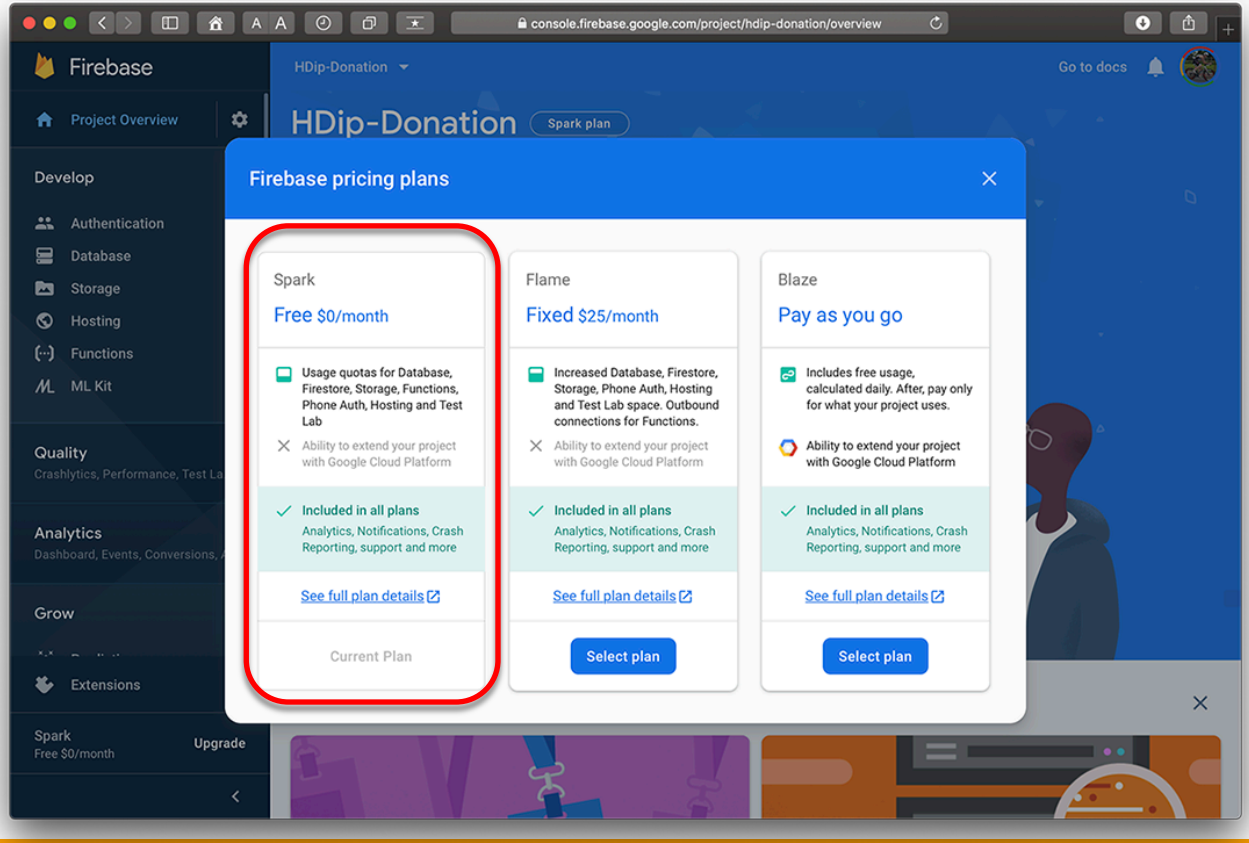
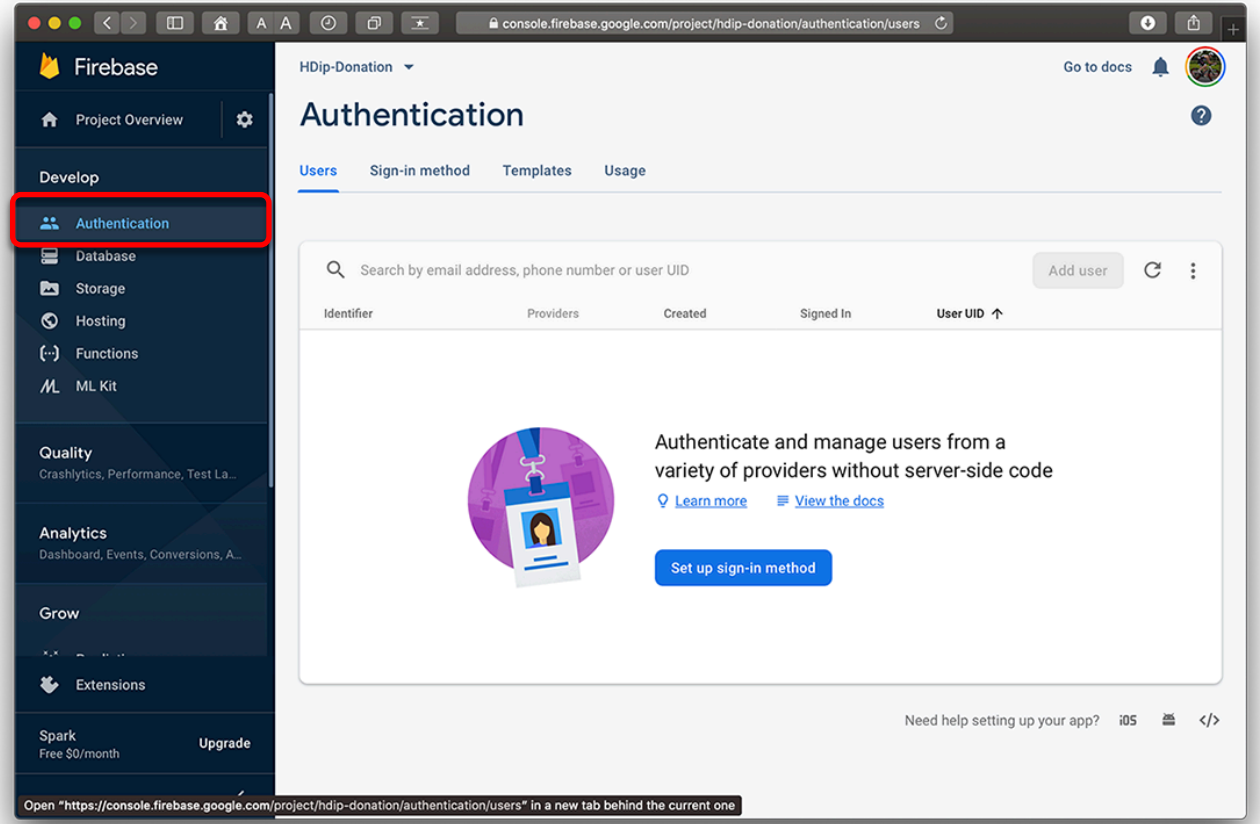


2. Setup your Sign-In Method



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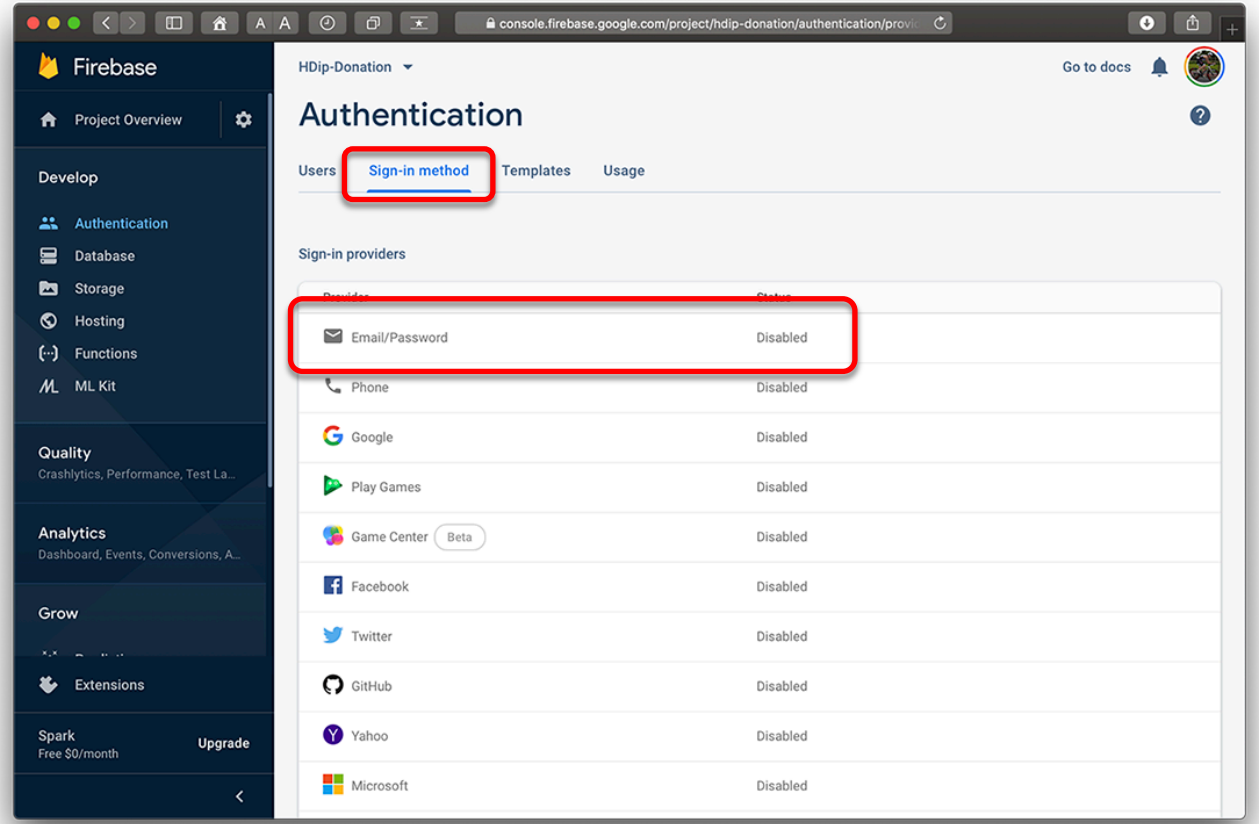

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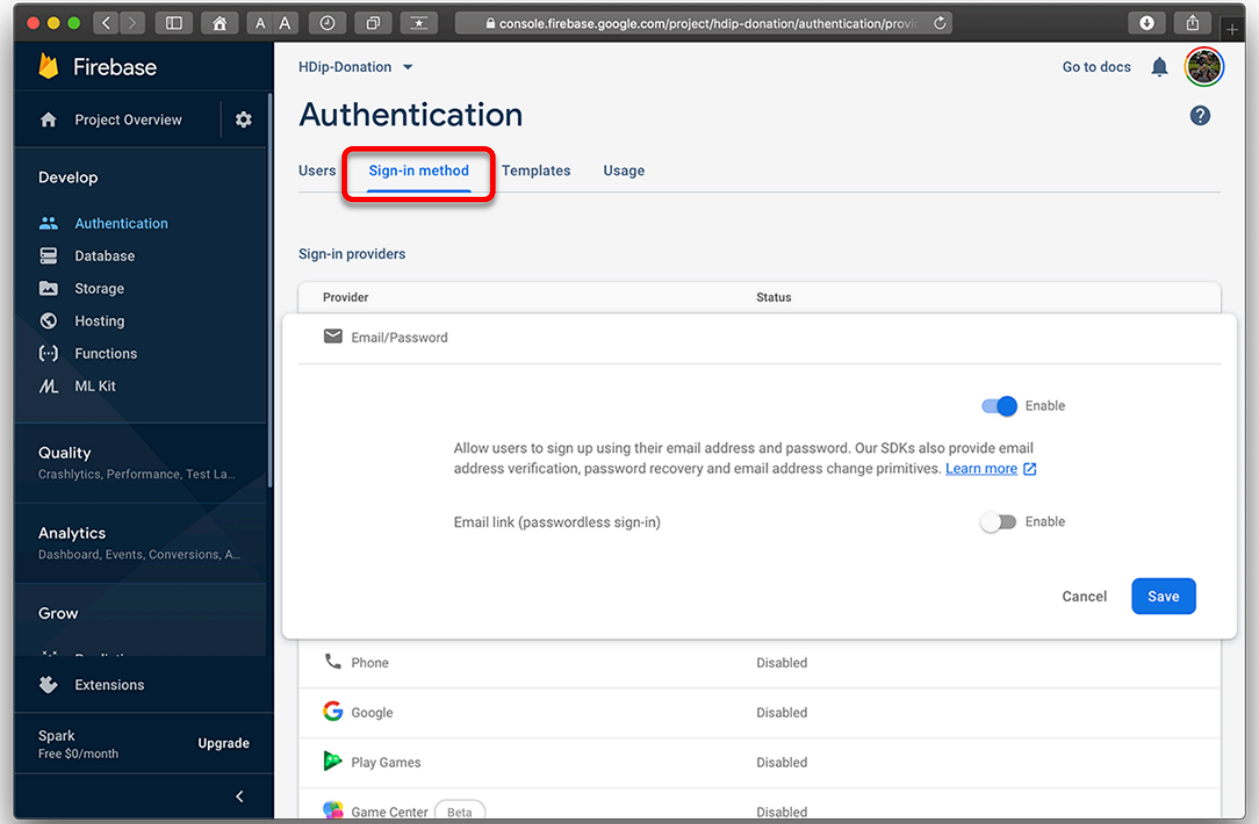

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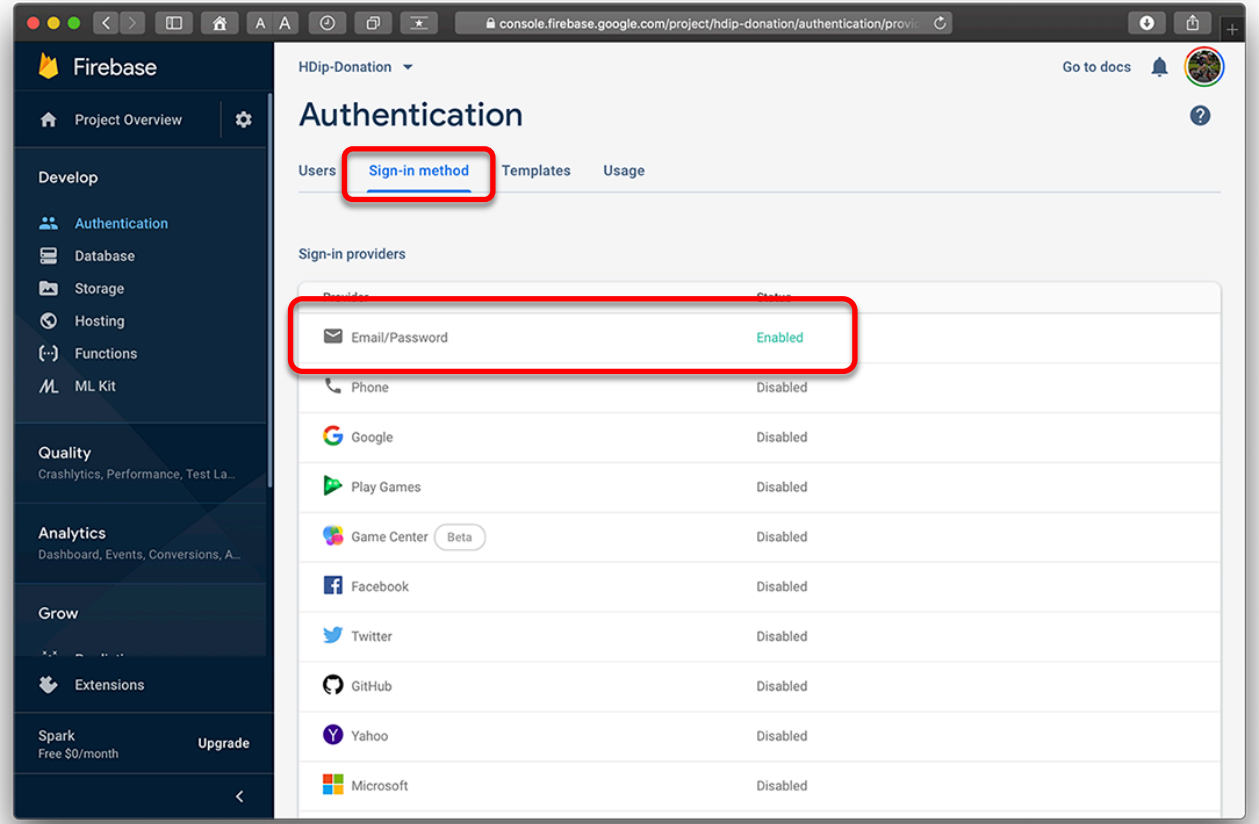
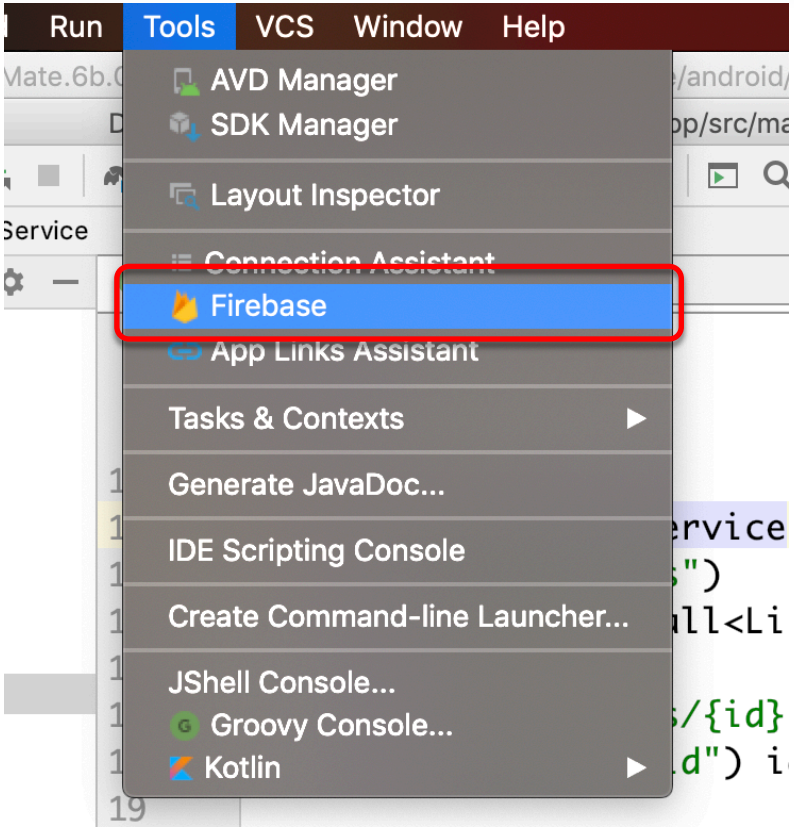


3. Setup Firebase in your App



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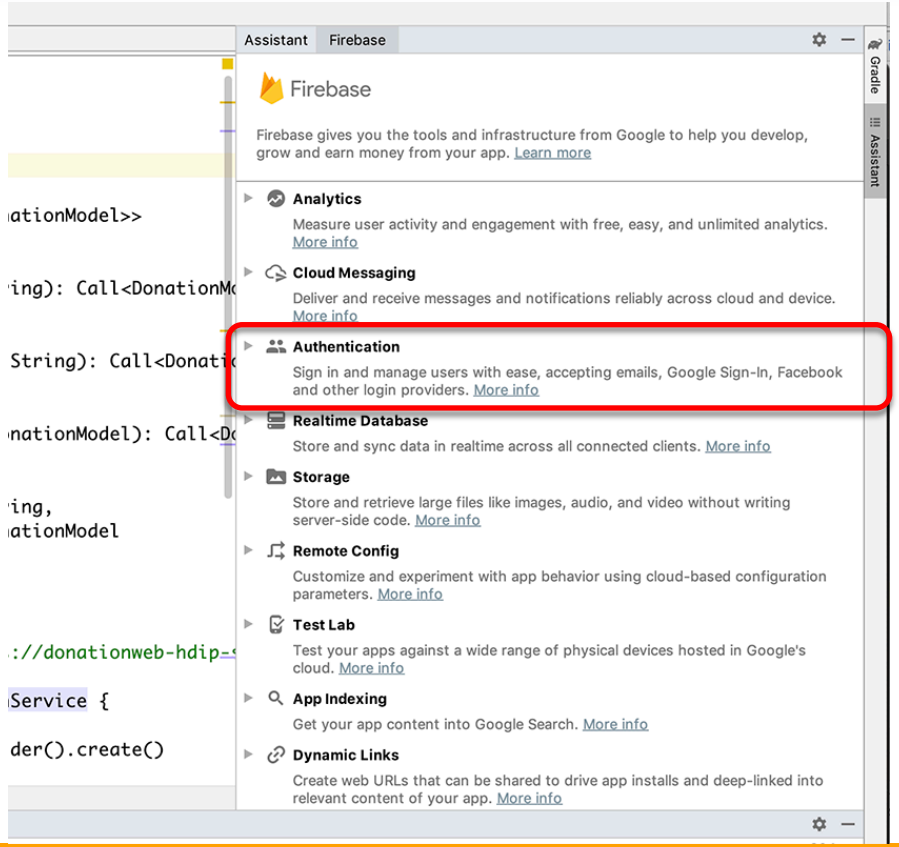

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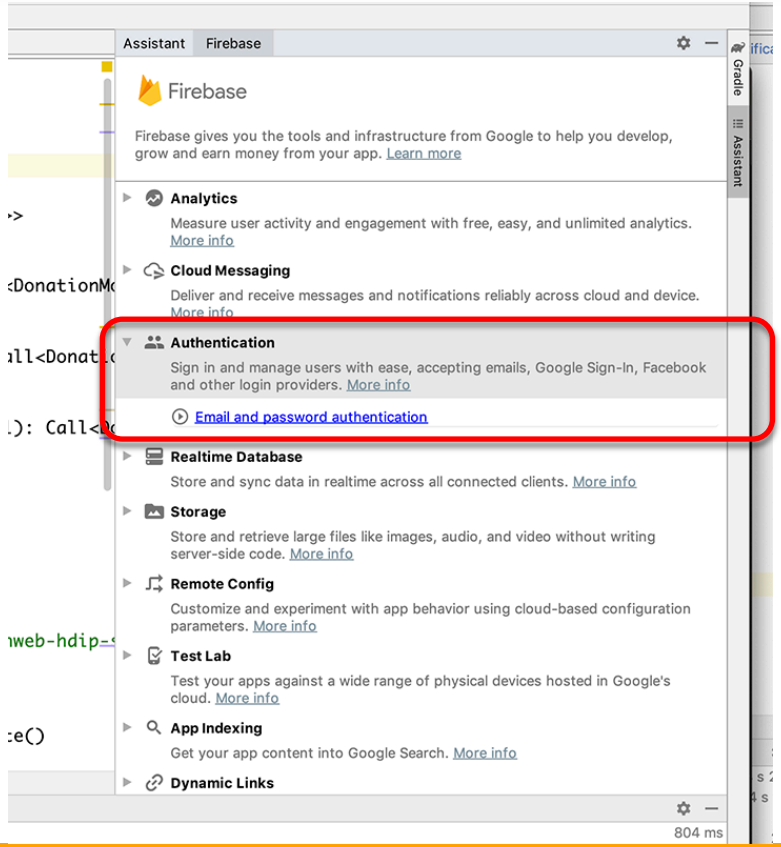

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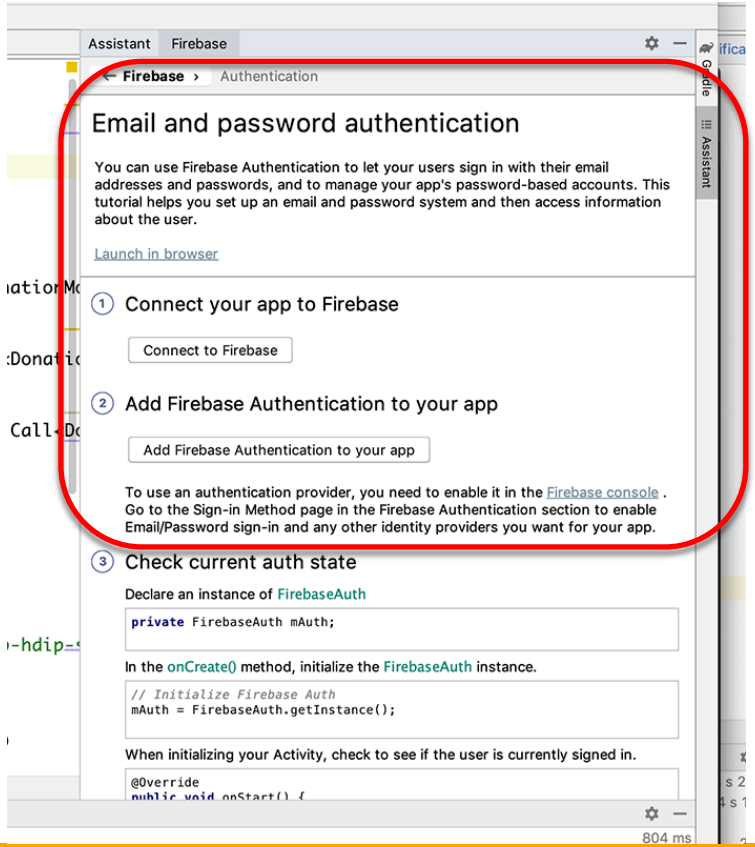

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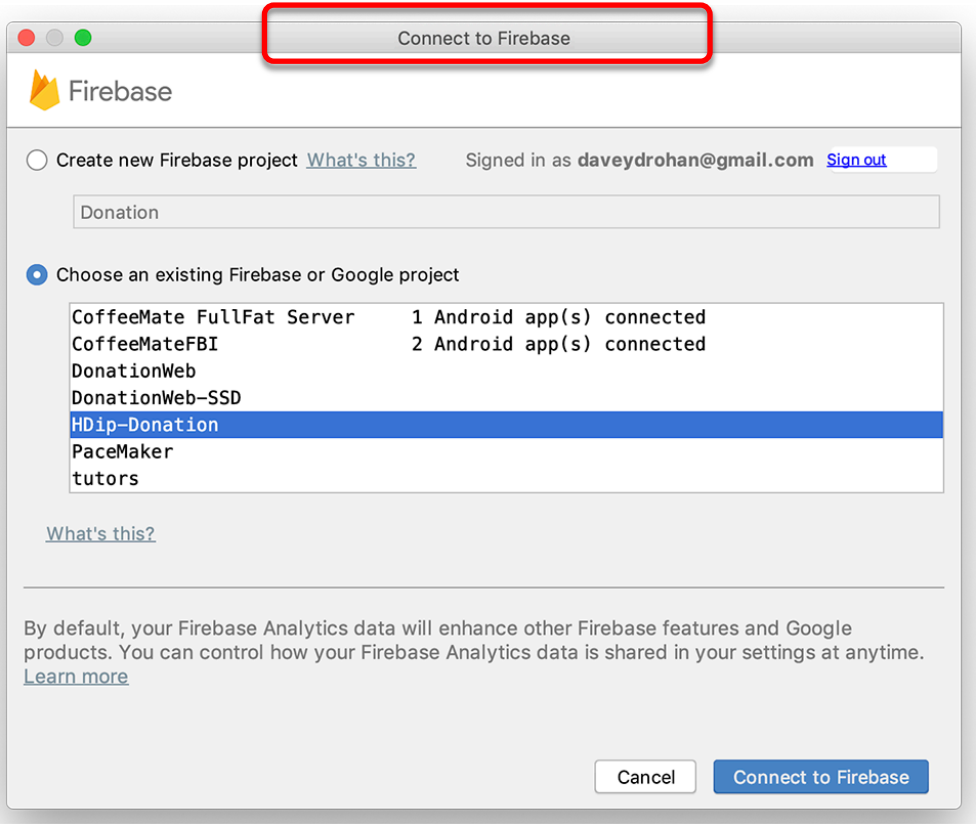

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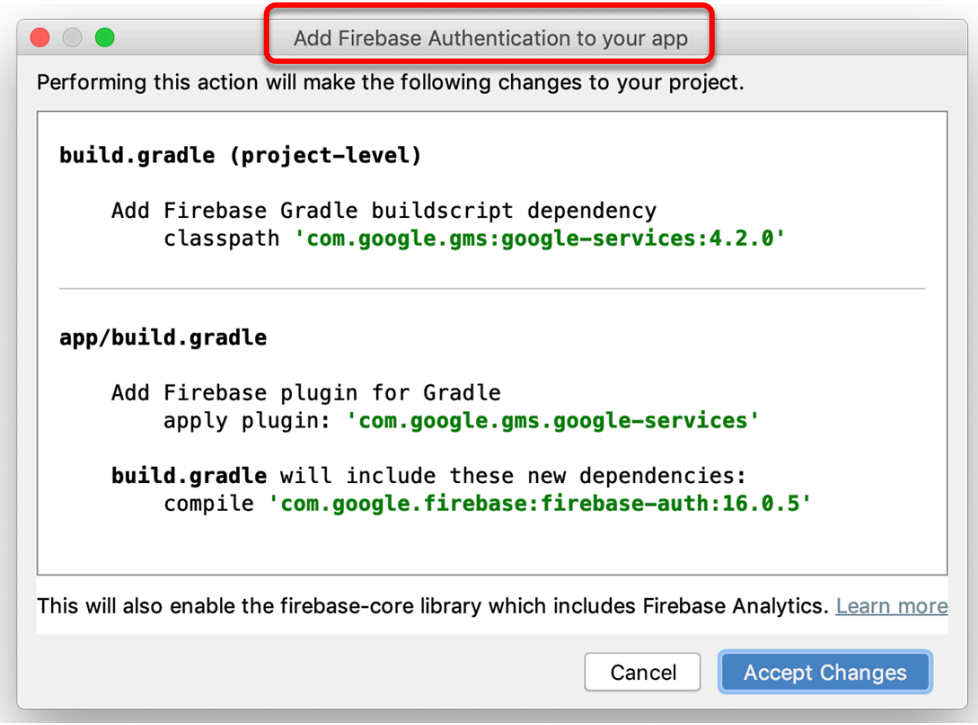

4. Introduce Authentication Flow

https://github.com/firebase/quickstart-android

4. Introduce Authentication Flow – Create Account

To create a new user account with a password, complete the following steps in your app's sign-in activity:

1. In your sign-up activity's `onCreate` method, get the shared instance of the `FirebaseAuth` object:

Java Android | Kotlin Android

```
private lateinit var auth: FirebaseAuth
// ...
// Initialize Firebase Auth
auth = FirebaseAuth.getInstance()
```

EmailPasswordActivity

4. Introduce Authentication Flow – Create Account

2. When initializing your Activity, check to see if the user is currently signed in:

Java Android | Kotlin Android

```
public override fun onStart() {
    super.onStart()
    // Check if user is signed in (non-null) and update UI accordingly.
    val currentUser = auth.currentUser
    updateUI(currentUser)
}
```

EmailPasswordActivity

3. When a new user signs up using your app's sign-up form, complete any new account validation steps that your app requires, such as verifying that the new account's password was correctly typed and meets your complexity requirements.

4. Create a new account by passing the new user's email address and password to `createUserWithEmailAndPassword`:

Java Android | Kotlin Android

```
auth.createUserWithEmailAndPassword(email, password)
        .addOnCompleteListener(this) { task ->
            if (task.isSuccessful) {
                // Sign in success, update UI with the signed-in user's information
                Log.d(TAG, "createUserWithEmail:success")
                val user = auth.currentUser
                updateUI(user)
            } else {
                // If sign in fails, display a message to the user.
                Log.w(TAG, "createUserWithEmail:failure", task.exception)
                Toast.makeText(baseContext, "Authentication failed.",
                        Toast.LENGTH_SHORT).show()
                updateUI(null)
            }

            // ...
        }
```

EmailPasswordActivity.kt

If the new account was created, the user is also signed in. In the callback, you can use the `getCurrentUser` method to get the user's account data.

4. Introduce Authentication Flow – Create Account

4. Introduce Authentication Flow – Sign In a User

1. In your sign-in activity's `onCreate` method, get the shared instance of the `FirebaseAuth` object:

Java Android | Kotlin Android

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EmailPasswordActivity

3. When a user signs in to your app, pass the user's email address and password to `signInWithEmailAndPassword`:

Java Android | Kotlin Android

```kotlin
auth.signInWithEmailAndPassword(email, password)
        .addOnCompleteListener(this) { task ->
            if (task.isSuccessful) {
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                updateUI(null)
            }

            // ...
        }
```

EmailPasswordActivity.kt

If sign-in succeeded, you can use the returned `FirebaseUser` to proceed.

We'll look at what we do with the authenticated user in the Code walk through and the Lab

References

https://console.firebase.google.com/
https://firebase.google.com/
https://github.com/firebase/quickstart-android


Thanks.