

Android + Firebase



Paola García
Chefly



Sobre mi

Paola Garcia
@gGarciaPaola

Ingeniera en Telemática / UC3M

- > Desarrolladora (Android, Node.js)
- > CEO y Cofundadora de [Chefly](#)
- > Women Welcome Lead en Campus Madrid
- > Women Tech Makers and Technovation mentor

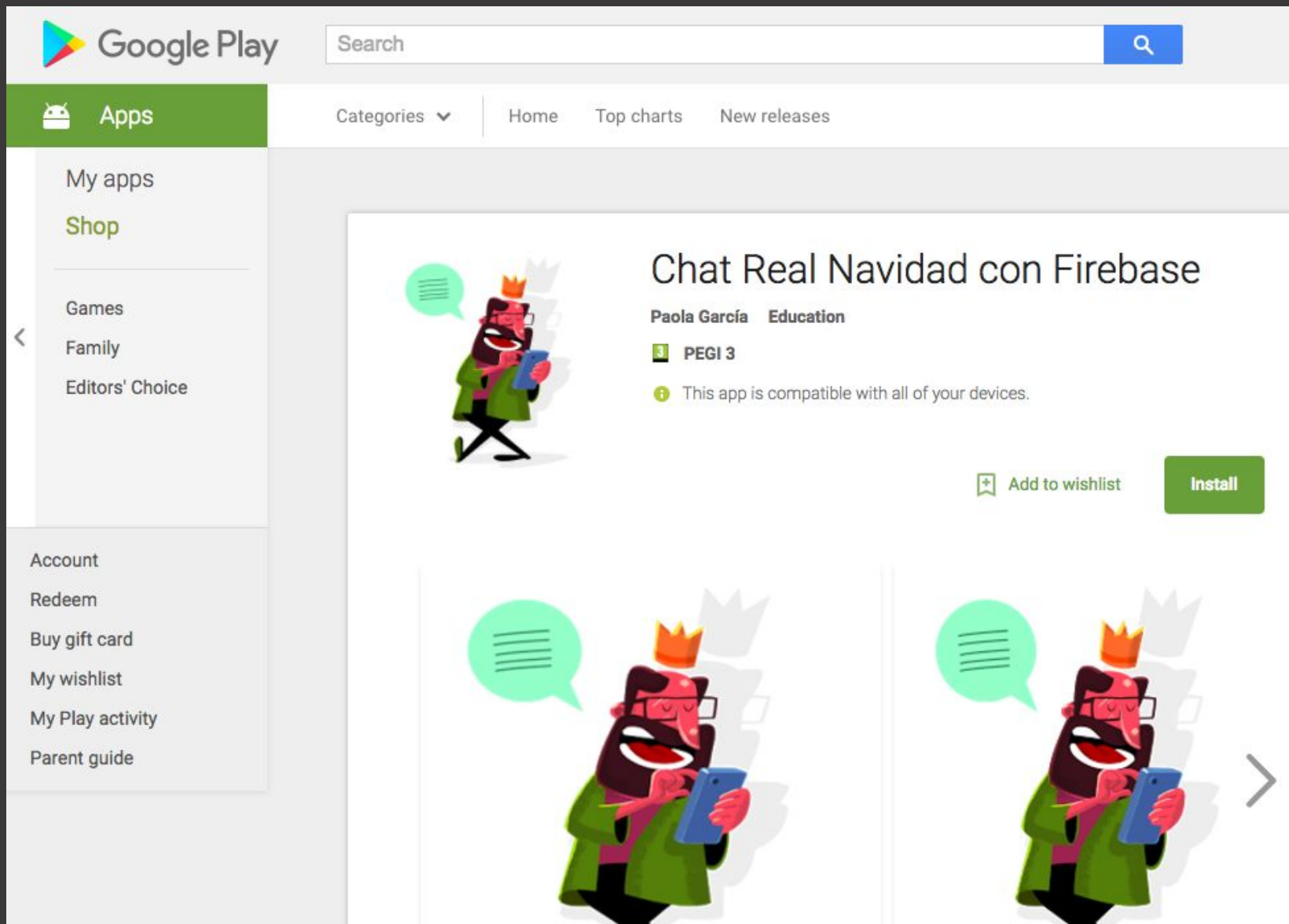


¿Por qué estamos hoy aquí?

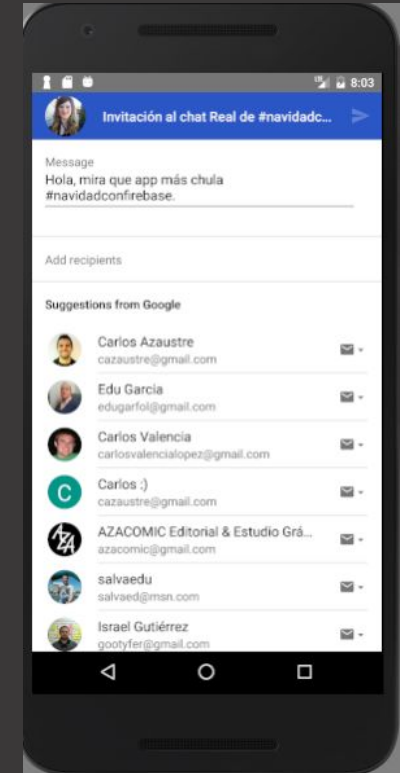
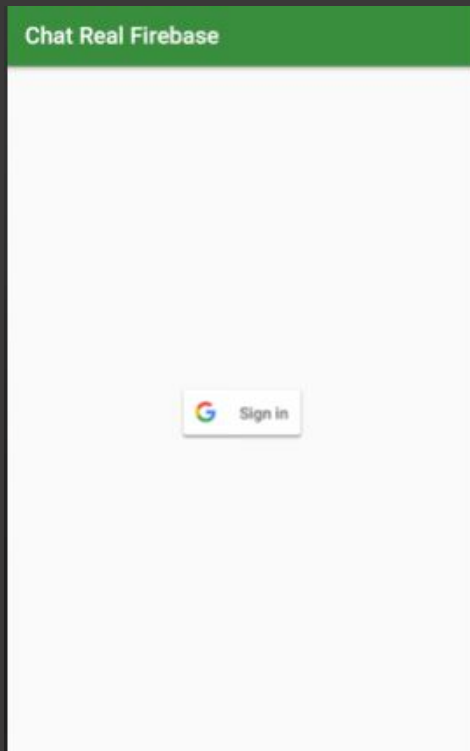


<https://github.com/olapaola/chatRealAndroidFirebase>





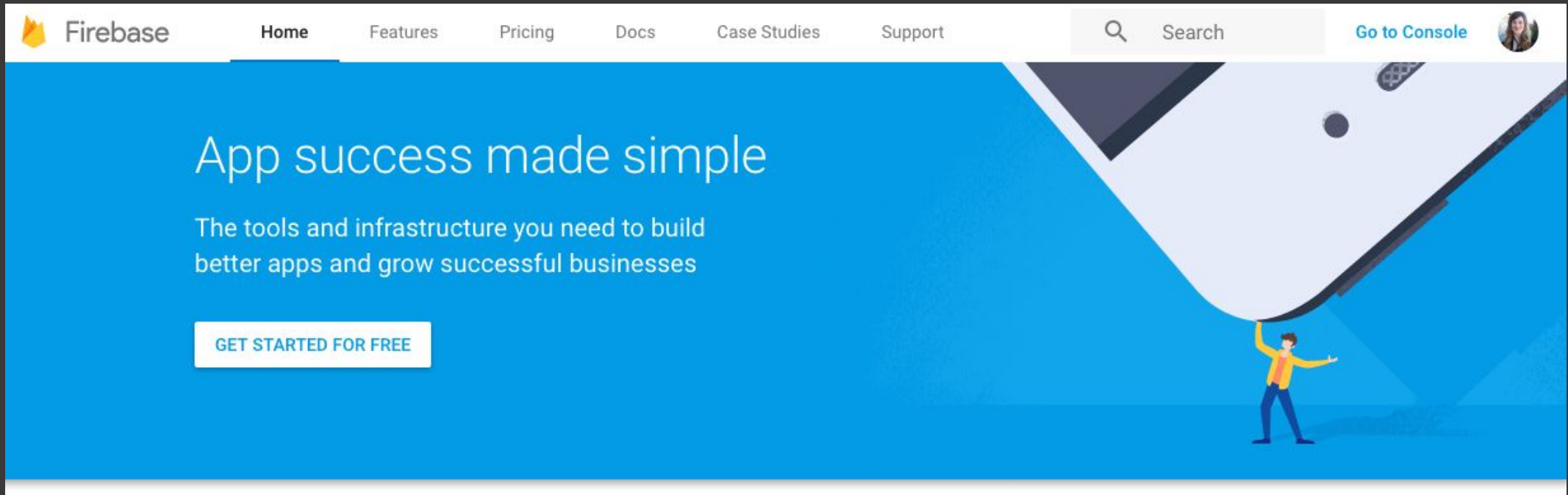
App Android Navidad Con Firebase



<https://play.google.com/store/apps/details?id=com.paolagarcia.navidadconfirebase.chatreal&hl=es>
_419



¿Qué es Firebase?



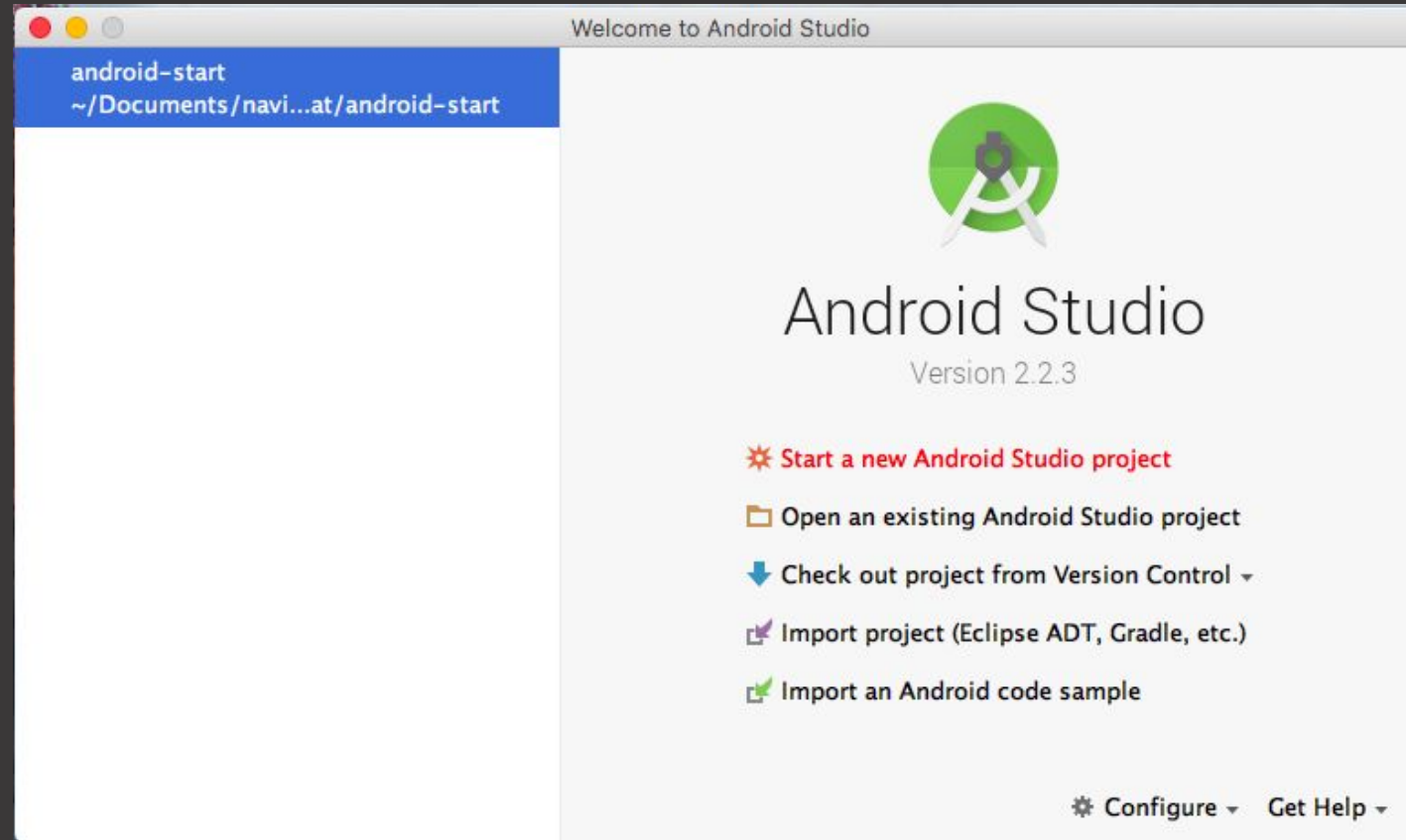
firebase.google.com



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Aplicación Android Básica



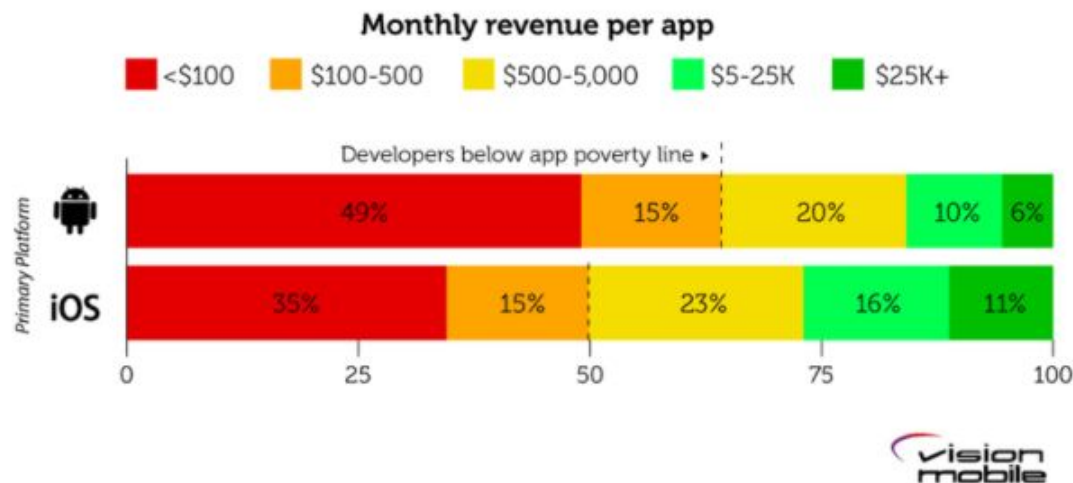
<https://github.com/olapaola/Women-Tech-Makers-4-Marzo-Campus-Madrid>



¿Porqué Firebase + Android?

64% OF ANDROID DEVELOPERS ARE BELOW THE APP POVERTY LINE

% of developers using each platform as primary (n=4,864)



Source: Developer Economics: State of the Developer Nation Q3 2014 | www.DeveloperEconomics.com/go
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Firebase



Forget about infrastructure

Implementing Firebase is quick and easy. With intuitive APIs packaged into a single SDK, you can focus on solving your customers' problems and not waste time building complex infrastructure.

[VIEW DOCS](#)

firebase.google.com



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Firebase

```
SWIFT  OBJECTIVE-C  JAVA  JS  C++  UNITY
FIRAuth.auth()?.addAuthStateDidChangeListener({ (auth, user) {
  if (user) {
    var email = user.email
    // ...
  }
})
FIRAuth.auth()?.signInWithEmail(email,
                                password: password,
                                completion: { (_, error) in

  if (error) {
    // ...
  }
})
```

Work across platforms

Deliver cross-platform apps with APIs packaged into single SDKs for iOS, Android, JavaScript, C++, and Unity. Expand to a different platform without modifying your infrastructure.

 [Try iOS tutorial](#)

 [Try Android tutorial](#)

 [Try Web tutorial](#)

firebase.google.com



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¿Como integrar Firebase en Android?

Firebase console

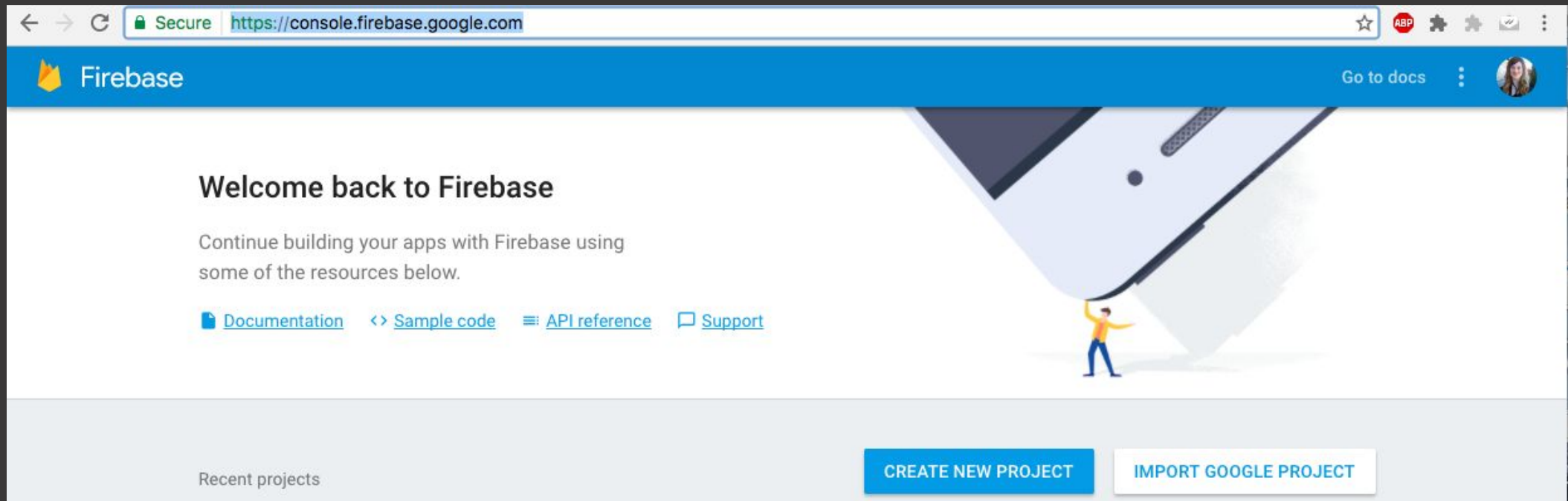
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Android Studio

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Firebase Console



<https://console.firebase.google.com/>



¿Como integrar Firebase en Android?

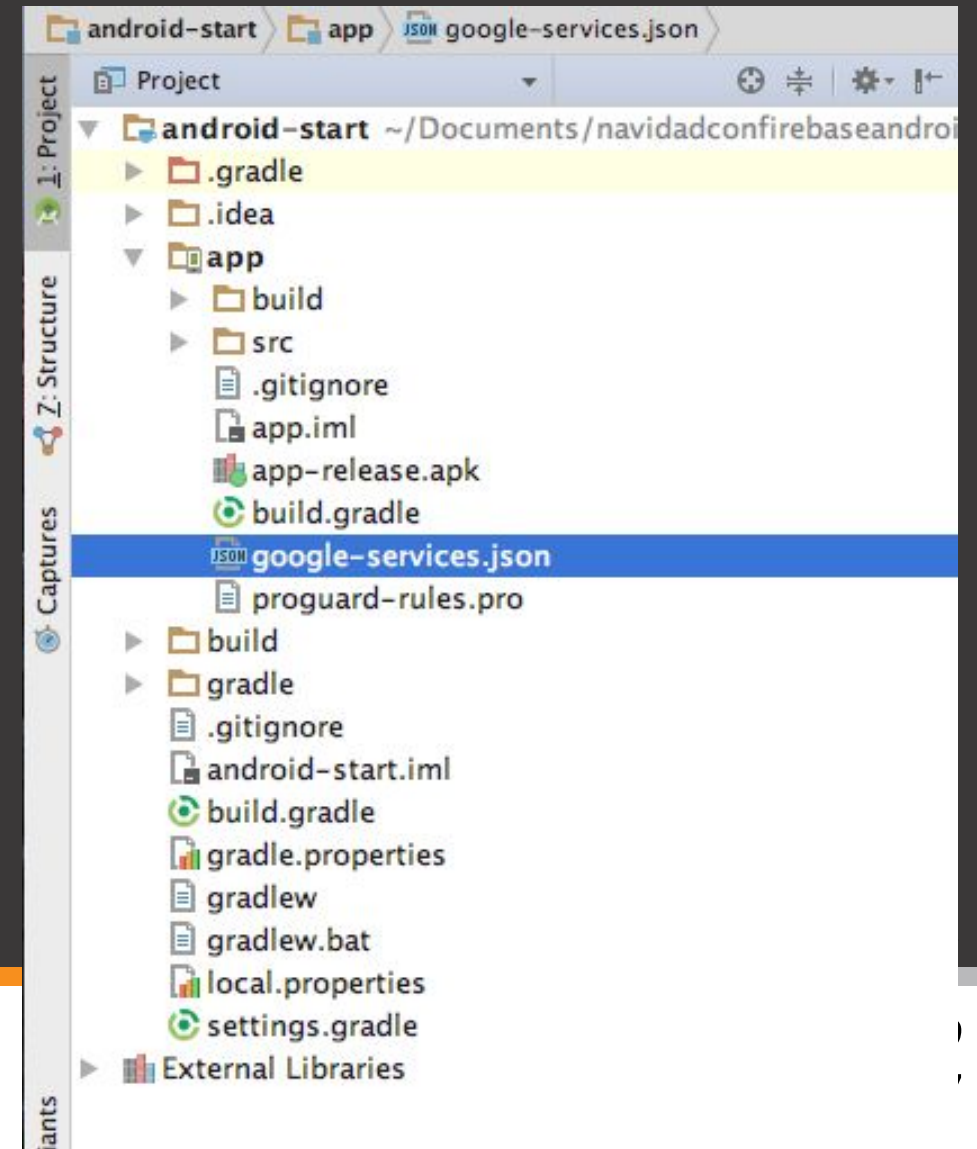
Firebase console | Android Studio

config file (google-services.json)
build.gradle(dependencies)

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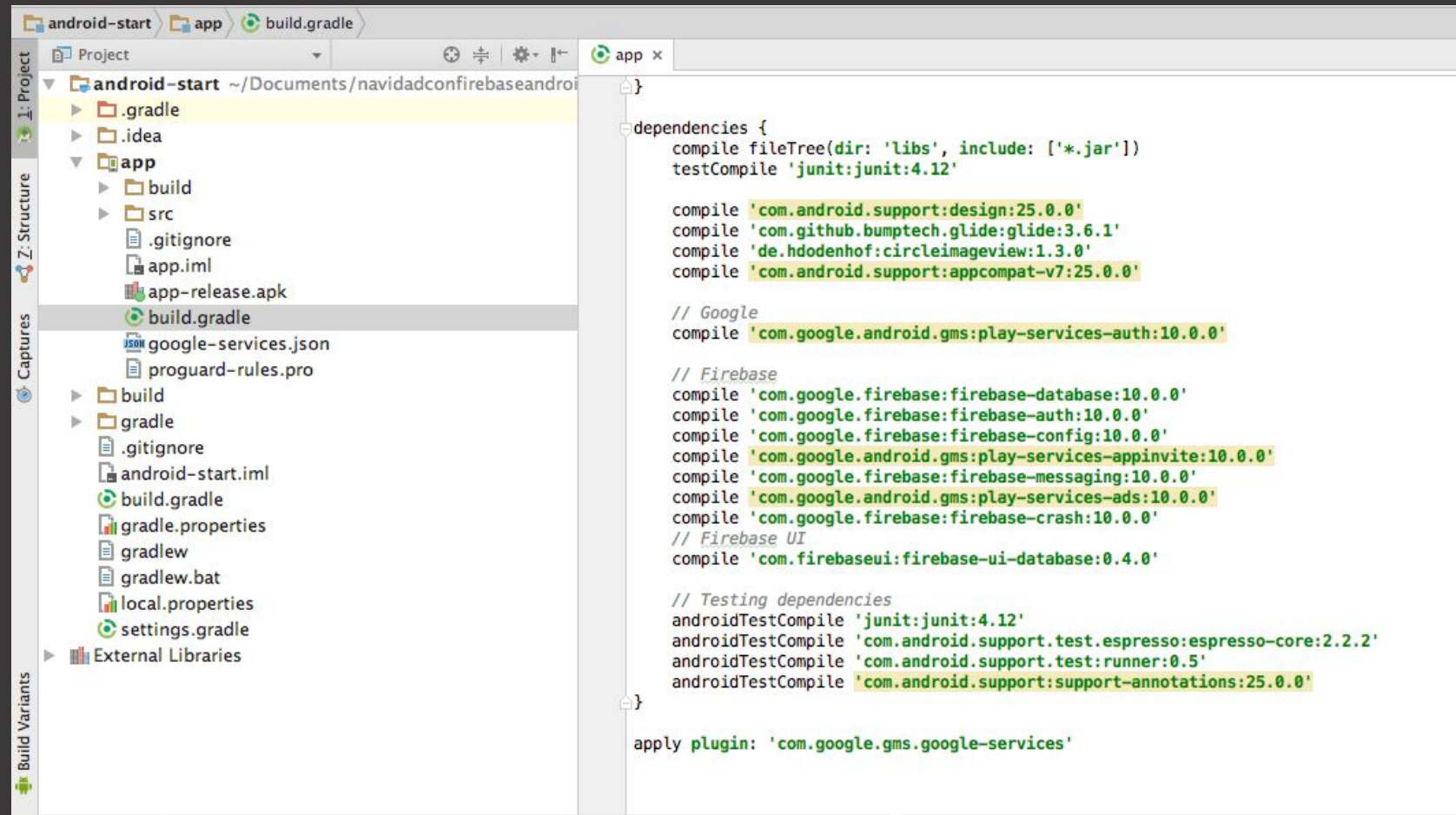
google-services.json



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build.gradle. Firebase dependencies



git clone <https://github.com/firebase/friendlychat>



Social Login Android + (Firebase)

1) Google APIs for Android: Google Sign-In

“¿Esta cuenta de Google que el usuario mete es válida Google?”

2) Authenticate with Firebase with this Google Account.

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Google Sign-In

```
private void signIn() {  
    Intent signInIntent = Auth.GoogleSignInApi.getSignInIntent(mGoogleApiClient);  
    startActivityForResult(signInIntent, RC_SIGN_IN);  
}
```

<https://developers.google.com/android/guides/http-auth>



Authenticate with Firebase.

```
AuthCredential credential = GoogleAuthProvider.getCredential(acct.getIdToken(), null);  
mFirebaseAuth.signInWithCredential(credential)
```

<https://developers.google.com/android/guides/http-auth>



Authenticate with Firebase. Config

1. Configure Authentication Apis. Firebase Console
2. Firebase RealTime Database Rules. Firebase Console
3. SHA Certificate Key: google-services.json

<https://developers.google.com/android/guides/http-auth>



Chat tiempo real en Android

1) Sockets + server

Comunico los mensajes del cliente al servidor y los distribuyo mediante un canal establecido al resto de usuarios.

2) Muestro los mensajes que recibo en el cliente

3) Envio mis mensajes al server



Chat tiempo real en Android con Firebase

- 1) Firebase gestiona la comunicación a los cliente autenticados (Solo cliente Android + Firebase)
- 2) Solo me preocupo de leer los mensajes de la BD Tiempo Real de Firebase y mostrarlos en el cliente
- 3) Y escribir mis mensajes en la BD Tiempo Real de Firebase



Cómo usar la BD Tiempo Real de Firebase en Android

1) Initialize Firebase Database

```
mFirebaseDatabaseReference = FirebaseDatabase.getInstance().getReference();
```

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Cómo usar la BD Tiempo Real de Firebase en Android

2) Add a listener to handle changes made to the data

```
//Getting BotMessages from Firebase Database
botReference = mFirebaseDatabaseReference.child("bot");

botReference.addValueEventListener(new ValueEventListener() {
    @Override
    public void onDataChange(DataSnapshot dataSnapshot) {
        if (dataSnapshot.exists()) {

            for (DataSnapshot snapshotBot: dataSnapshot.getChildren()) {
                botList.add(new BotMessage(snapshotBot.getKey(), snapshotBot.getValue().toString()));
            }

        }
    }
    @Override
    public void onCancelled(DatabaseError databaseError) {
        // Getting Bot failed, log a message
        Log.w(TAG, "loadBot:onCancelled", databaseError.toException());
    }
});
```

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Cómo usar la BD Tiempo Real de Firebase en Android

2) Read Data: getValue() | Firebase UI : FirebaseRecyclerAdapter

```
mFirebaseAdapter = new FirebaseRecyclerAdapter<FriendlyMessage,  
    MessageViewHolder>(  
    FriendlyMessage.class,  
    R.layout.item_message,  
    MessageViewHolder.class,  
    mFirebaseDatabaseReference.child(MESSAGES_CHILD+"/"+mFirebaseUser.getUid())) {
```

<https://firebase.google.com/docs/database/android/start/>



Cómo usar la BD Tiempo Real de Firebase en Android

2) Escribir datos

```
mSendButton.setOnClickListener((view) → {  
    // Send messages on click.  
    FriendlyMessage friendlyMessage = new  
        FriendlyMessage(mMessageEditText.getText().toString(),  
        mUsername,  
        mPhotoUrl);  
    userMessagesReference.push().setValue(friendlyMessage);  
})
```

<https://firebase.google.com/docs/database/android/start/>



Cómo publicar app Android + Firebase



+

SHA-1 “Release KEY” en Firebase Console

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Cómo obtener SHA-1 de mis claves generadas por Android Studio

To get the release certificate fingerprint:

```
keytool -exportcert -list -v \  
-alias <your-key-name> -keystore <path-to-production-keystore>
```

To get the debug certificate fingerprint:

MAC/LINUX

WINDOWS

```
keytool -exportcert -list -v \  
-alias androiddebugkey -keystore ~/.android/debug.keystore
```

<https://developers.google.com/android/guides/client-auth>



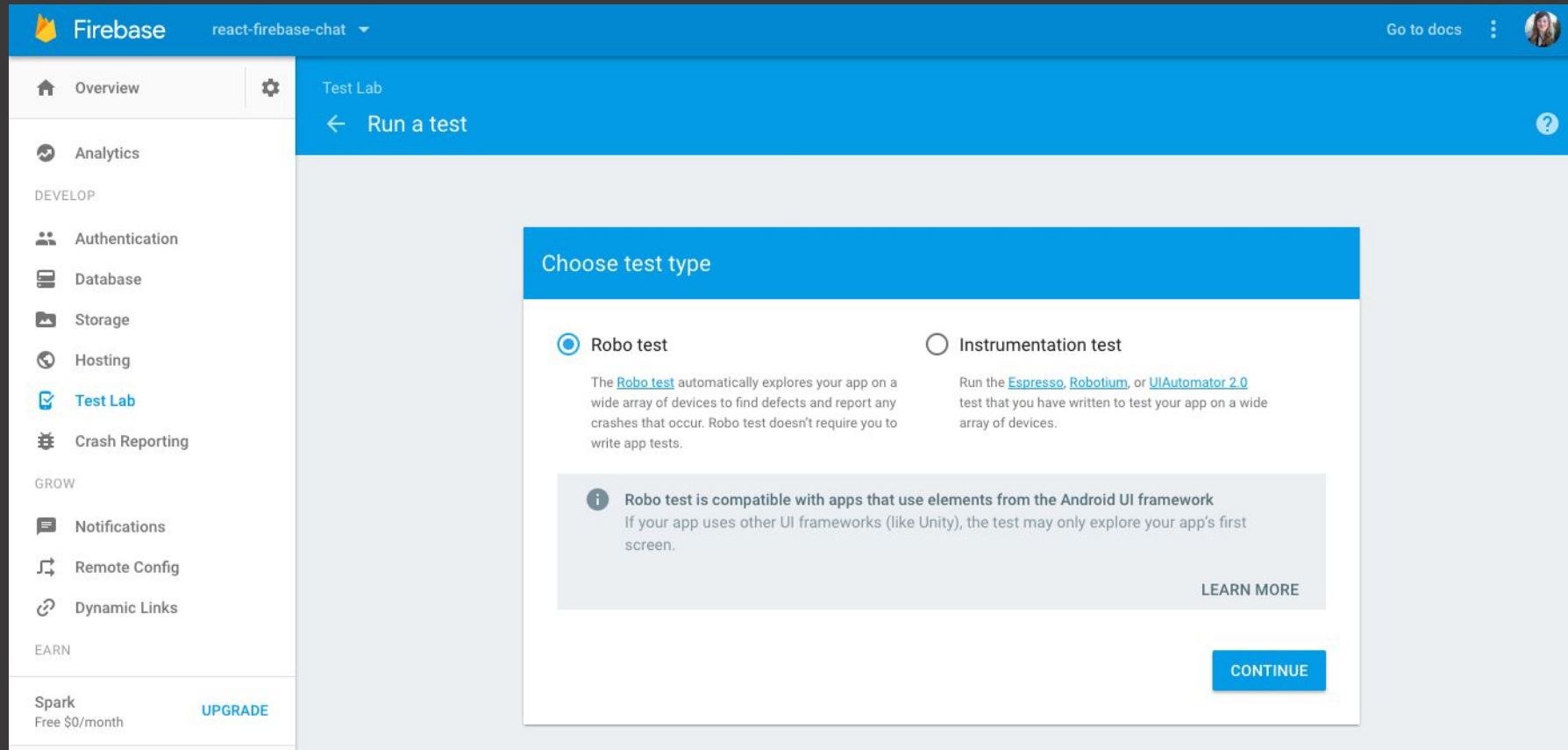
Firebase Test Lab

“Test in the lab not on your users”

<https://firebase.google.com/features/>



Firebase Test Lab



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Firebase Test Lab

✓ Select app

2 Select dimensions

Select the devices, API levels, orientations, and locales you want to run your test on. You must select at least one of each dimension.

i

You have a daily quota of 5 physical and 10 virtual device test executions that is refreshed at (12AM PST)

UPGRADE

Physical devices

Nexus 7 (2013) ASUS

☐ 19 ☐ 21

Nexus 9 HTC

☐ 21

LG G4 LG

☐ 22

HTC One (M8) HTC

☐ 19

LG G3 LG

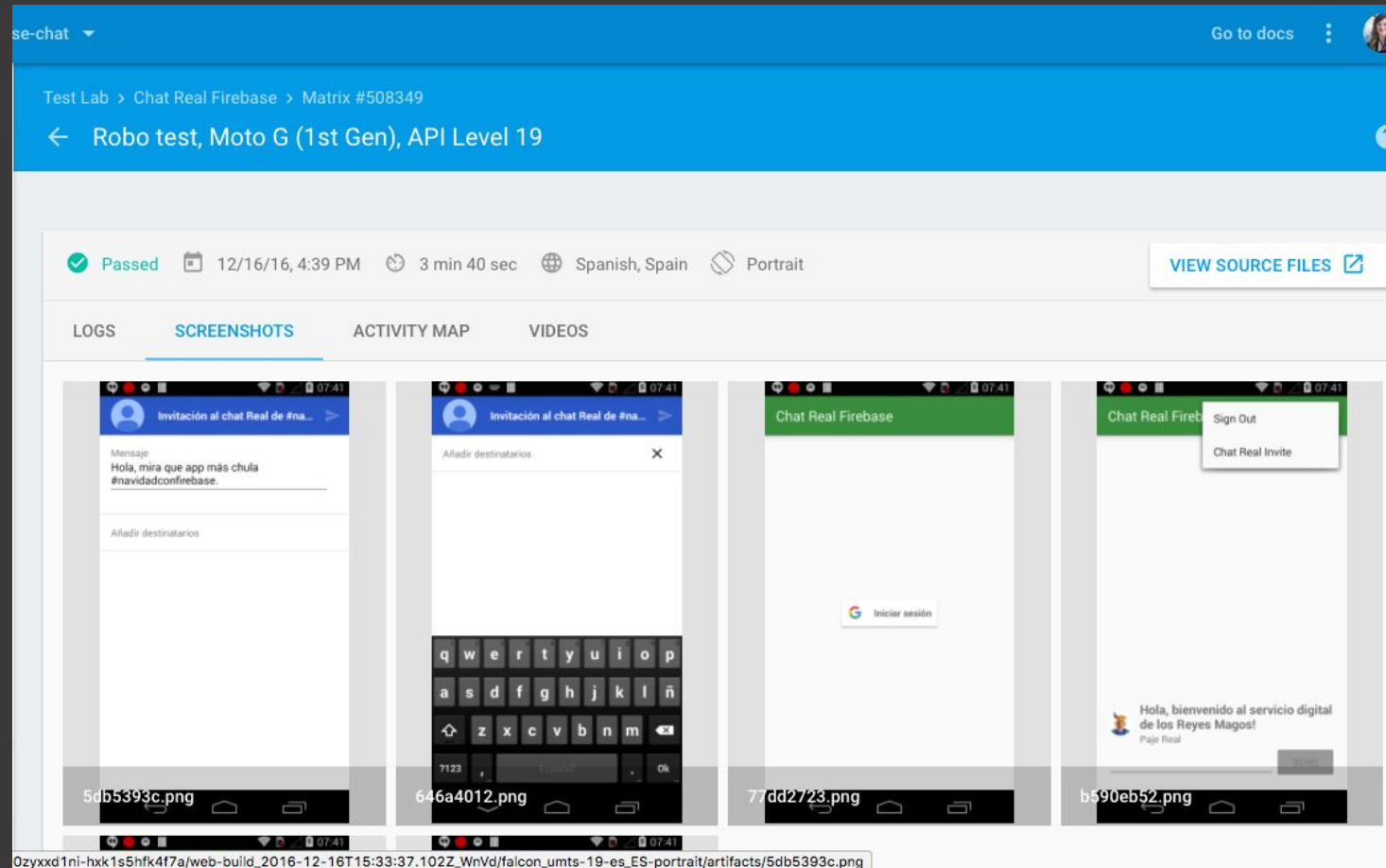
☐ 19

Nexus 4 LG

☐ 19 ☐ 22

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Firebase Test Lab



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hat ▾ Test Lab > Robo test, Moto G (1st Gen), API Level 19

Go to docs

START_SCREEN

GO_ACTIVITY:

Chat Real Firebase

Sign Out

Chat Real invite

Hola, bienvenido al servicio digital de los Reyes Magos!

Pepe Peral

b590eb52

ELEMENT_CLICK LinearLayout[0]

ELEMENT_CLICK LinearLayout[1]

GO_ACTIVITY:

Chat Real Firebase

Invitación al chat Real de fma...

Message

Hola, mira que app más chula #navidadconfirebase.

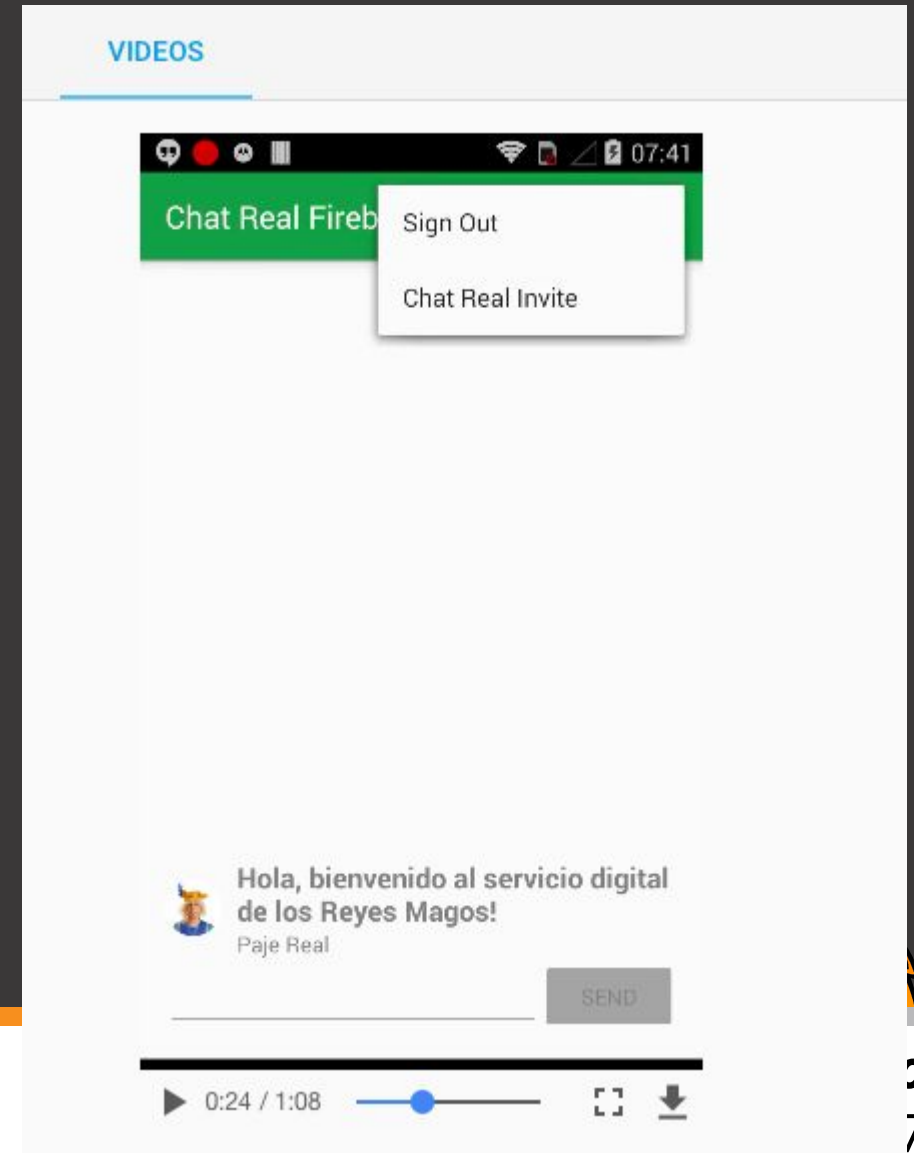
Añadir destinatarios

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Firebase Test Lab

<https://console.firebase.google.com>

\$> t3chfest



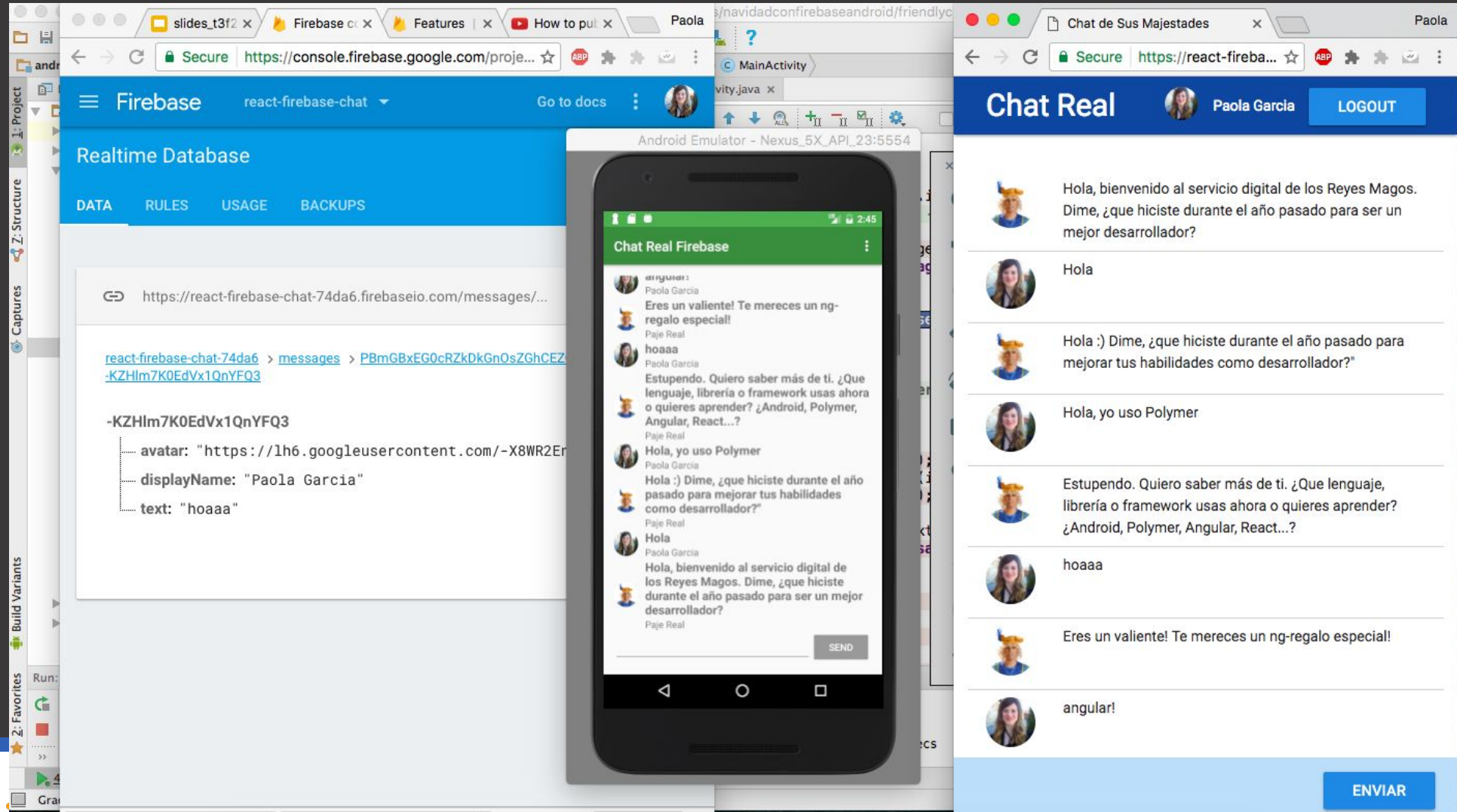
Firestore used multiplatform

Gestiona tus usuarios multiplataforma

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Firestore used multiplatform



¿Firebase es gratis?

Firebase		Home	Features	Pricing	Docs	Case Studies	Support	Search	Go to Console
		SPARK Free		FLAME \$25 per month		BLAZE Pay as you go			
		Generous limits for hobbyists		Predictable pricing for growing apps		Commodity pricing for apps at scale			
Included Free		✓		✓		✓			
Analytics, App Indexing, Authentication, Cloud Messaging, Crash Reporting, Dynamic Links, Invites, Notifications & Remote Config									
Realtime Database	Simultaneous connections	100		Unlimited ¹		Unlimited ¹			
	GB stored	1 GB		2.5 GB		\$5/GB			
	GB downloaded	10 GB/month		20 GB/month		\$1/GB			
	Automated backups	✗		✗		✓			
Storage	GB stored	5 GB		50 GB		\$0.026/GB ²			
	GB downloaded	1 GB/day		50 GB/month		\$0.12/GB ²			
	Upload operations	20,000/day		100,000/day		\$0.10/thousand ²			
	Download operations	50,000/day		250,000/day		\$0.01/thousand ²			

<https://firebase.google.com/pricing/>



Cómo dar los siguientes pasos

Youtube Paola Garcia

Udacity. Firebase in a weekend:Android

Codelab Google Developer Firebase & Android

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Firestore Docs

Firestore by platform



For iOS

[Get Started Guide](#)

[Code Lab](#)

[API Reference](#)

[Samples](#)



For Android

[Get Started Guide](#)

[Code Lab](#)

[API Reference](#)

[Samples](#)



For Web

[Get Started Guide](#)

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<https://firebase.google.com/docs/>



Firestore Docs

Gracias!!!!
paola@chefly.co

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