Google Developer Experts

# Acelera tus desarrollos web con Firebase

STEM Talks 2023 - GDG Menorca

Carlos Azaustre
GDE Web / Microsoft MVP 2022
**@carlosazaustre**

# Carlos Azaustre

Ingeniero en Telemática

Profesor Asociado @UEM

Divulgador y Creador de Contenido sobre Programación Web en YouTube

Experts 2023

MVP Microsoft® Most Valuable Professional

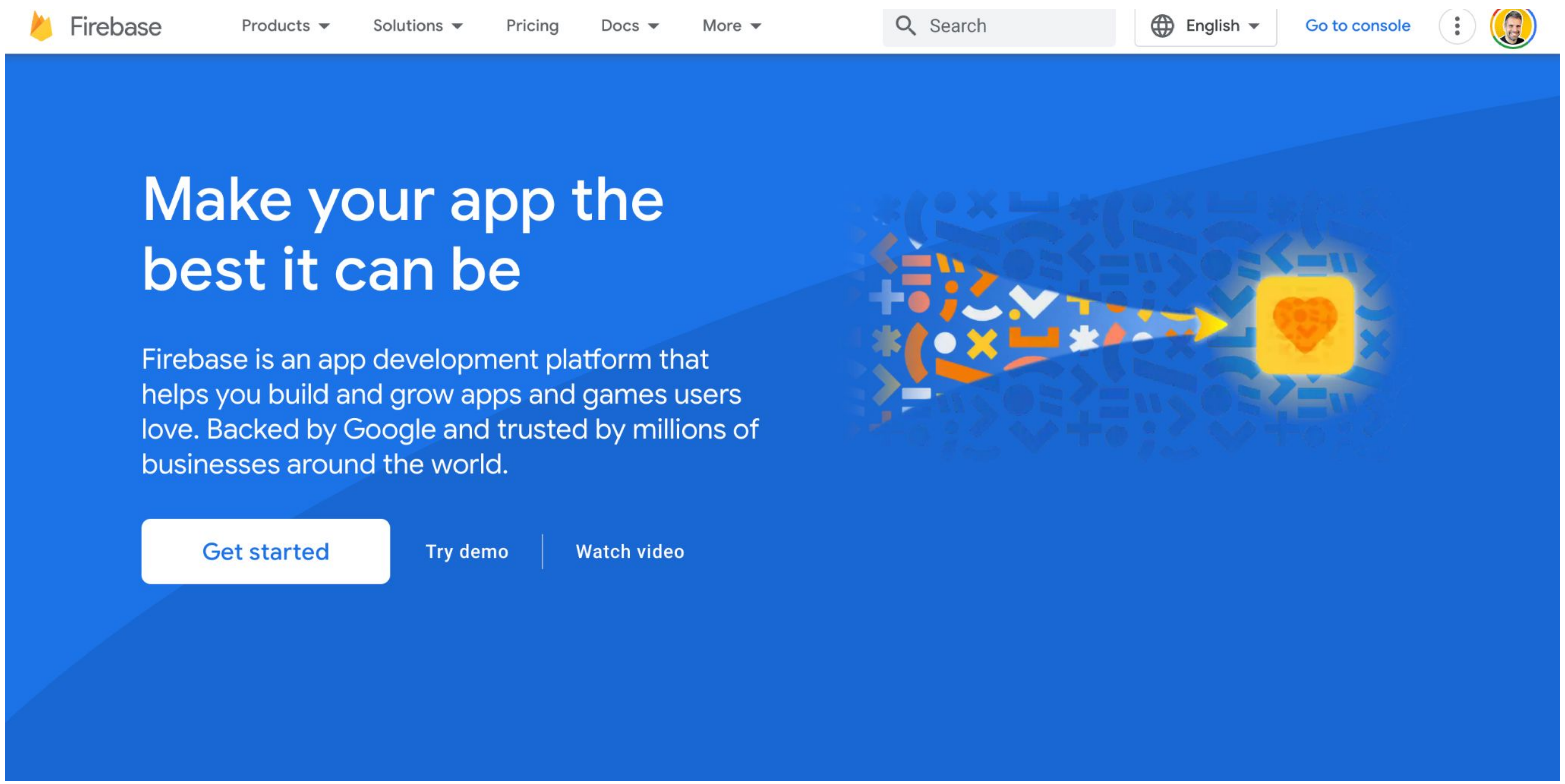
Experts
MVP
Carlos Azaustre - Ap  nde JavaScript
For passing 100,0   subscribers
YouTube

@carlosazaustre

```
filterStudies({ studies, filterByOrg = false, filte
studies.filter(study => {
organizat
```

# ¿Qué es Firebase?

Infraestructura y conjunto de herramientas para ayudarnos a construir aplicaciones web y móviles


Firebase
Products
Solutions
Pricing
Docs
More
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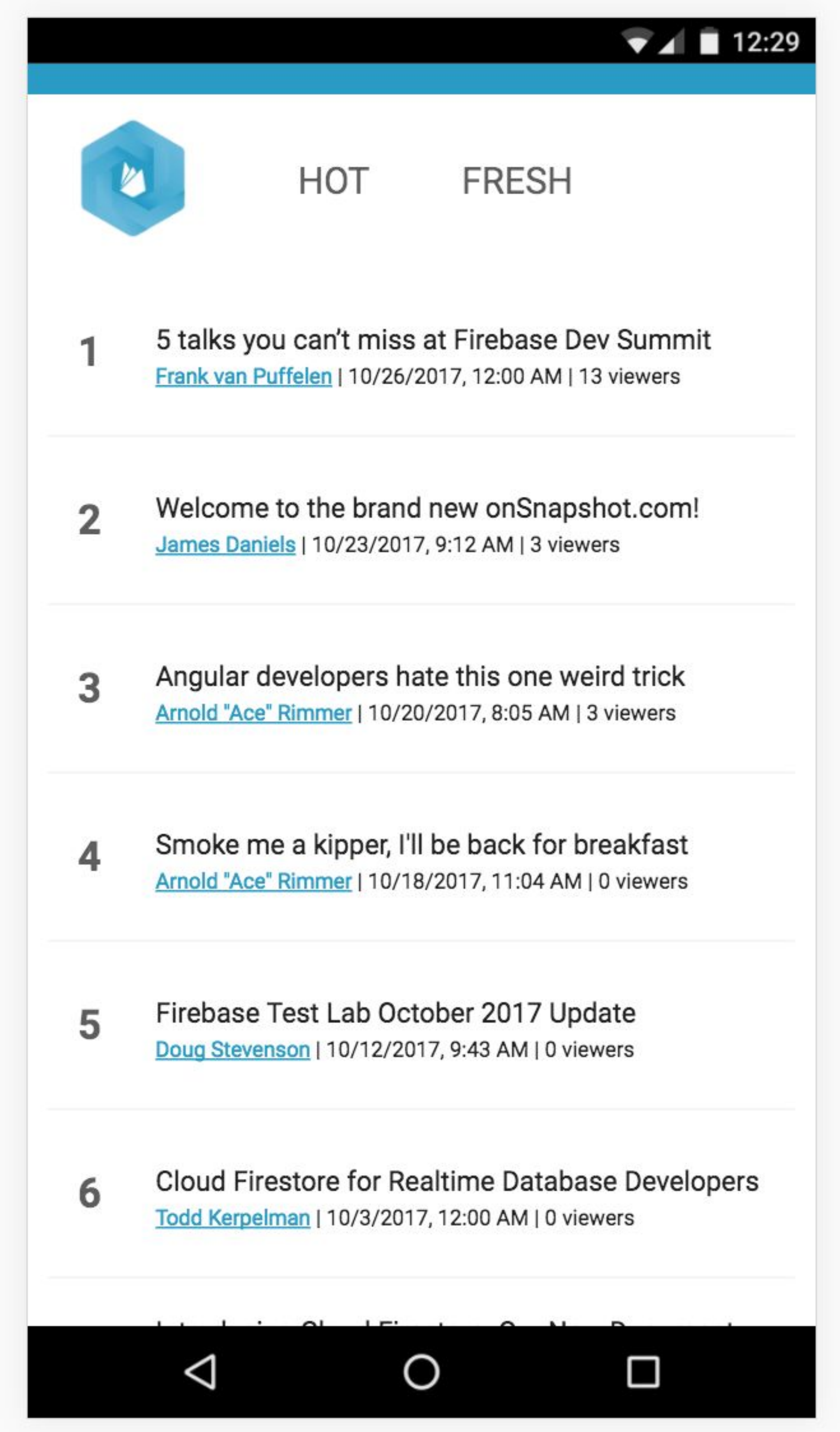
English
Go to console

Make your app the best it can be

Firebase is an app development platform that helps you build and grow apps and games users love. Backed by Google and trusted by millions of businesses around the world.

Get started
Try demo
Watch video

# ¿Qué puedes construir con Firebase?



1 5 talks you can't miss at Firebase Dev Summit
Frank van Puffelen | 10/26/2017, 12:00 AM | 13 viewers

2 Welcome to the brand new onSnapshot.com!
James Daniels | 10/23/2017, 9:12 AM | 3 viewers

3 Angular developers hate this one weird trick
Arnold "Ace" Rimmer | 10/20/2017, 8:05 AM | 3 viewers

4 Smoke me a kipper, I'll be back for breakfast
Arnold "Ace" Rimmer | 10/18/2017, 11:04 AM | 0 viewers

5 Firebase Test Lab October 2017 Update
Doug Stevenson | 10/12/2017, 9:43 AM | 0 viewers

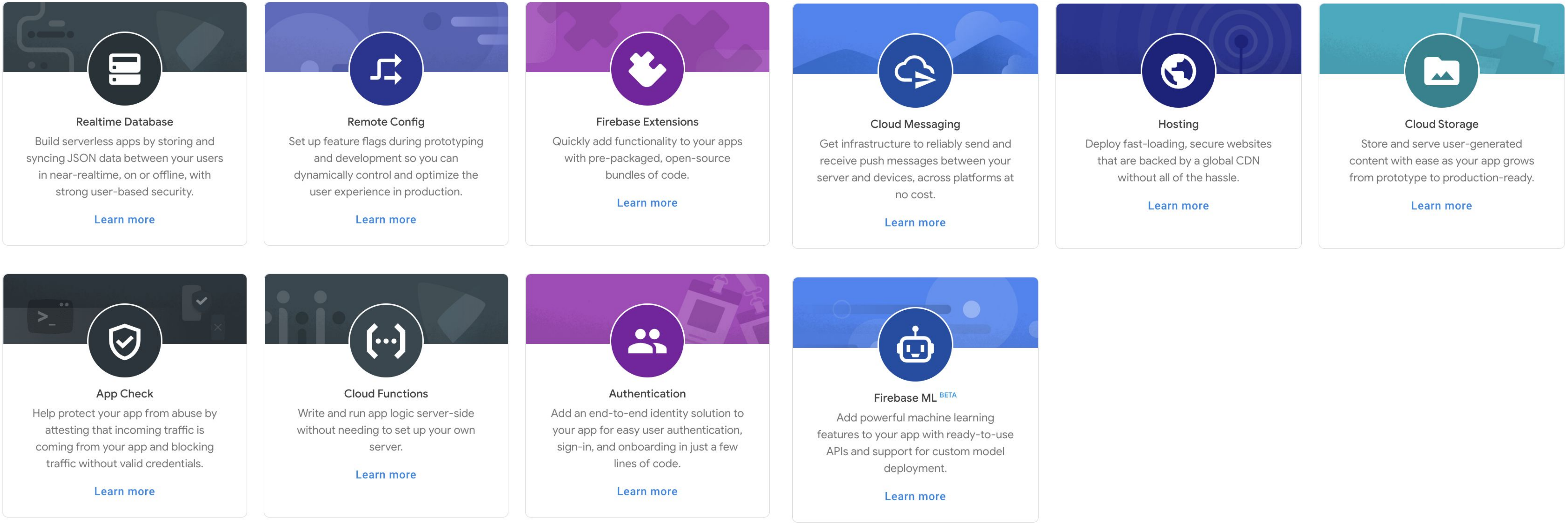
6 Cloud Firestore for Realtime Database Developers
Todd Kerpelman | 10/3/2017, 12:00 AM | 0 viewers

Ejemplo: PWA (Progressive Web App)

- Mostrar una lista de artículos.
- Mostrar los lectores/visitante actuales en tiempo real.
- Almacenar las imágenes de los usuarios.
- Hosting/Servicio de hospedaje de la Web
- Usuarios se pueden autenticar
- Usuarios pueden comentar
- Push Notifications

Fuente: OnSnapshot.com

# Herramientas para construir



**Realtime Database**

Build serverless apps by storing and syncing JSON data between your users in near-realtime, on or offline, with strong user-based security.

Learn more

**Remote Config**

Set up feature flags during prototyping and development so you can dynamically control and optimize the user experience in production.

Learn more

**Firebase Extensions**

Quickly add functionality to your apps with pre-packaged, open-source bundles of code.

Learn more

**Cloud Messaging**

Get infrastructure to reliably send and receive push messages between your server and devices, across platforms at no cost.

Learn more

**Hosting**

Deploy fast-loading, secure websites that are backed by a global CDN without all of the hassle.

Learn more

**Cloud Storage**

Store and serve user-generated content with ease as your app grows from prototype to production-ready.

Learn more

**App Check**

Help protect your app from abuse by attesting that incoming traffic is coming from your app and blocking traffic without valid credentials.

Learn more

**Cloud Functions**

Write and run app logic server-side without needing to set up your own server.

Learn more

**Authentication**

Add an end-to-end identity solution to your app for easy user authentication, sign-in, and onboarding in just a few lines of code.

Learn more

**Firebase ML** BETA

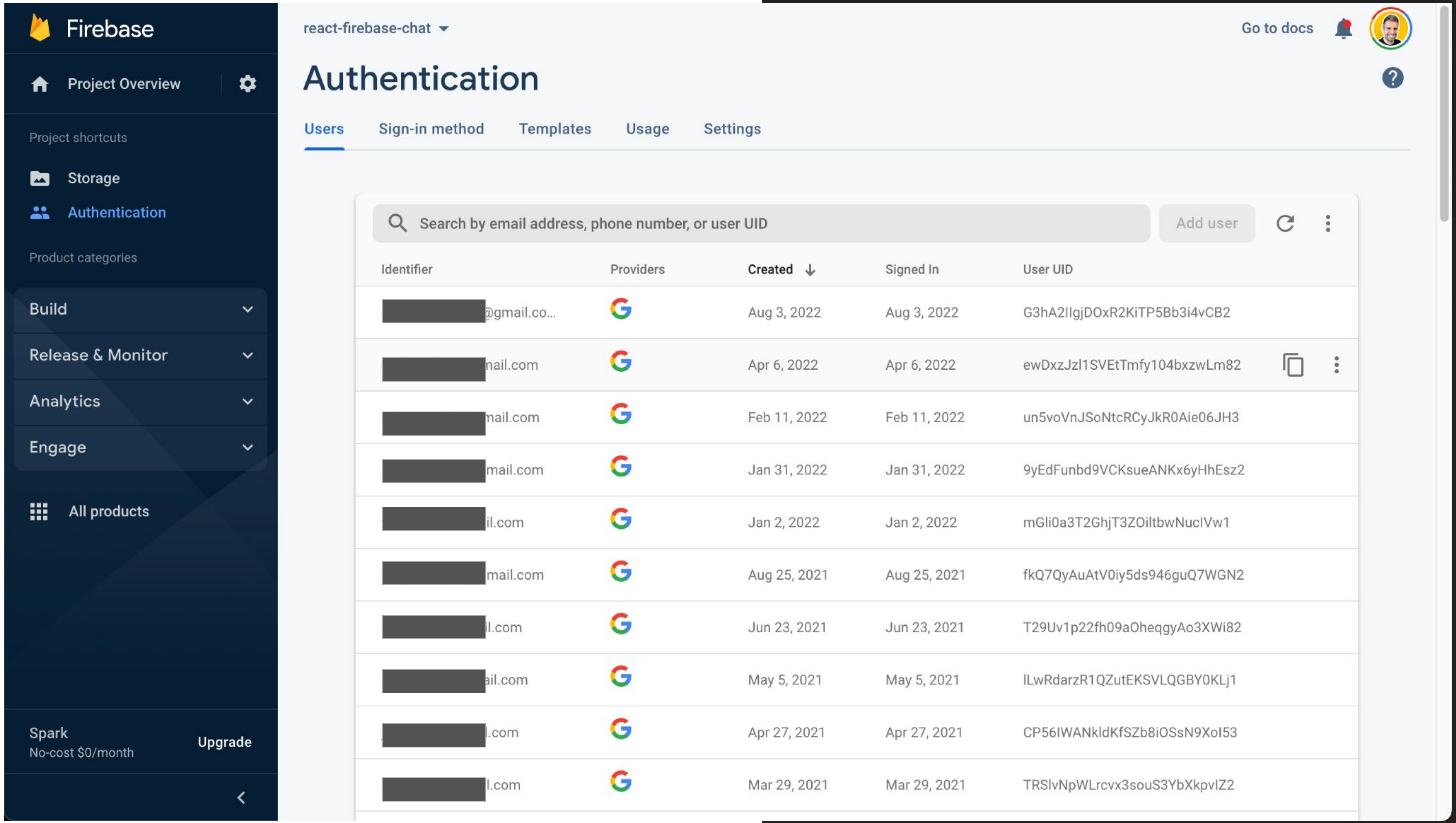
Add powerful machine learning features to your app with ready-to-use APIs and support for custom model deployment.

Learn more

# Firebase Authentication

Registro y Login de usuarios más sencillo

Experts


Firebase
react-firebase-chat
Go to docs
Project Overview
Project shortcuts
Storage
Authentication
Product categories
Build
Release & Monitor
Analytics
Engage
All products
Spark
No-cost $0/month
Upgrade
Users
Sign-in method
Templates
Usage
Settings
Search by email address, phone number, or user UID
Add user

# Authentication

| Identifier | Providers | Created ↓ | Signed In | User UID |
|---|---|---|---|---|
| [redacted]@gmail.co... | G | Aug 3, 2022 | Aug 3, 2022 | G3hA2IlgjDOxR2KiTP5Bb3i4vCB2 |
| [redacted]nail.com | G | Apr 6, 2022 | Apr 6, 2022 | ewDxzJzl1SVEtTmfy104bxzwLm82 |
| [redacted]nail.com | G | Feb 11, 2022 | Feb 11, 2022 | un5voVnJSoNtcRCyJkR0Aie06JH3 |
| [redacted]mail.com | G | Jan 31, 2022 | Jan 31, 2022 | 9yEdFunbd9VCKsueANKx6yHhEsz2 |
| [redacted]il.com | G | Jan 2, 2022 | Jan 2, 2022 | mGli0a3T2GhjT3ZOiltbwNucIVw1 |
| [redacted]mail.com | G | Aug 25, 2021 | Aug 25, 2021 | fkQ7QyAuAtV0iy5ds946guQ7WGN2 |
| [redacted]l.com | G | Jun 23, 2021 | Jun 23, 2021 | T29Uv1p22fh09aOheqgyAo3XWi82 |
| [redacted]ail.com | G | May 5, 2021 | May 5, 2021 | lLwRdarzR1QZutEKSVLQGBY0KLj1 |
| [redacted].com | G | Apr 27, 2021 | Apr 27, 2021 | CP56IWANkldKfSZb8iOSsN9XoI53 |
| [redacted]l.com | G | Mar 29, 2021 | Mar 29, 2021 | TRSlvNpWLrcvx3souS3YbXkpvIZ2 |

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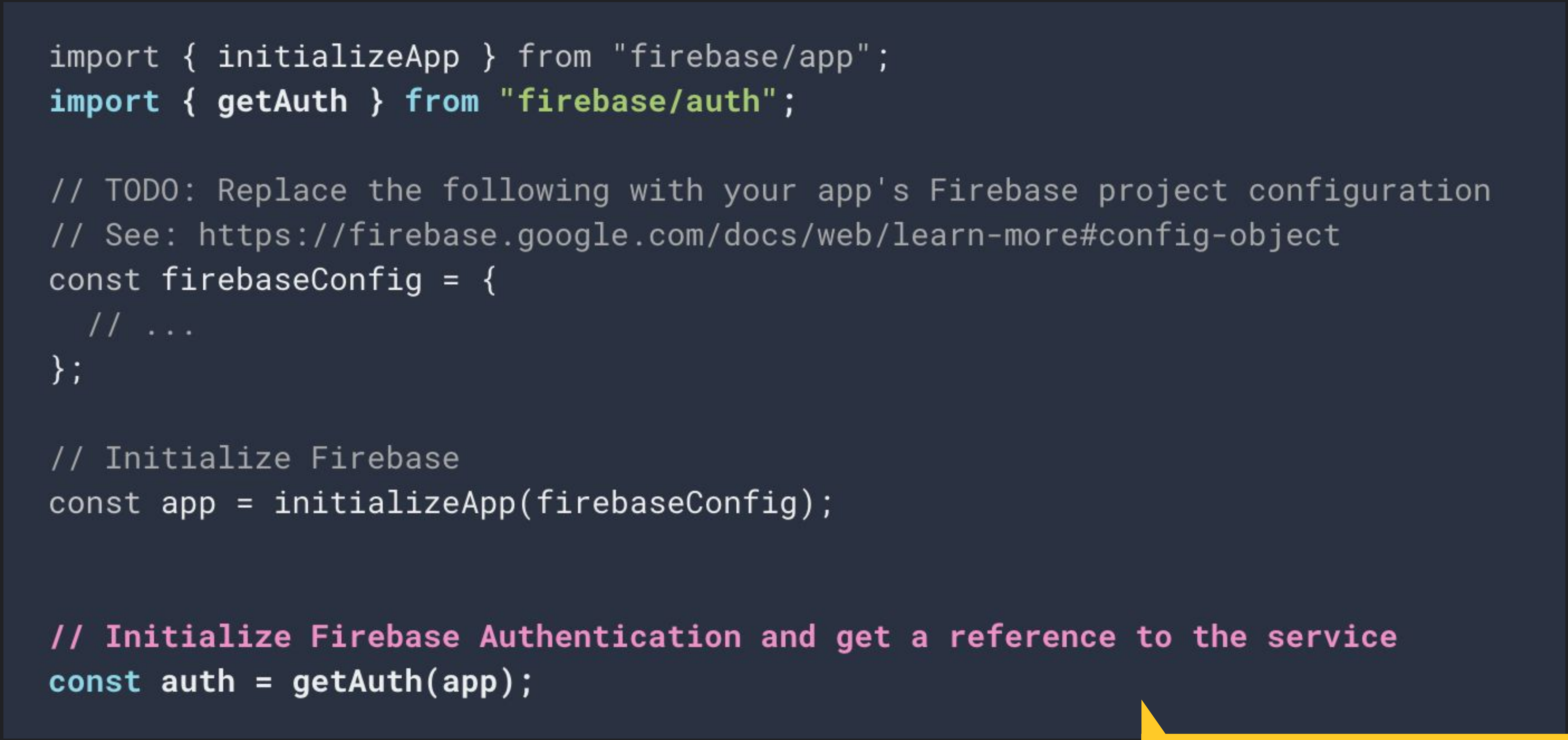
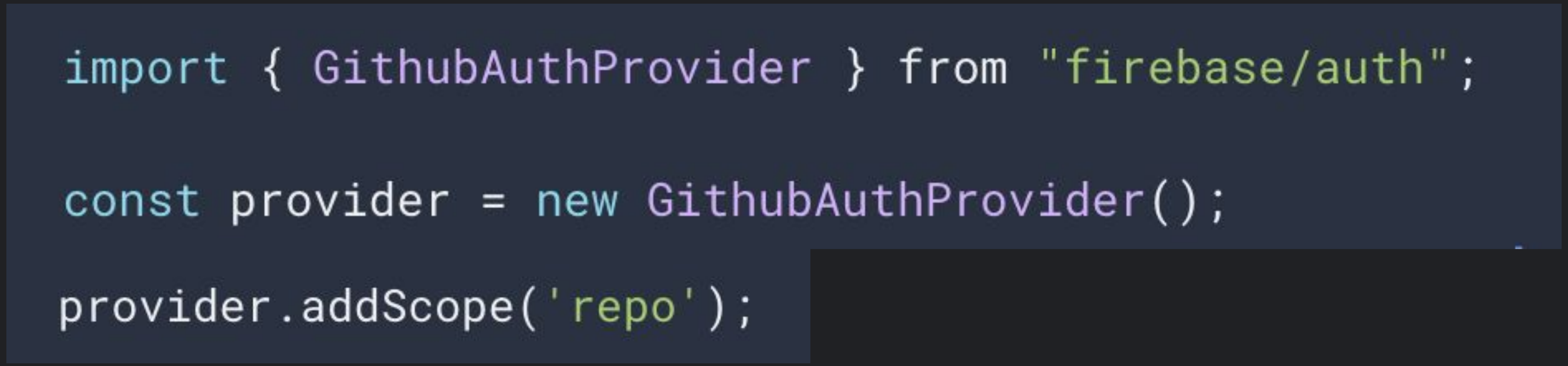


```
import { initializeApp } from "firebase/app";
import { getAuth } from "firebase/auth";

// TODO: Replace the following with your app's Firebase project configuration
// See: https://firebase.google.com/docs/web/learn-more#config-object
const firebaseConfig = {
  // ...
};

// Initialize Firebase
const app = initializeApp(firebaseConfig);


// Initialize Firebase Authentication and get a reference to the service
const auth = getAuth(app);
```

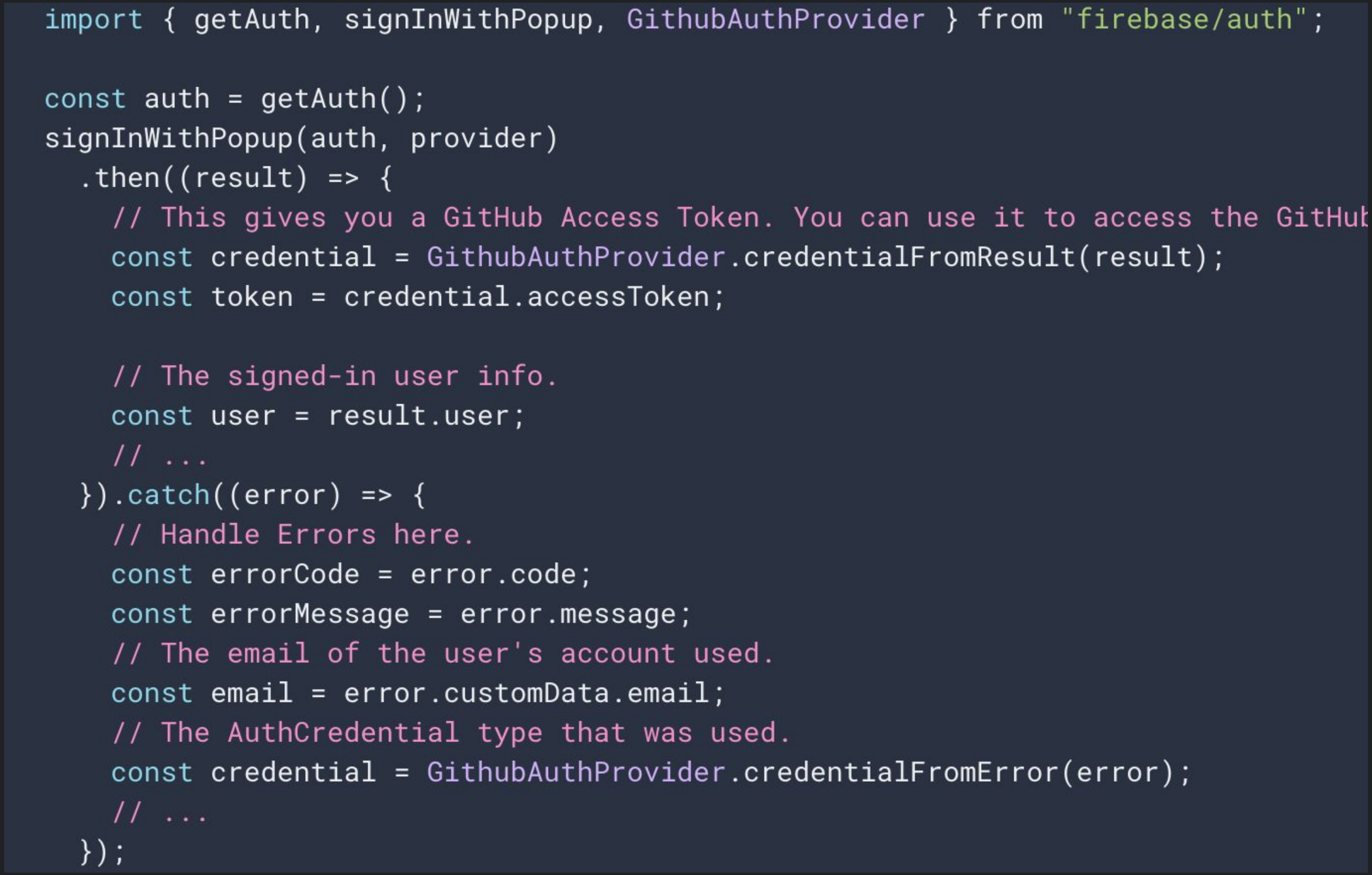
*Inicialización*

```
import { getAuth, createUserWithEmailAndPassword } from "firebase/auth";

const auth = getAuth();
createUserWithEmailAndPassword(auth, email, password)
  .then((userCredential) => {
    // Signed in
    const user = userCredential.user;
    // ...
  })
  .catch((error) => {
    const errorCode = error.code;
    const errorMessage = error.message;
    // ..
  });
```

*Registro de nuevos usuarios*



```
import { GithubAuthProvider } from "firebase/auth";

const provider = new GithubAuthProvider();

provider.addScope('repo');
```

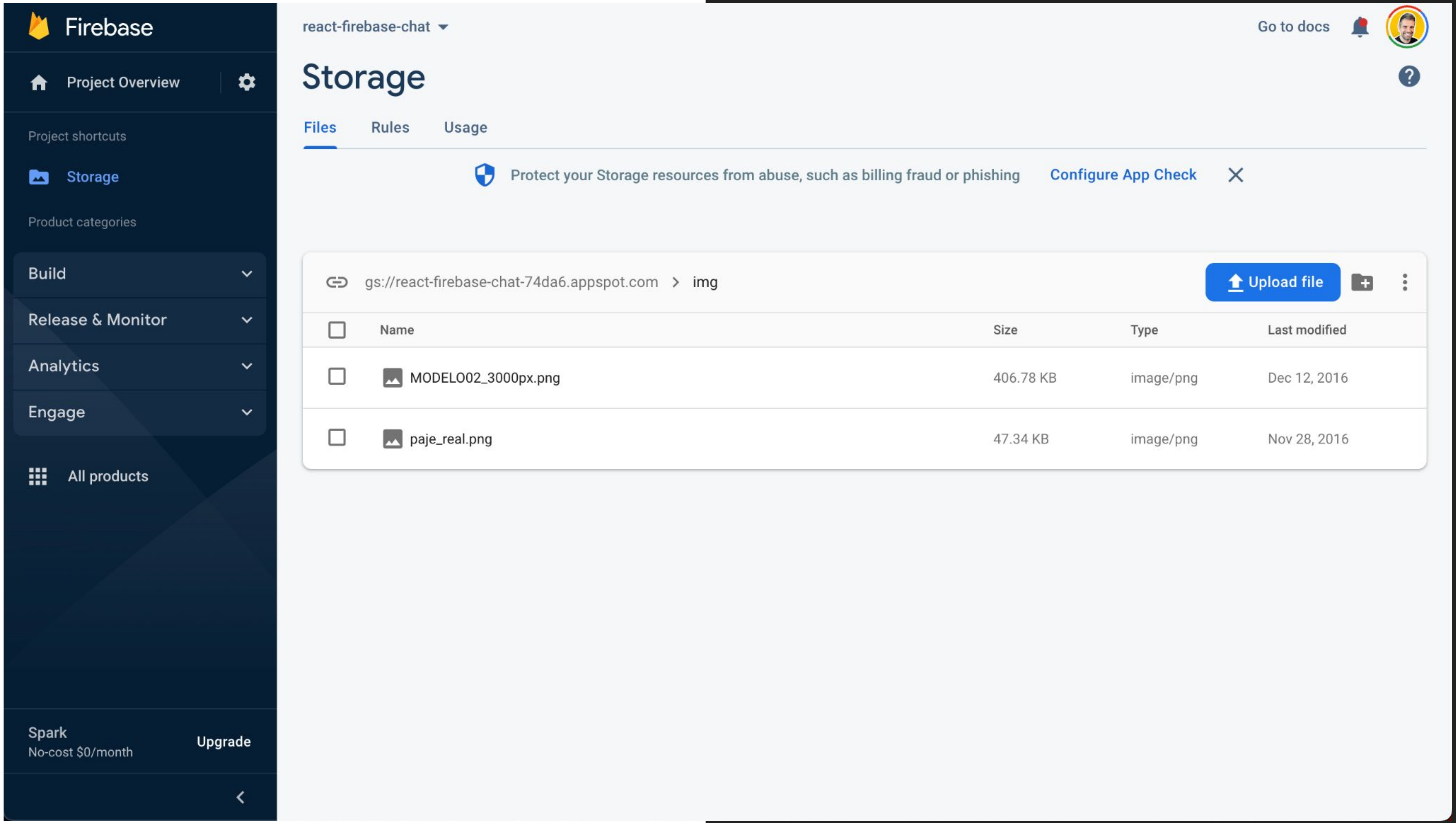


```
import { getAuth, signInWithPopup, GithubAuthProvider } from "firebase/auth";

const auth = getAuth();
signInWithPopup(auth, provider)
  .then((result) => {
    // This gives you a GitHub Access Token. You can use it to access the GitHub
    const credential = GithubAuthProvider.credentialFromResult(result);
    const token = credential.accessToken;

    // The signed-in user info.
    const user = result.user;
    // ...
  }).catch((error) => {
    // Handle Errors here.
    const errorCode = error.code;
    const errorMessage = error.message;
    // The email of the user's account used.
    const email = error.customData.email;
    // The AuthCredential type that was used.
    const credential = GithubAuthProvider.credentialFromError(error);
    // ...
  });
```

***Registro a través de un proveedor de OAuth (ej: GitHub)***

# Firebase Cloud Storage

## Almacenaje y Servicio de archivos


Firebase
Project Overview
Project shortcuts
Storage
Product categories
Build
Release & Monitor
Analytics
Engage
All products
Spark
No-cost $0/month
Upgrade
react-firebase-chat
Go to docs
Storage
Files
Rules
Usage
Configure App Check
Upload file

Protect your Storage resources from abuse, such as billing fraud or phishing

gs://react-firebase-chat-74da6.appspot.com > img

| ☐ | Name | Size | Type | Last modified |
|---|---|---|---|---|
| ☐ | MODELO02_3000px.png | 406.78 KB | image/png | Dec 12, 2016 |
| ☐ | paje_real.png | 47.34 KB | image/png | Nov 28, 2016 |

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# Firebase Cloud Firestore

## Base de Datos NoSQL RealTime

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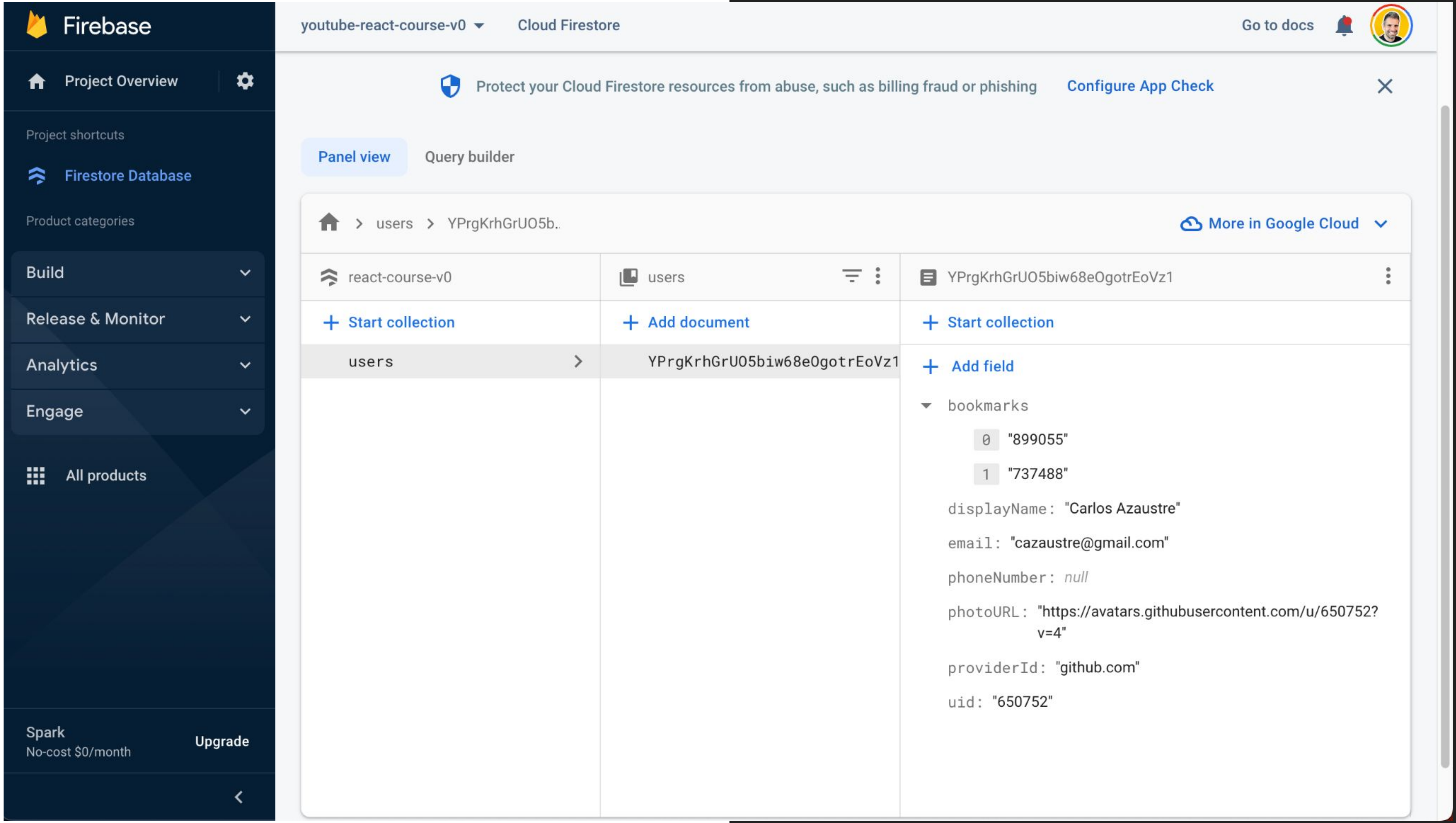
Firebase
youtube-react-course-v0
Cloud Firestore
Go to docs
Project Overview
Project shortcuts
Firestore Database
Product categories
Build
Release & Monitor
Analytics
Engage
All products
Spark
No-cost $0/month
Upgrade
Configure App Check
Panel view
Query builder
users
YPrgKrhGrUO5b.
More in Google Cloud
react-course-v0
users
YPrgKrhGrUO5biw68eOgotrEoVz1
Start collection
Add document
Start collection
users
YPrgKrhGrUO5biw68eOgotrEoVz1
Add field

Protect your Cloud Firestore resources from abuse, such as billing fraud or phishing

bookmarks
0 "899055"
1 "737488"
displayName: "Carlos Azaustre"
email: "cazaustre@gmail.com"
phoneNumber: *null*
photoURL: "https://avatars.githubusercontent.com/u/650752?v=4"
providerId: "github.com"
uid: "650752"

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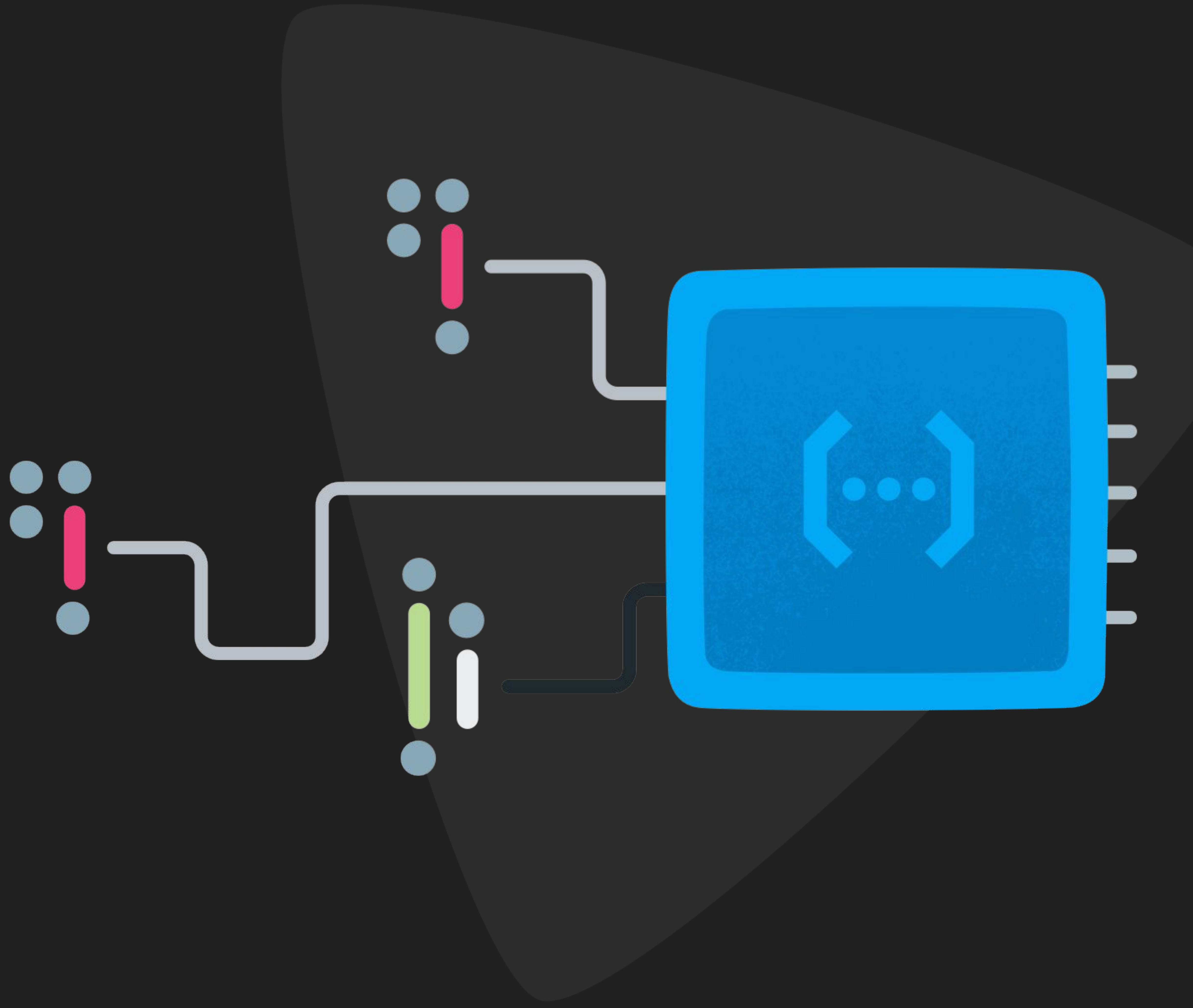
# Firebase Hosting

Sirve tu web al mundo.

Experts

# Firebase Cloud Functions

FaaS: Funciones Lambda para ejecutar código Backend sin servers.



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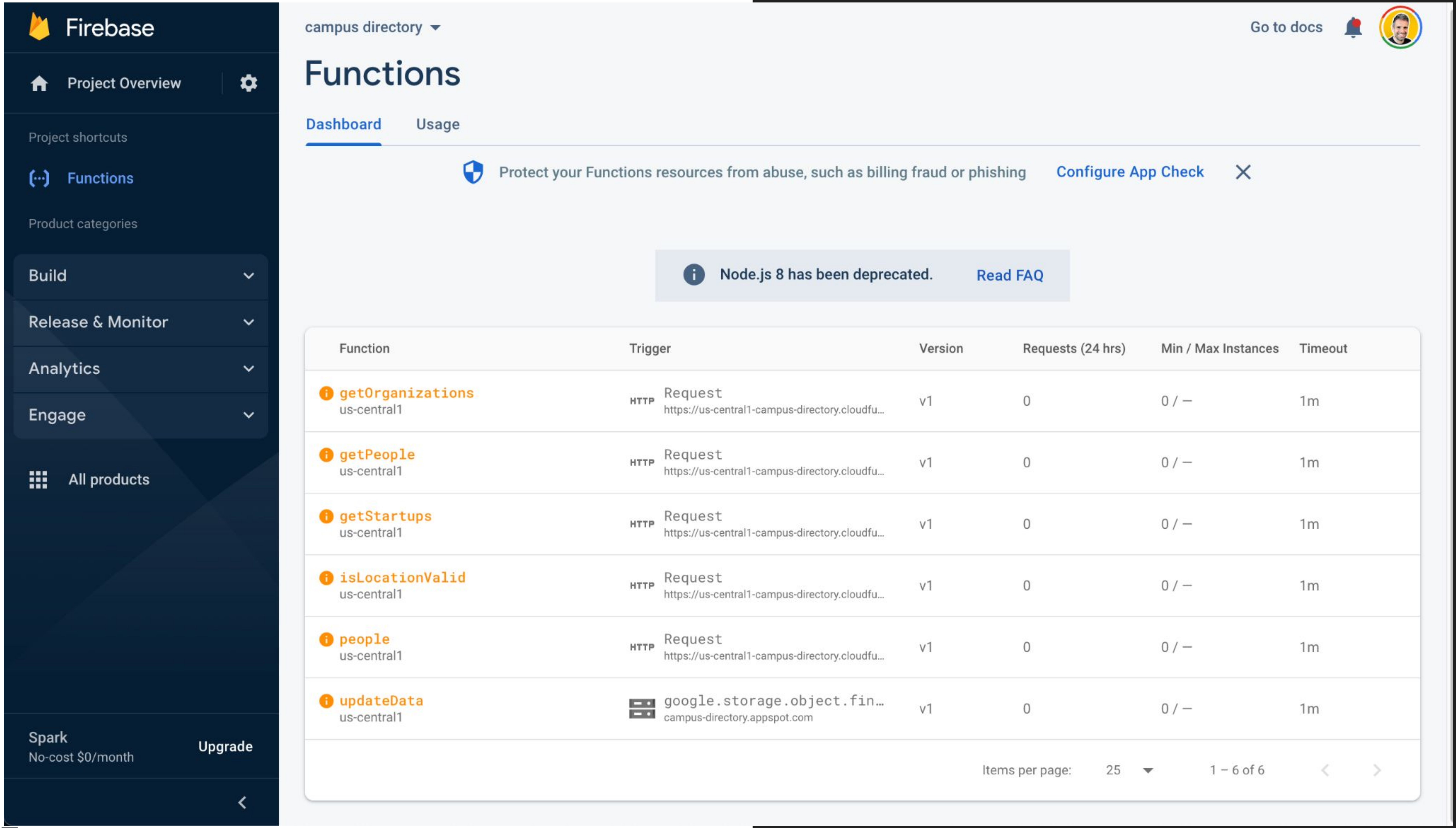
Firebase
Project Overview
Project shortcuts
Functions
Product categories
Build
Release & Monitor
Analytics
Engage
All products
Spark
No-cost $0/month
Upgrade
campus directory
Go to docs
Dashboard
Usage
Configure App Check
Read FAQ

# Functions

Protect your Functions resources from abuse, such as billing fraud or phishing

Node.js 8 has been deprecated.

| Function | Trigger | Version | Requests (24 hrs) | Min / Max Instances | Timeout |
|---|---|---|---|---|---|
| `getOrganizations`<br>us-central1 | HTTP Request<br>https://us-central1-campus-directory.cloudfu... | v1 | 0 | 0 / — | 1m |
| `getPeople`<br>us-central1 | HTTP Request<br>https://us-central1-campus-directory.cloudfu... | v1 | 0 | 0 / — | 1m |
| `getStartups`<br>us-central1 | HTTP Request<br>https://us-central1-campus-directory.cloudfu... | v1 | 0 | 0 / — | 1m |
| `isLocationValid`<br>us-central1 | HTTP Request<br>https://us-central1-campus-directory.cloudfu... | v1 | 0 | 0 / — | 1m |
| `people`<br>us-central1 | HTTP Request<br>https://us-central1-campus-directory.cloudfu... | v1 | 0 | 0 / — | 1m |
| `updateData`<br>us-central1 | google.storage.object.fin...<br>campus-directory.appspot.com | v1 | 0 | 0 / — | 1m |

Items per page: 25 1 – 6 of 6

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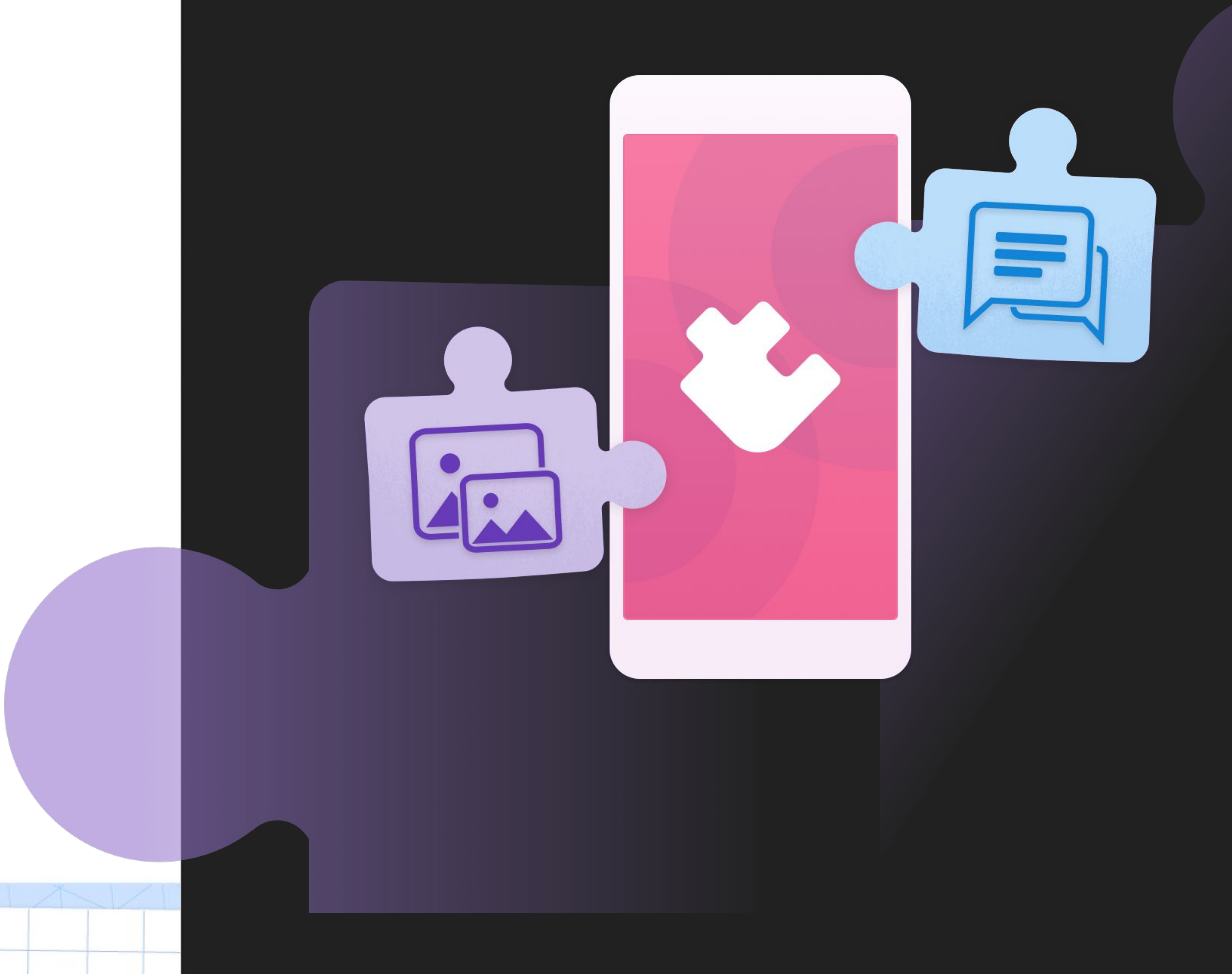
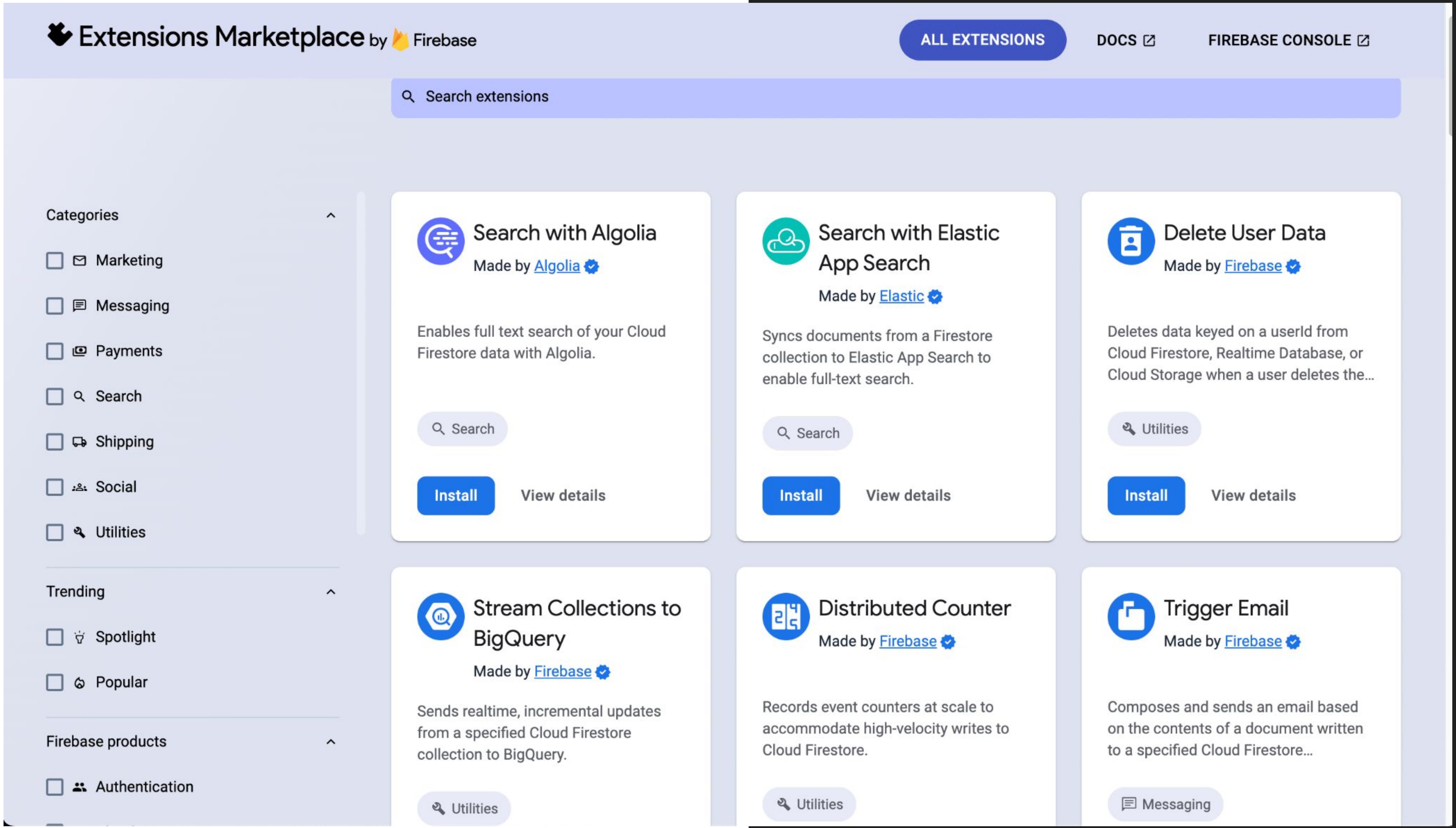
# Firebase Extensions

Ahorra tiempo implementando features comunes



Experts



Extensions Marketplace by Firebase

ALL EXTENSIONS DOCS FIREBASE CONSOLE

Search extensions

Categories
- ☐ Marketing
- ☐ Messaging
- ☐ Payments
- ☐ Search
- ☐ Shipping
- ☐ Social
- ☐ Utilities

Trending
- ☐ Spotlight
- ☐ Popular

Firebase products
- ☐ Authentication

**Search with Algolia**
Made by Algolia

Enables full text search of your Cloud Firestore data with Algolia.

Search

Install View details

**Search with Elastic App Search**
Made by Elastic

Syncs documents from a Firestore collection to Elastic App Search to enable full-text search.

Search

Install View details

**Delete User Data**
Made by Firebase

Deletes data keyed on a userId from Cloud Firestore, Realtime Database, or Cloud Storage when a user deletes the...

Utilities

Install View details

**Stream Collections to BigQuery**
Made by Firebase

Sends realtime, incremental updates from a specified Cloud Firestore collection to BigQuery.

Utilities

**Distributed Counter**
Made by Firebase

Records event counters at scale to accommodate high-velocity writes to Cloud Firestore.

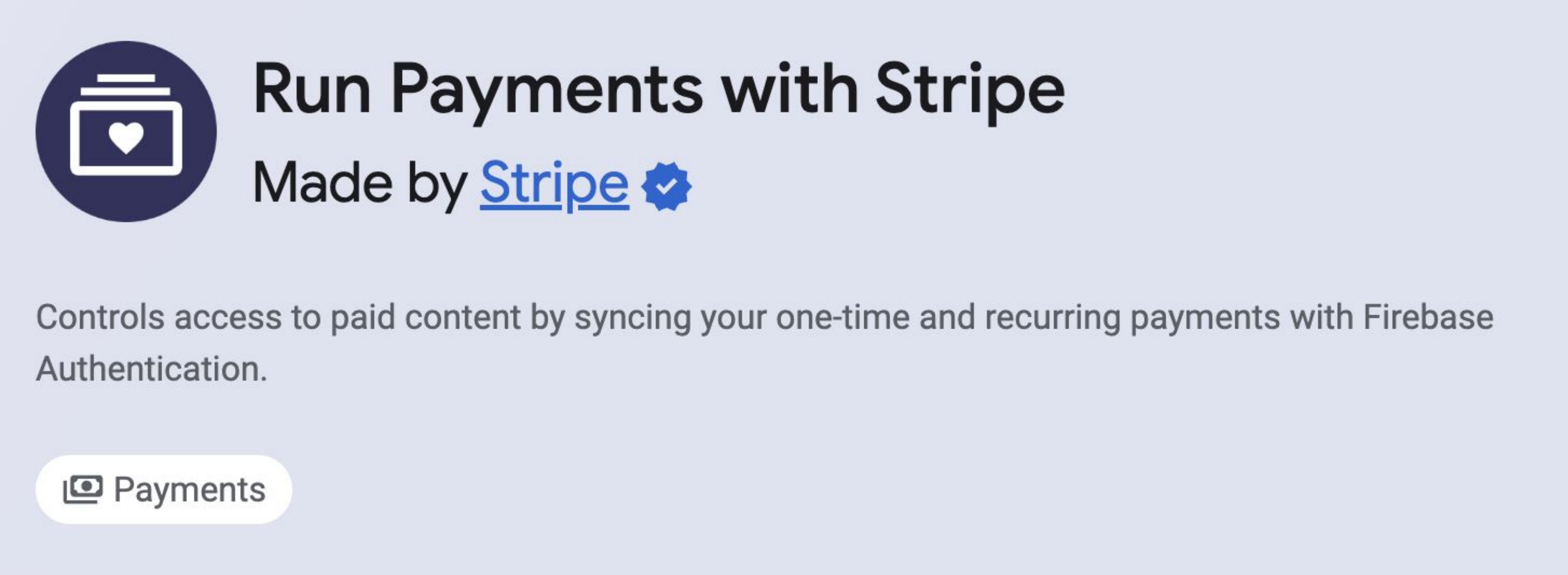
Utilities

**Trigger Email**
Made by Firebase

Composes and sends an email based on the contents of a document written to a specified Cloud Firestore...

Messaging

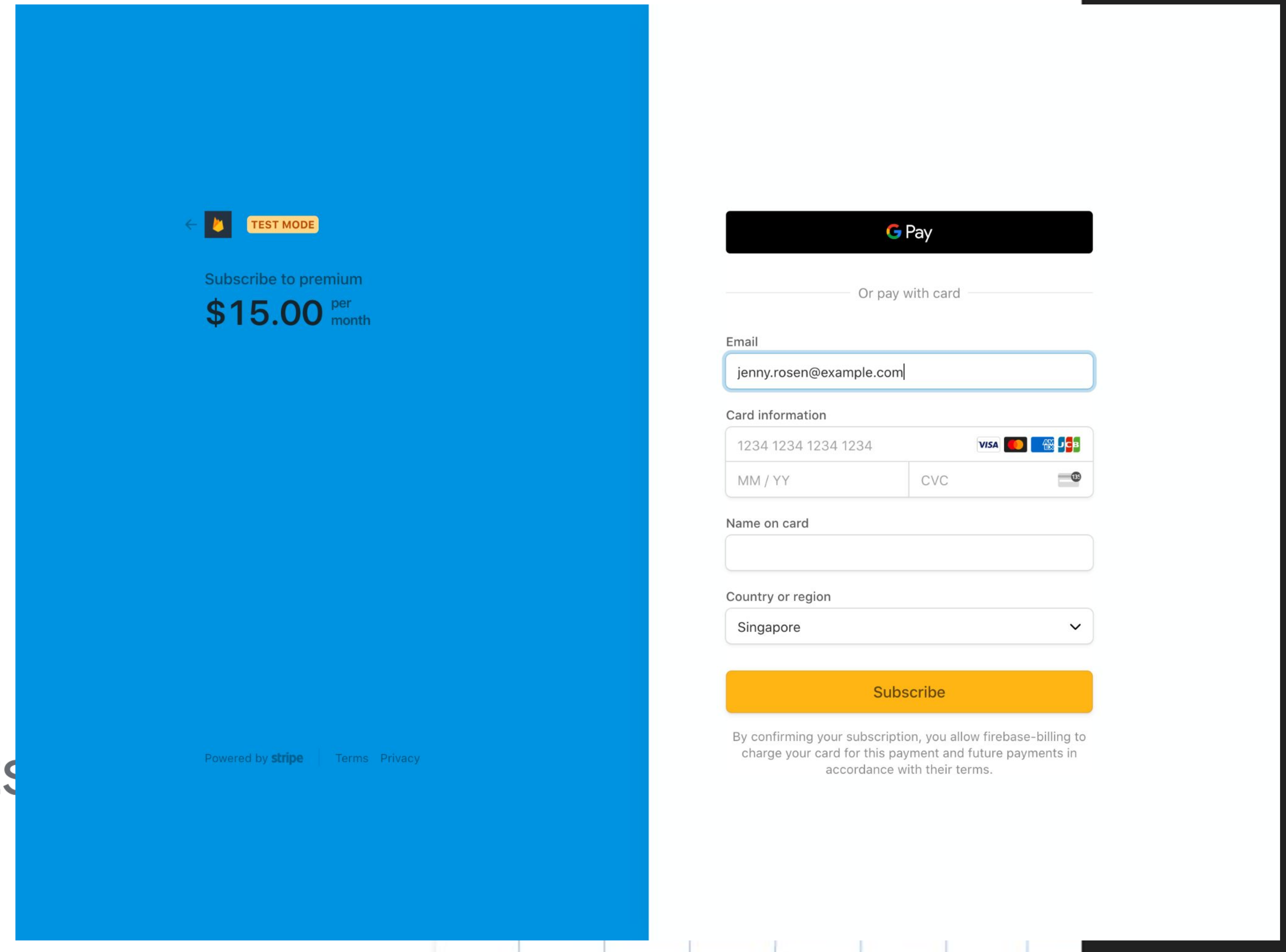
Experts



# Run Payments with Stripe

Made by Stripe

Controls access to paid content by syncing your one-time and recurring payments with Firebase Authentication.



TEST MODE

Subscribe to premium

$15.00 per month

G Pay
Or pay with card

Email: jenny.rosen@example.com

Card information: 1234 1234 1234 1234

MM / YY

CVC

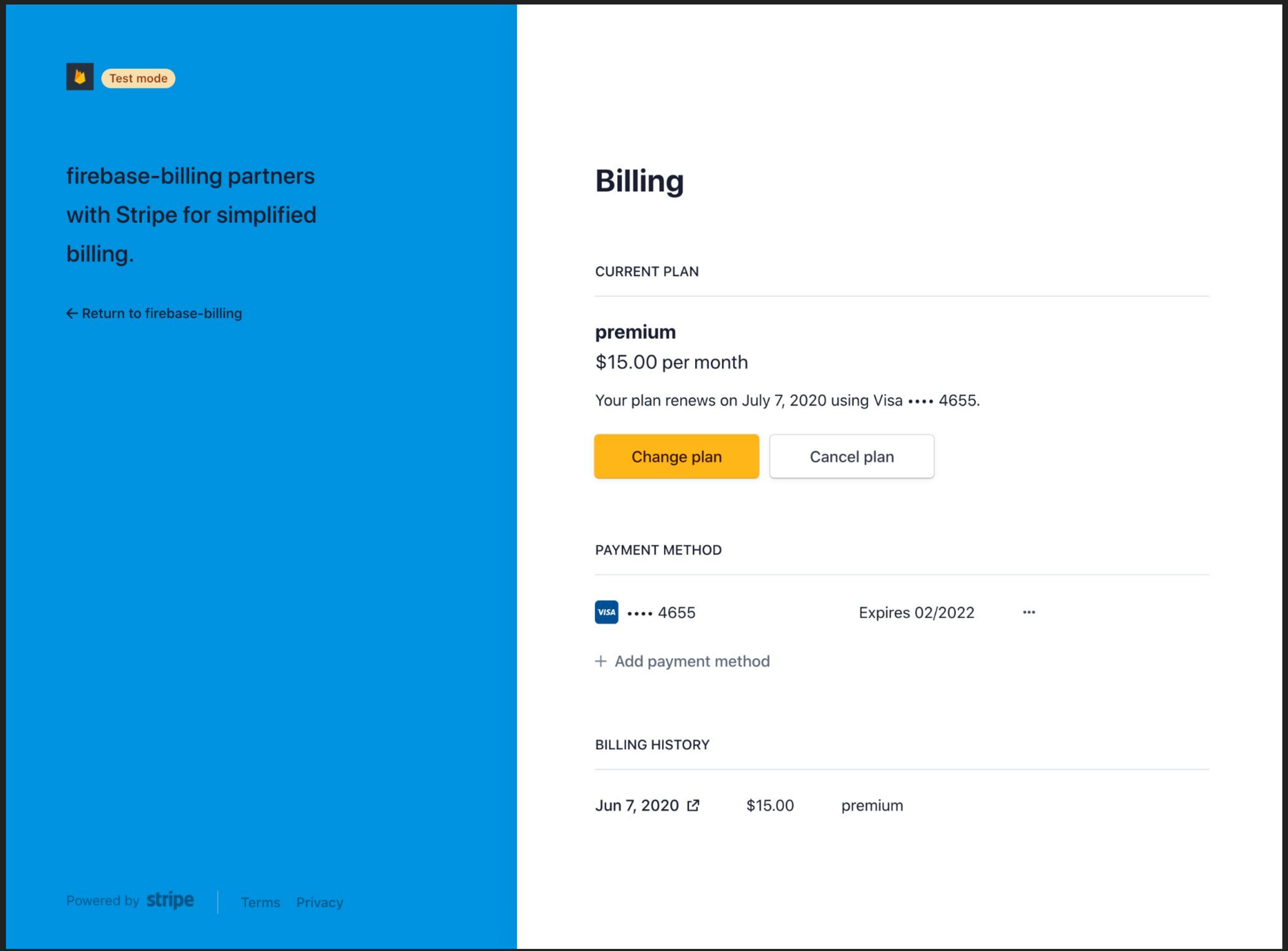
Name on card:

Country or region: Singapore

Subscribe

By confirming your subscription, you allow firebase-billing to charge your card for this payment and future payments in accordance with their terms.

Powered by stripe
Terms
Privacy



Test mode

firebase-billing partners with Stripe for simplified billing.

← Return to firebase-billing

## Billing

CURRENT PLAN

**premium**

$15.00 per month

Your plan renews on July 7, 2020 using Visa •••• 4655.

Change plan
Cancel plan

PAYMENT METHOD

•••• 4655 Expires 02/2022

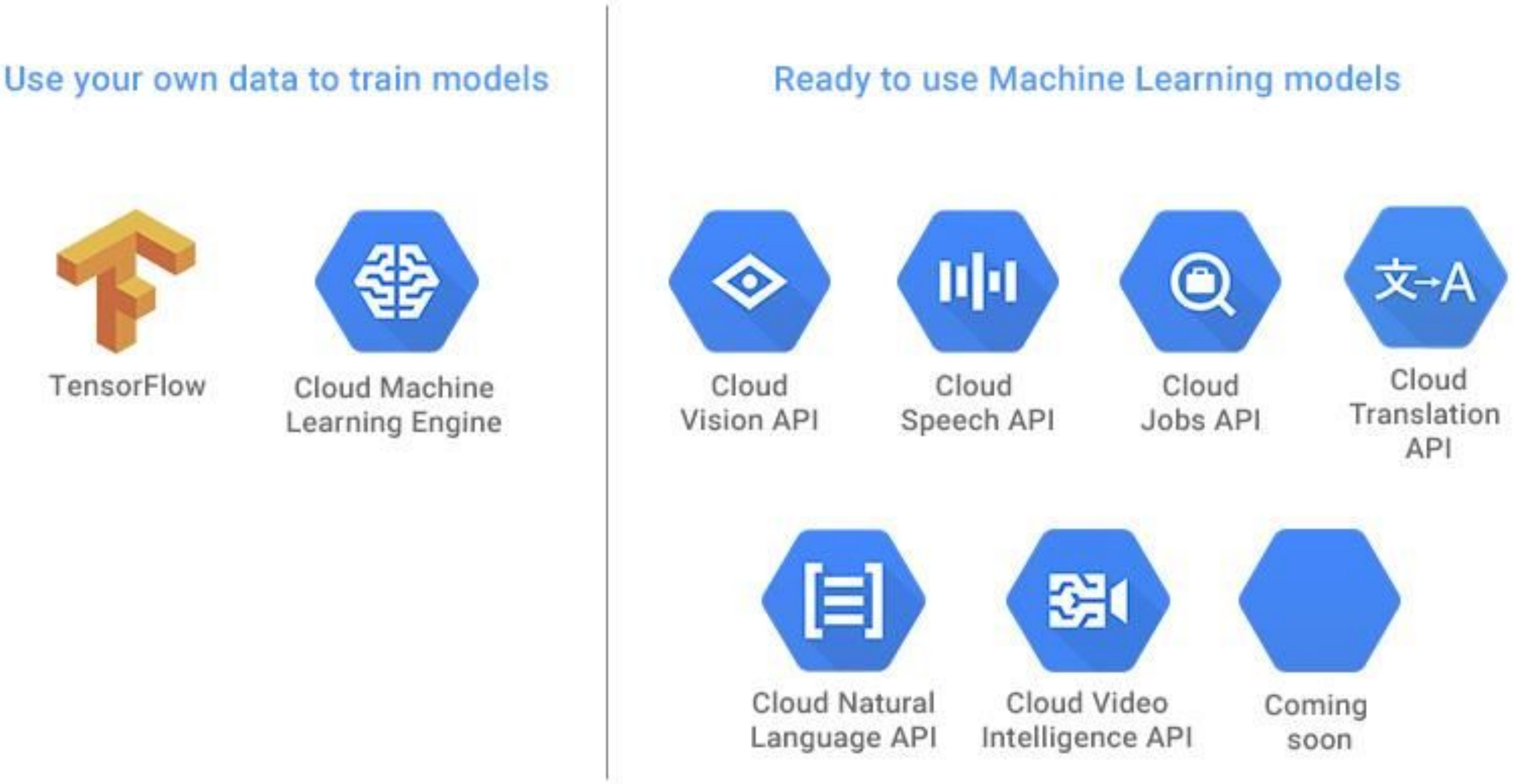
+ Add payment method

BILLING HISTORY

Jun 7, 2020 $15.00 premium

Powered by stripe
Terms
Privacy

# AI (Inteligencia Artificial)



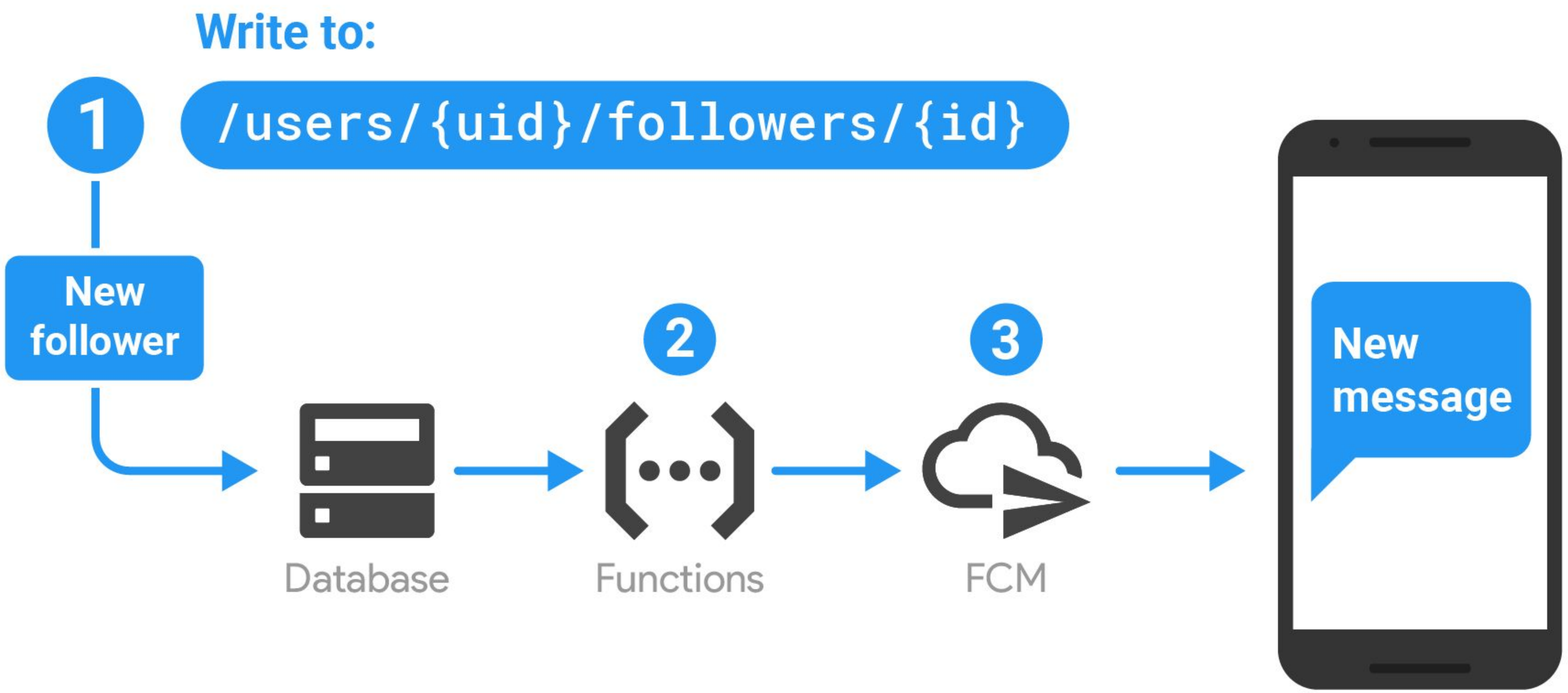
Use your own data to train models

- TensorFlow
- Cloud Machine Learning Engine

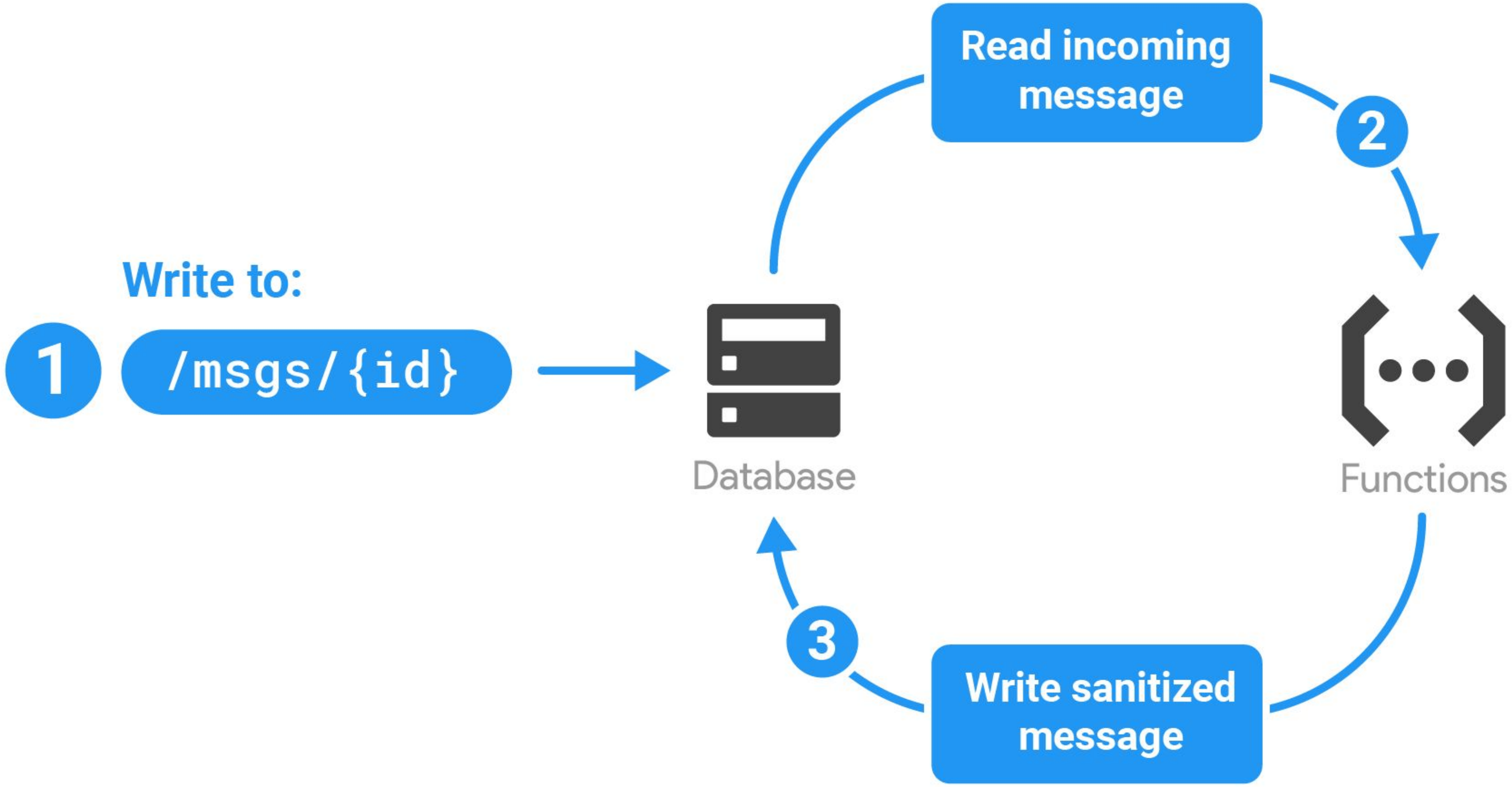
Ready to use Machine Learning models

- Cloud Vision API
- Cloud Speech API
- Cloud Jobs API
- Cloud Translation API
- Cloud Natural Language API
- Cloud Video Intelligence API
- Coming soon

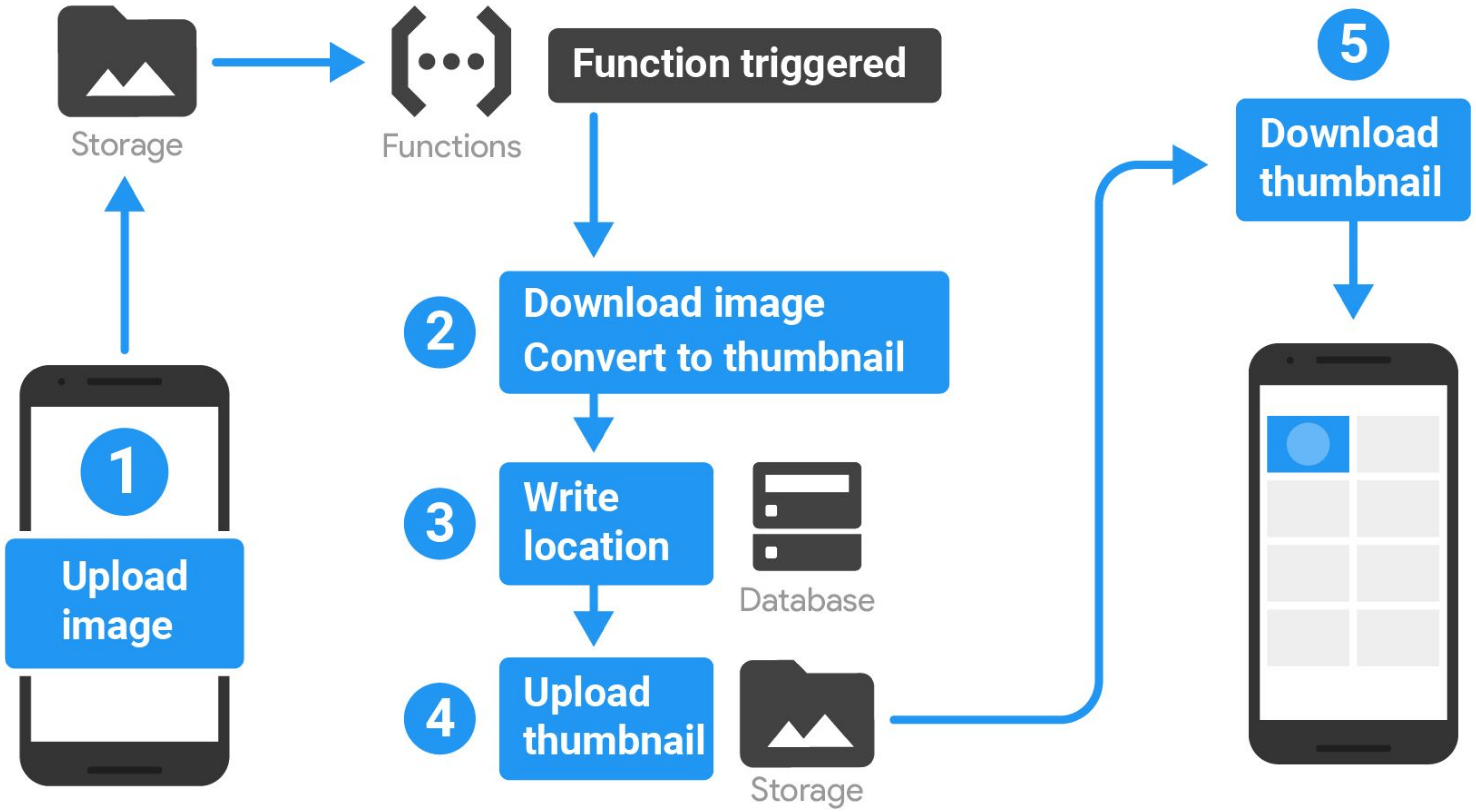
# Ejemplos


Write to:
1
/users/{uid}/followers/{id}
New follower
2
3
Database
Functions
FCM
New message

# Ejemplos


Write to:
1
/msgs/{id}
Database
Read incoming message
2
Functions
Write sanitized message
3

# Ejemplos


Storage
Functions
Function triggered
5
Download thumbnail
2
Download image
Convert to thumbnail
1
Upload image
3
Write location
Database
4
Upload thumbnail
Storage

Experts

# ¡Gracias!

▶ youtube.com/**@CarlosAzaustre**

Carlos Azaustre
GDE Web / Microsoft MVP 2022
@carlosazaustre