



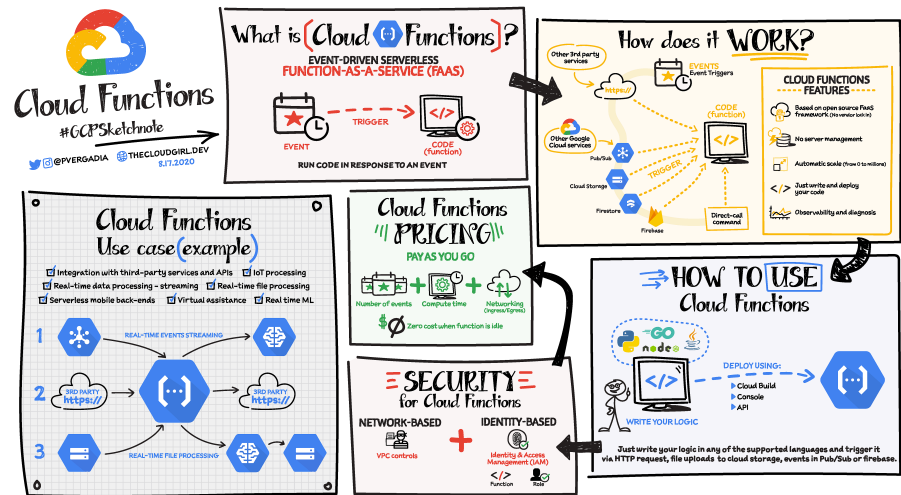
14 - Add Create User Function

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Add Create User Firebase Function

We will use **Firebase Functions** (which are built on top of Google **Cloud Functions**) to create a function that will be triggered whenever a new user is created in Firebase Auth. This way we can save additional information about each user in our Firestore database.

Cloud Functions are serverless functions that are triggered by certain events or HTTP requests. They are equivalent to AWS Lambda functions.



1. Install Firebase CLI

```
npm install -g firebase-tools
```

Authenticate with your Google account.

```
firebase login
```

2. Init Firebase Functions

In the root of our git repo, create a directory for our firebase functions.

```
mkdir yt-api-service && cd yt-api-service
```

Then initialize firebase functions.

```
firebase init functions
```

Our firebase functions project will be in the `functions` directory. In this case it's a bit redundant to have an outer directory (`yt-api-service`) but I wanted the naming to be clear. And typically firebase functions projects are within a `functions` directory.

Install the firebase functions package, as well as the admin sdk.

```
npm install firebase-functions@latest firebase-admin@latest
```

The admin SDK is used to access firebase services from privileged environments (like a server). We will use it to access the firestore database.

3. Run Firebase Emulator

Within the `functions/src` directory, open the `index.ts` file and uncomment the `helloWorld` function defined in `index.ts`

Build firebase functions and run the emulator.

```
npm run serve
```

This will start the firebase emulator suite. It will start a local instance of the firebase services that we can use for development. We can define other resources like firestore and firebase auth inside the `firebase.json` file, which can also be emulated. But for now we will keep things simple.

Navigate to `http://localhost:4000` to see the firebase emulator UI.

It is similar to the Firebase console UI, but it is only for local development. It will not affect your actual Firebase project.

Navigate to function logs and you should find a url that you can paste into your browser to test the function.

4. Add Create User Function

Update the `index.ts` file to look like this:

```
import * as functions from "firebase-  
functions";  
import {initializeApp} from "firebase-  
admin/app";  
import {Firestore} from "firebase-  
admin/firestore";  
import * as logger from "firebase-  
functions/logger";  
  
initializeApp();  
  
const firestore = new Firestore();  
  
export const createUser =  
functions.auth.user().onCreate((user) => {  
  const userInfo = {  
    uid: user.uid,  
    email: user.email,  
    photoUrl: user.photoURL,  
  };  
  
  firestore.collection("users").doc(user.uid).set  
(userInfo);  
  logger.info(`User Created:  
${JSON.stringify(userInfo)}`);  
});
```

```
    return;  
  });
```

The `index.ts` file is the entry point for our firebase functions. It is where we define our functions and export them.

Alternatively we could define our functions in separate files and import them into `index.ts`. But for now we will keep it simple and define it in `index.ts`.

5. Deploy Firebase Functions

(Optional): Before deploying you may need to rerun npm install in the functions directory. For some reason I had errors when deploying without doing this.

```
npm install
```

If you still have errors, I recommend deleting your `node_modules` directory and rerunning `npm install`.

And then you can deploy the function.

```
firebase deploy --only functions
```

6. Test Create User Function

In the firebase console, navigate to the `Authentication` tab and delete the user created in a previous lesson.

Rerun the Next.js app and try to login again. This time the user should be created in both Firebase Auth and in the Firestore database.

References

1. Firebase CLI -

<https://firebase.google.com/docs/functions/get-started?authuser=0&gen=2nd#set-up-your-environment-and-the-firebase-cli>

2. Firebase Emulator -

<https://firebase.google.com/docs/functions/get-started?authuser=0&gen=2nd#emulate-execution-of-your-functions>

3. Firebase Admin SDK -

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



Mark Lesson Complete

