How to run this project?

1. Register Firebase Account

Open that link to create a Firebase Account https://firebase.google.com/

Click "**Get Started**" and register with your Google Account
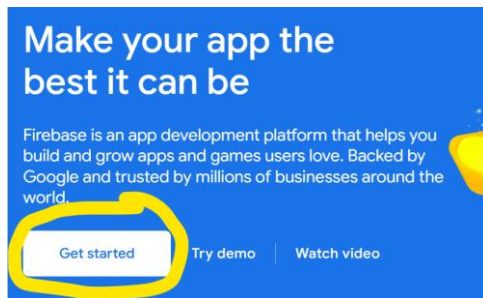
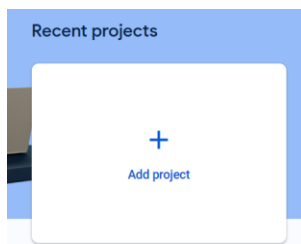You can also switch Language on the top-right corner.
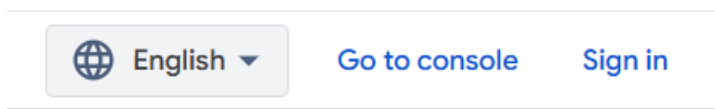
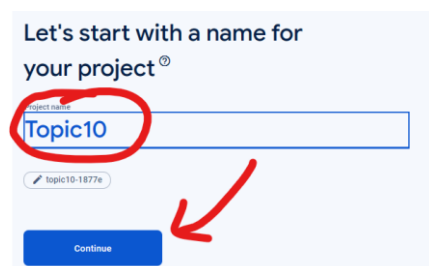You can switch Language on the top-right corner.

2. Create Firebase Projects

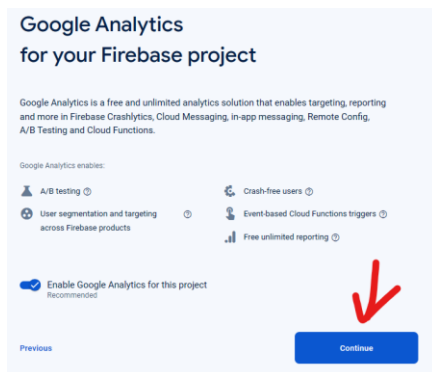After register your account, you can see a Dashboard.

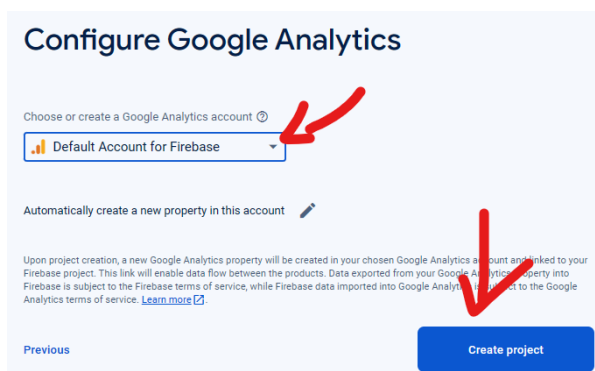Click **"Add Project"** to create a Firebase Project.
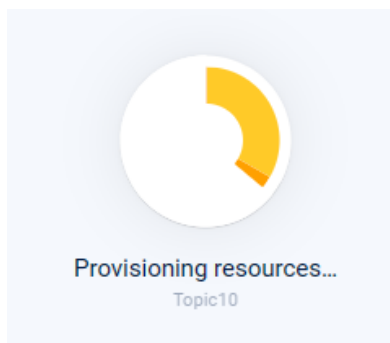

1– Type your project name

2- Continue
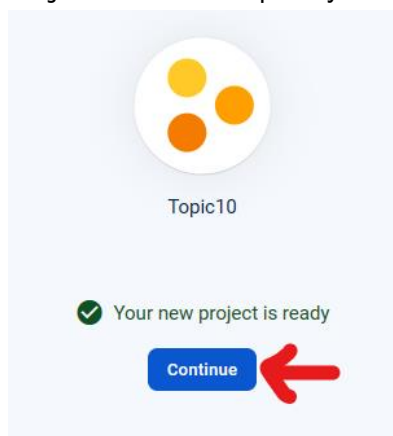

3- Select **Default Account for Firebase** and **Create Project**

4- Wait
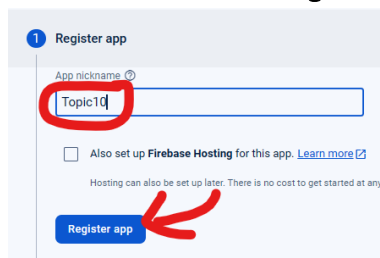

5- Project created completely.

3. Add Firebase to App

1- Add Firebase to Web App

2- Set **"Nick Name"** and **register App**.

3- Copy the **firebaseConfig** in your TXT file. You will use it later.
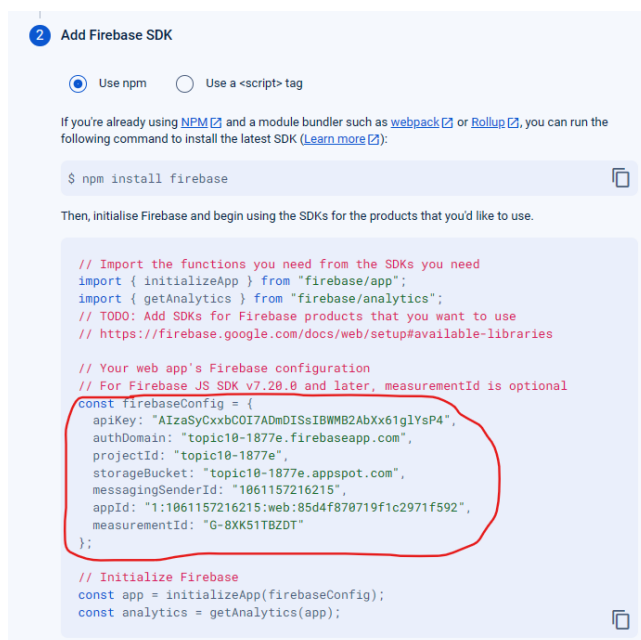
4- Continue to the console!

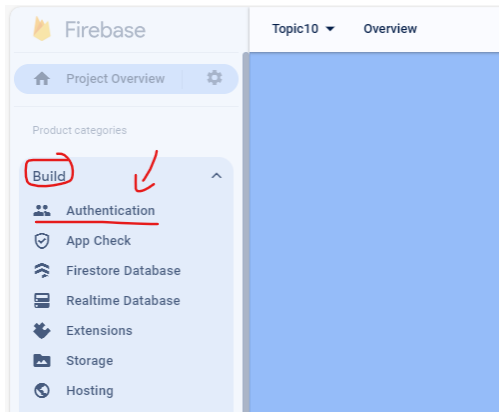# 4. Set User Authentication

1- In the top-left menu (Product categories), select **Build -> Authentication**

2- Get Started
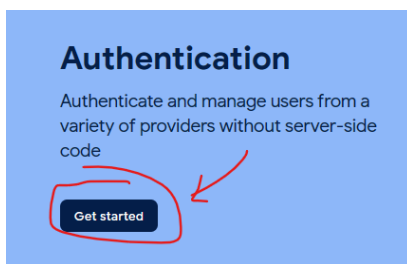
3- Click Sign-in Method
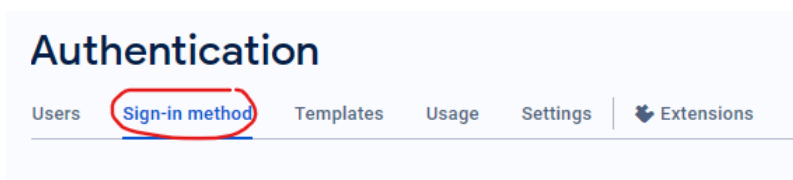
4- There are many sign-in methods.

In this project, we used the easiest one – **Email/Password**
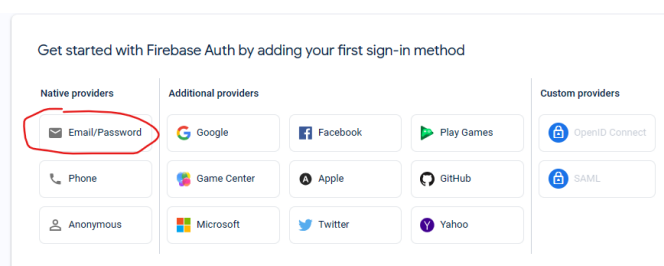
5- Enable that method and save.
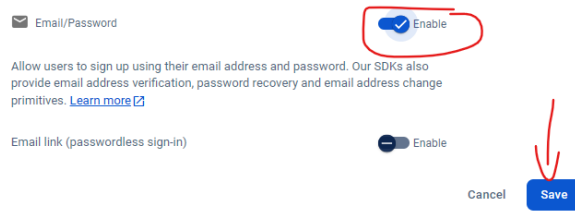
6- Click **"Users"** in the menu, then **Add user.**
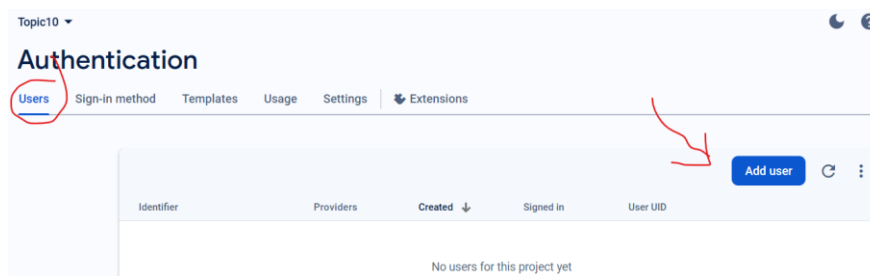
7- Set the **email** and **password** in Authentication, then **Add User**
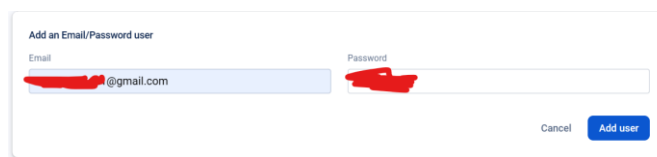
8- You can see that **User** is Added in Firebase Authentication
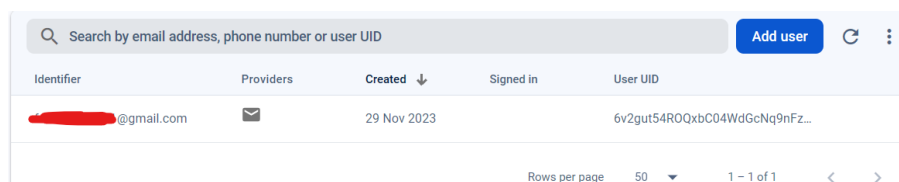
5. Check Firestore Database

1- In the top-left menu (Product categories), select **Build -> Firestore Database**
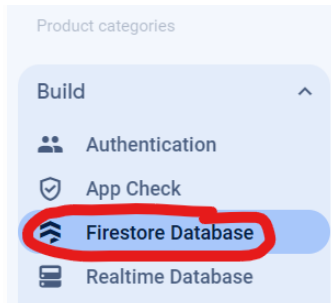
2- Create database
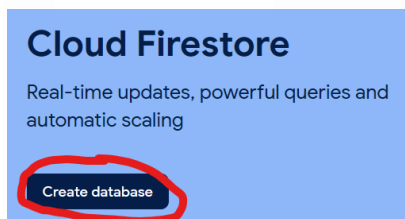
3- Set the Firebase location

I select **Europe-west2(London),** because that server is closest to where I live.

4- Click **Next**

5- Select Rules – **Start in Test mode**, then **Enable.**

6- Firestore Database created successfully
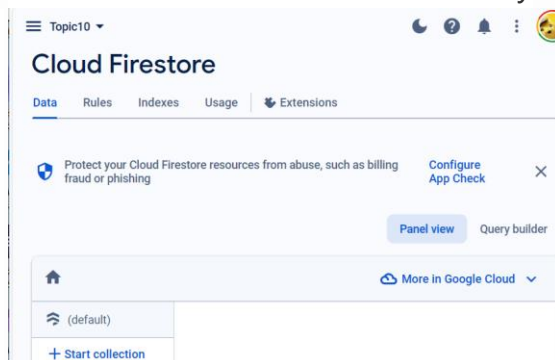
7- Pay attention to the **Security Rules!**
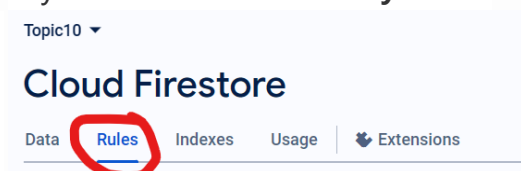
If the date is expired, you cannot use that Firebase App anymore. You must ensure that **the effective date of Firebase App should be after the current date.** ust enYou can edit the effective date in the code.

```
1    rules_version = '2';
2
3    service cloud.firestore {
4      match /databases/{database}/documents {
5
6        // This rule allows anyone with your Firestore database reference to view, edit,
7        // and delete all data in your Firestore database. It is useful for getting
8        // started, but it is configured to expire after 30 days because it
9        // leaves your app open to attackers. At that time, all client
10       // requests to your Firestore database will be denied.
11       //
12       // Make sure to write security rules for your app before that time, or else
13       // all client requests to your Firestore database will be denied until you Update
14       // your rules
15       match /{document=**} {
16         allow read, write: if request.time < timestamp.date(2023, 12, 29);
17       }
18     }
19   }
```
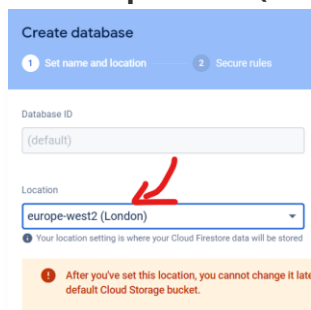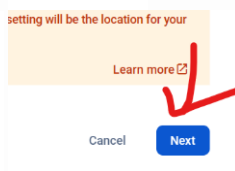
6.   Install and config React Project

1– Build the React Framework

Use VS Code to open a new folder then type
npx create-react-app client
VS Code will create a React Framework for this project.

2– **Copy, paste and replace** the 8 files in this project.

```
JS AddPallet.js
JS App.js
JS DisplayPallet.js
JS EditPallet.js
JS fbconfig.js
JS PalletDashboard.js
JS SignIn.js
JS SignOut.js
```

3– Set firebaseConfig.
In the firebase website, copy the String in **firebaseConfig**, and then paste it into the correspondent place in the JS file **fbconfig.js**

```js
// Import the functions you need from the SDKs you need
import { initializeApp } from "firebase/app";
import { getAnalytics } from "firebase/analytics";
// TODO: Add SDKs for Firebase products that you want to use
// https://firebase.google.com/docs/web/setup#available-libraries

// Your web app's Firebase configuration
// For Firebase JS SDK v7.20.0 and later, measurementId is optional
const firebaseConfig = {
  apiKey: "AIzaSyCxxbCOI7ADmDISsIBWMB2AbXx61glYsP4",
  authDomain: "topic10-1877e.firebaseapp.com",
  projectId: "topic10-1877e",
  storageBucket: "topic10-1877e.appspot.com",
  messagingSenderId: "1061157216215",
  appId: "1:1061157216215:web:85d4f870719f1c2971f592",
  measurementId: "G-8XK51TBZDT"
};

// Initialize Firebase
```
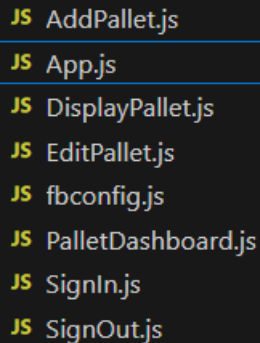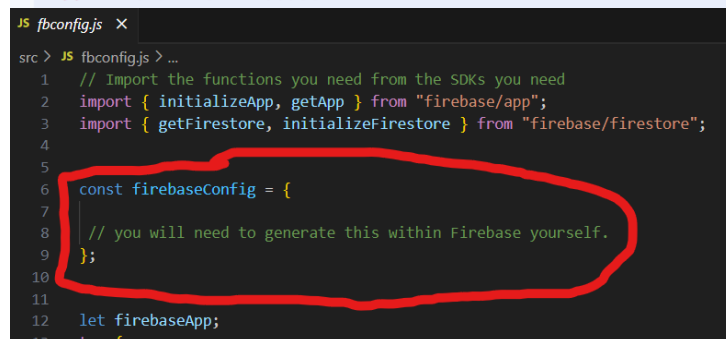
```js
JS fbconfig.js  ×

src > JS fbconfig.js > ...
 1    // Import the functions you need from the SDKs you need
 2    import { initializeApp, getApp } from "firebase/app";
 3    import { getFirestore, initializeFirestore } from "firebase/firestore";
 4
 5
 6    const firebaseConfig = {
 7
 8      // you will need to generate this within Firebase yourself.
 9    };
10
11
12    let firebaseApp;
13    try {
```
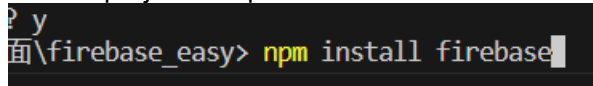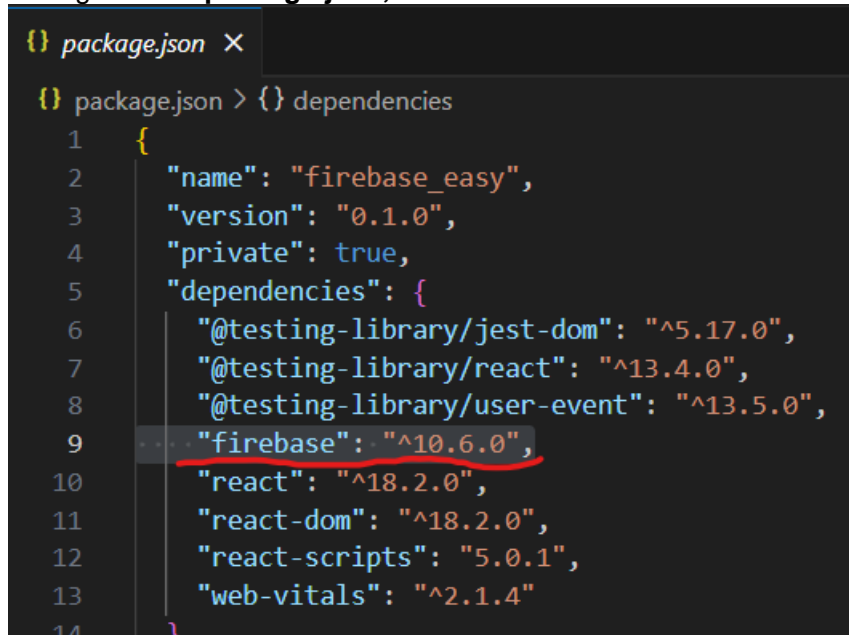
4- Install the dependency

Remember to instlal the dependency of Firebase, otherwise your program will not work.
There are two ways to install the dependency
1) Type **npm install firebase** in the terminal, it will install the latest stable version in your project's dependencies.

```
? y
面\firebase_easy> npm install firebase
```

2) Change the file **package.json,** and add the latest stable version of firebase.

```
{} package.json ✕

{} package.json > {} dependencies
  1    {
  2        "name": "firebase_easy",
  3        "version": "0.1.0",
  4        "private": true,
  5        "dependencies": {
  6            "@testing-library/jest-dom": "^5.17.0",
  7            "@testing-library/react": "^13.4.0",
  8            "@testing-library/user-event": "^13.5.0",
  9            "firebase": "^10.6.0",
  10           "react": "^18.2.0",
  11           "react-dom": "^18.2.0",
  12           "react-scripts": "5.0.1",
  13           "web-vitals": "^2.1.4"
  14       }
```

7. Run this project and test

1- Run the project

After you finished Step 6, you can run this project and test the CRUD now.
Type **npm start** in the terminal, the project will run at http://localhost:3000/

The CS385 Shipping Company

Customer Sign In
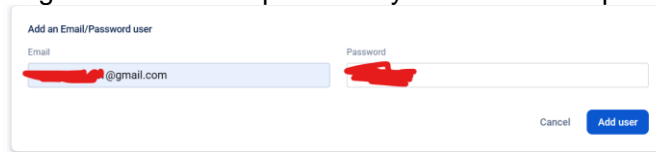
Email

password

Submit

2- Login

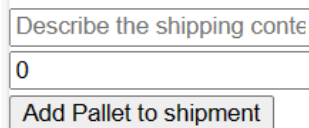Login with the email/password you set in the step of Authentication.

3- Add Pallet

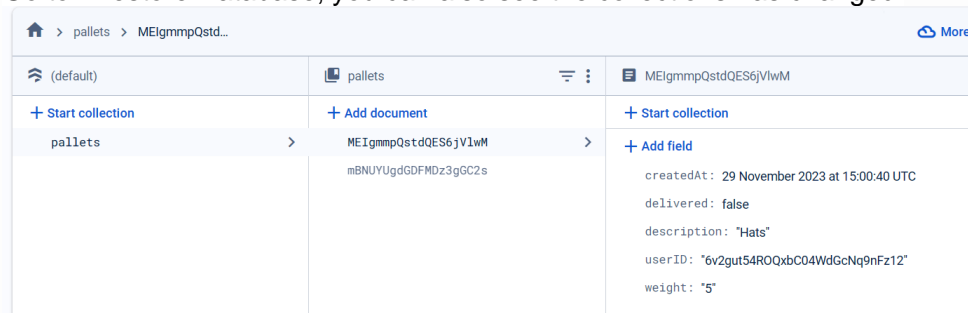Add two pallets, set the Pallet name and weight.

You can see they could be seen in the WebPages.

UserID: 6v2gut54ROQxbC04WdGcNq9nFz12
Description: Trousers
Shipping Weight(kg): 10kg
Delivery Status: In Progress
Firebase ID: mBNUYUgdGDFMDz3gGC2s
Delete Pallet | Show/Hide Edit | Set as delivered
Logout

UserID: 6v2gut54ROQxbC04WdGcNq9nFz12
Description: Hats
Shipping Weight(kg): 5kg
Delivery Status: In Progress
Firebase ID: MEIgmmpQstdQES6jVlwM
Delete Pallet | Show/Hide Edit | Set as delivered

Go to Firestore Database, you can also see the collections has changed.

The new **collection** pallets was added, it has two **documents**, each document has the **creationTime, deliveredStatus, description, userID and weight**.

4- To be continued

Try to play this project for fun.
You can also edit the information, delete the pallet or set it as delivered.
The data in Firestore database will be changed as well, because the **React App is now closely connected with Firebase Datatabse.**
That is how the CRUD works in the full-stack application.