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Assignment
Introduction to Mobile App Design and Development

26.10.2024

Labwork-4: Demo Mobile App with Ionic Framework and Firebase Authentication

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Laurea University of Applied Sciences

Assignment
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26.10.2024

Labwork-3:

1 Learning reflection 2
2 Hands-on practice 1(build their first Ionic app with API calls) 3
3 Hands-on practice 2(**Develop a simple mobile app**)..... **Error! Bookmark not defined.**
3.1 Welcome screen ..... **Error! Bookmark not defined.**
3.2 Menu and Navigation ..... **Error! Bookmark not defined.**
3.3 Additional functionality (Time and Reservation) ..... **Error! Bookmark not defined.**

1 Learning reflection

I watched the videos '4.2 Ionic with Firebase Database-React' and '4.3 Demo Apps.' While watching the part in '4.2,' I had some confusion because the content of the 'Context API and Protected Routes For 4.2 's videos, although both completed the authentication and signup functionalities, had different Firebase configuration codes. After some research, I found out that the difference is due to the different versions of Firebase. My Firebase version is version 11, so I chose to follow the method taught by Dipesh for the configuration.

However, after setting up the project in Firebase and completing the Firebase code as well as the necessary page codes, the system showed me many problems. I realized that the videos use JavaScript syntax, but I am currently using the Ionic framework, which means there are adjustments and integrations needed, such as changing file names from .js to .jsx.

At first, there were many errors in the code, most of which were related to routing issues. After making some adjustments, the errors still persisted. Eventually, I decided to restart both the terminal and Visual Studio Code, and after the restart, the previously displayed path errors disappeared.

Later, error codes 2307 and 7031 appeared, which were related to not being able to find the module and the presence of unhandled type or definition errors. So, I first corrected the path issues, but after the correction, the error changed to 7016. After consulting with ChatGPT, I installed @types/react-router-dom. However, I still encountered the error “Could not find a declaration file for module './contexts/AuthContexts’”. To resolve this, I created an AuthContexts.d.ts file in the src/contexts folder and defined the type with the following code: declare module './AuthContexts';. After defining this, the error was resolved.

When I copied the entire App.tsx file into ChatGPT and asked about the issue, I followed the suggestion to restart the development server (using npm run dev), but the problem persisted. So, I installed a Vite environment variable plugin and updated the firebase.jsx file by changing process.env to import.meta.env to ensure Vite could read the environment variables correctly. I also renamed the environment variable names in the .env.local file with a VITE_ prefix. When the issue persisted, I installed the vite-plugin-env-compatible plugin, but the problem was still not resolved. At this point, I began to wonder if switching to Vite was actually taking me further away from solving the problem. I researched what Vite is, and found that it is a front-end development tool designed to enhance the efficiency and performance of developing applications with frameworks like React and Vue. Since it is meant to optimize React, I copied all parts of the code into ChatGPT and asked if using Vite could be causing compatibility issues, leading to my inability to resolve the issue. ChatGPT then suggested using the dotenv plugin directly. I installed the plugin, updated the related code, and added a

vitest.config.ts file to support the test attribute settings. After these changes, the console issues disappeared.

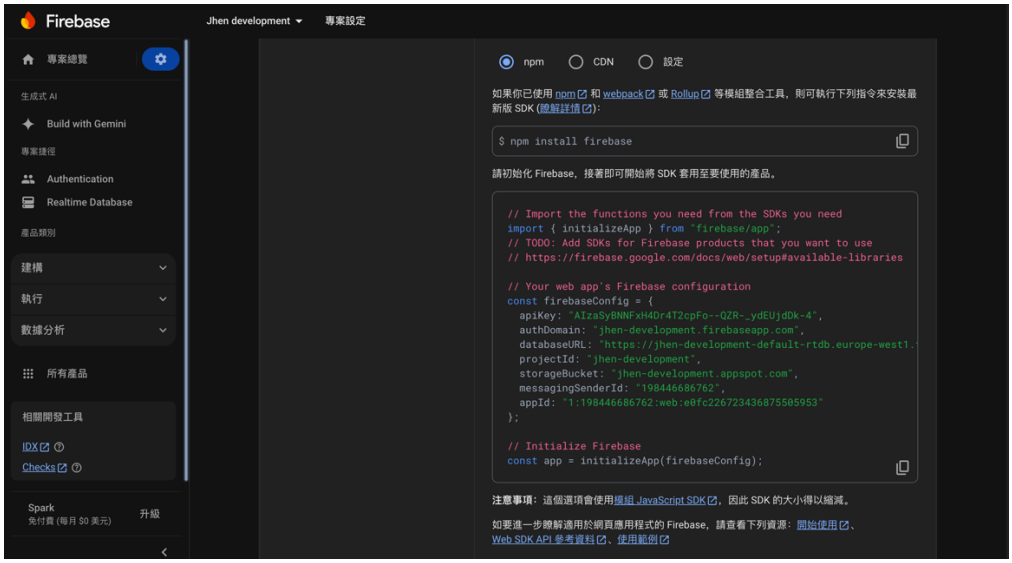
After finally resolving all the bugs in the code, the web page still did not respond. I realized that the web page address had changed, so I needed to restart the development server (using npm run dev) and navigate to the new URL: http://localhost:5174/. However, issues appeared in the console again, so the web page still could not be displayed.

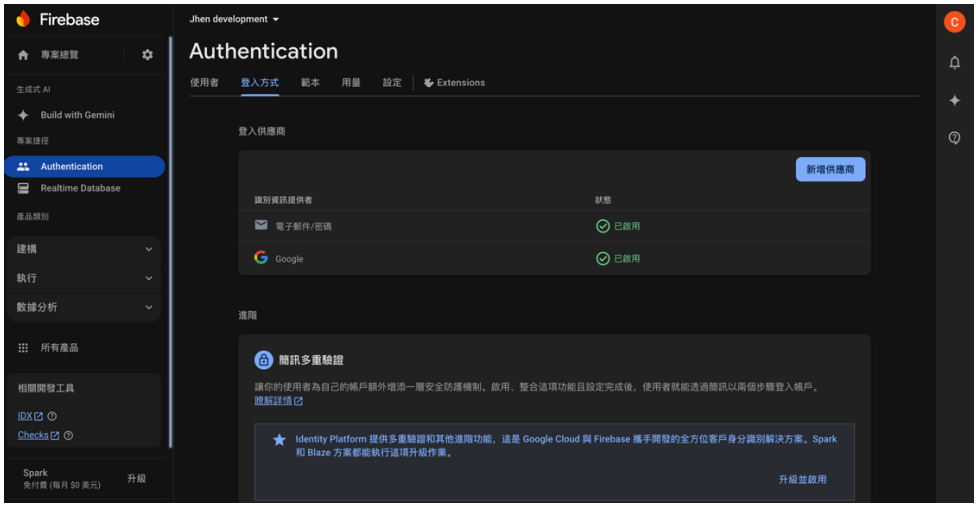
Because I had already spent about 5 hours trying to identify and resolve the issues, but couldn't still make it work , and the report submission deadline has passed, I decided to stop for now and seek help from the teacher or friends next week. I really hope to resolve the issue; otherwise, I might consider setting up a simpler app for the time being.

The Git repository link: https://github.com/kreuz123/Labwork4_Jhen_Studio

2 Hands-on practice

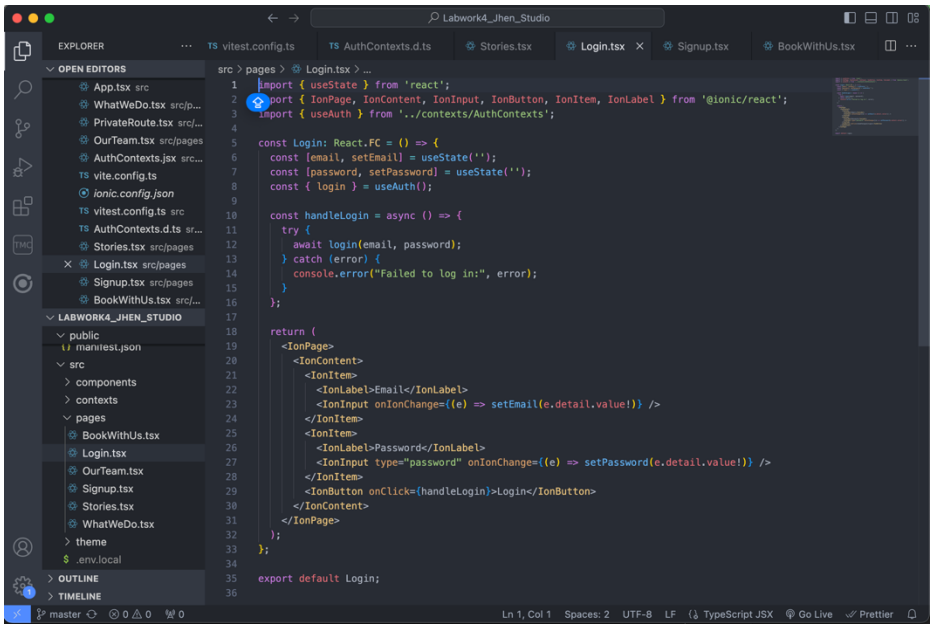
Set up firebase and add authentication.

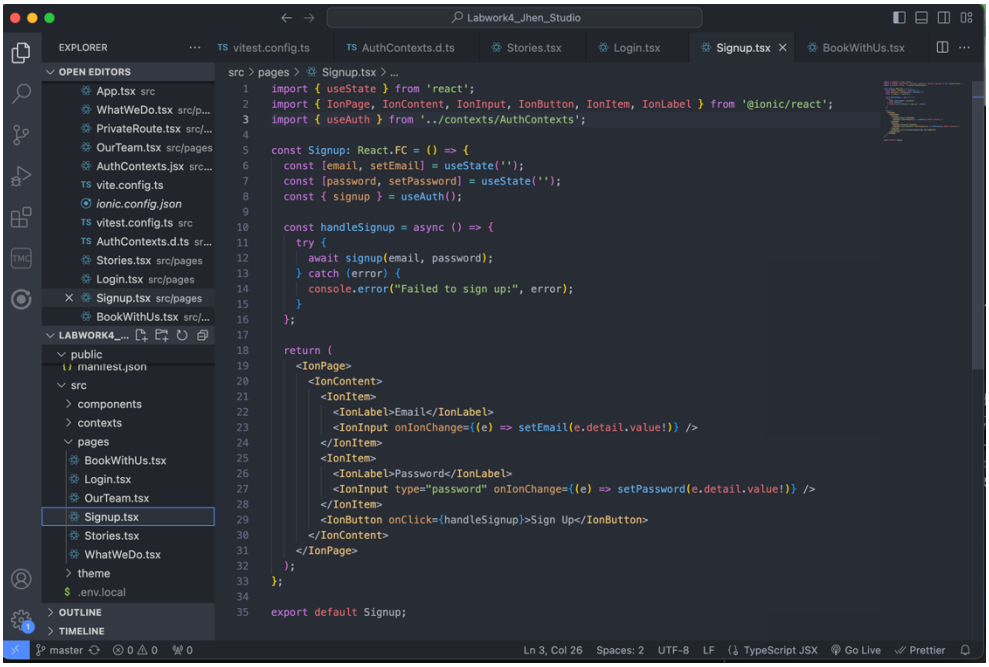




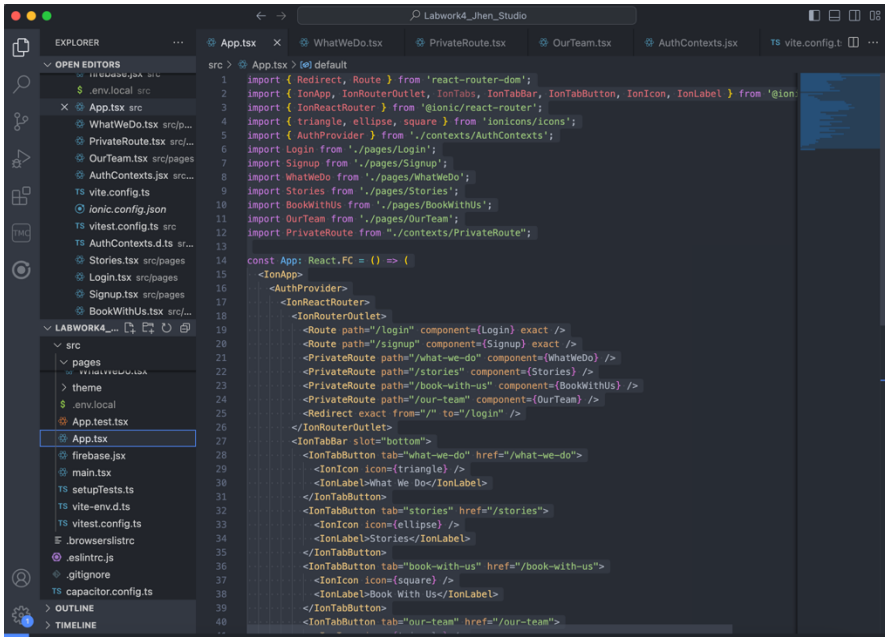
My app theme and structure: Jhen’ s Studio

Login screen, registration screen’s code.

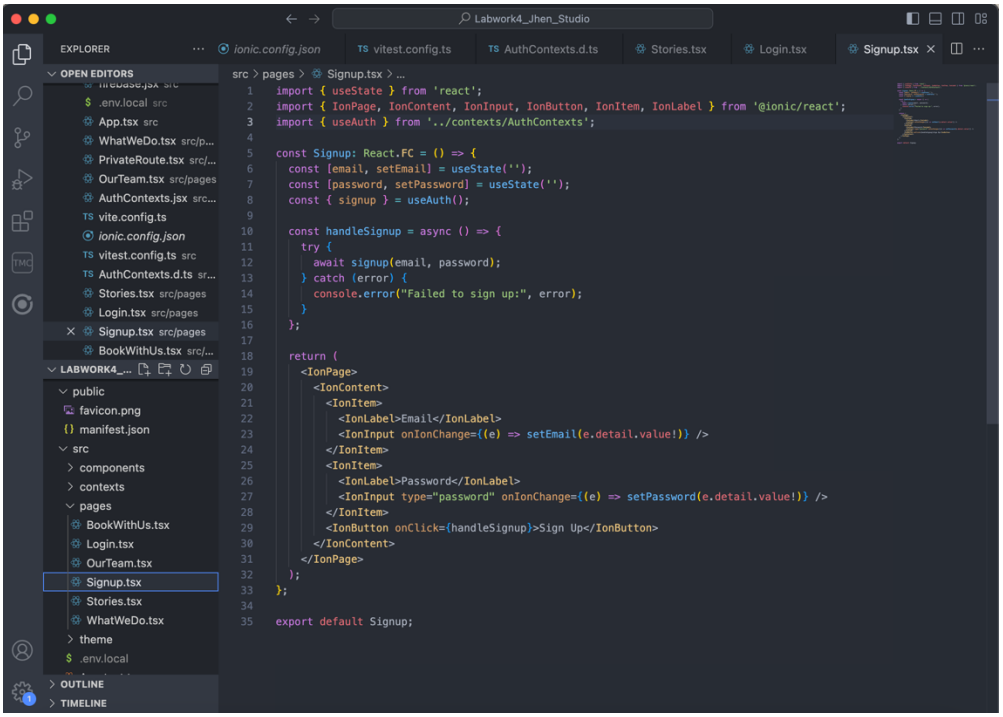


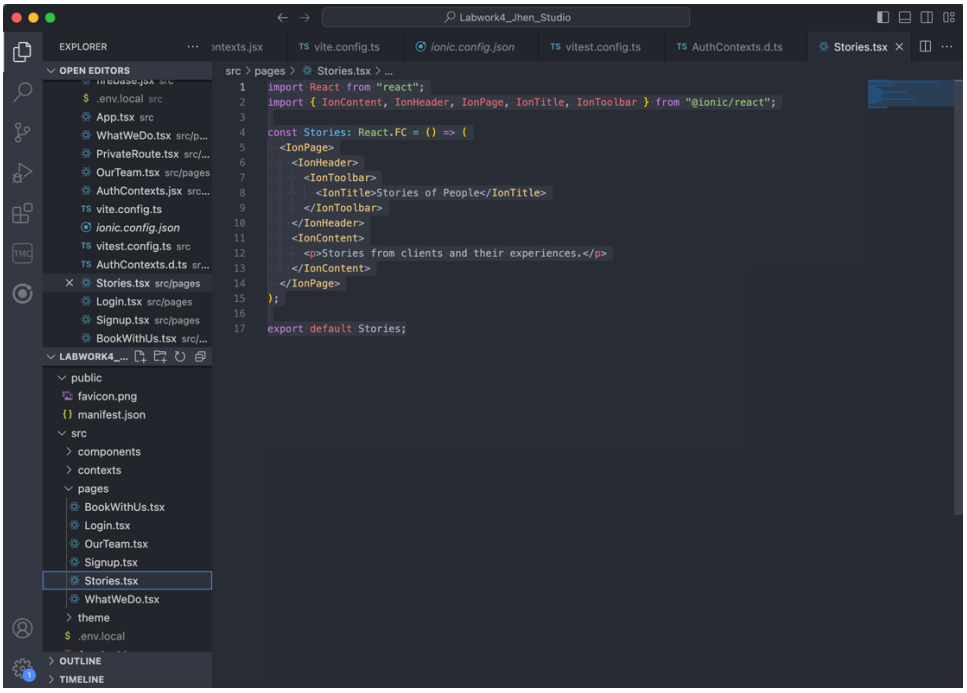


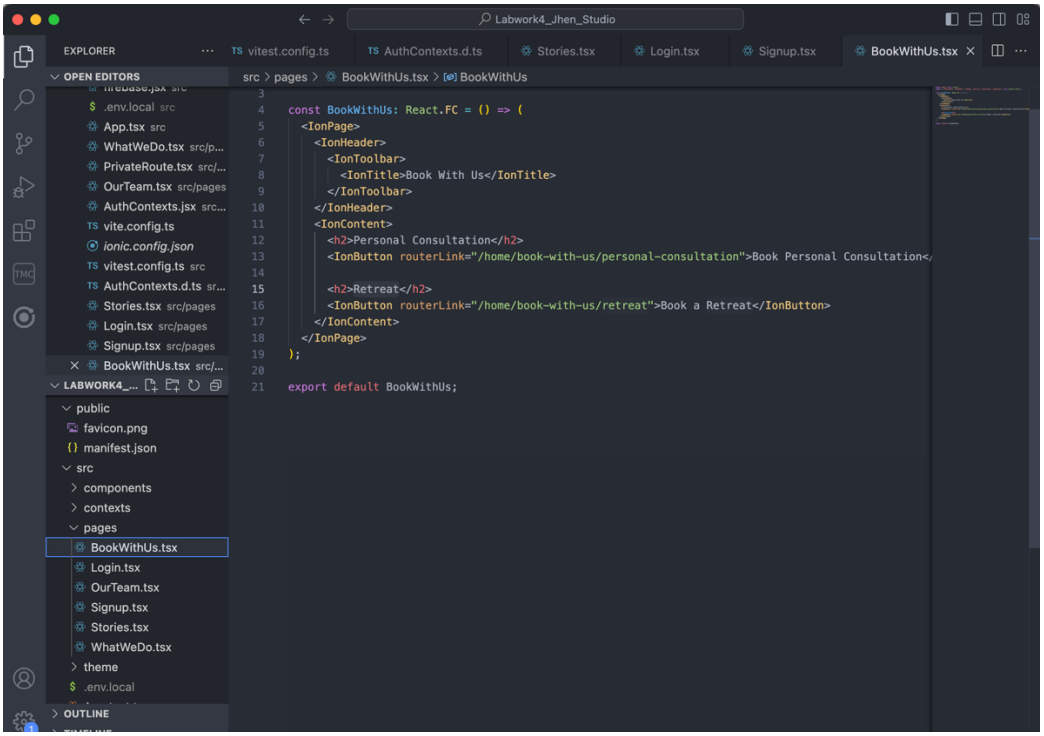
Structures(App.tsx)



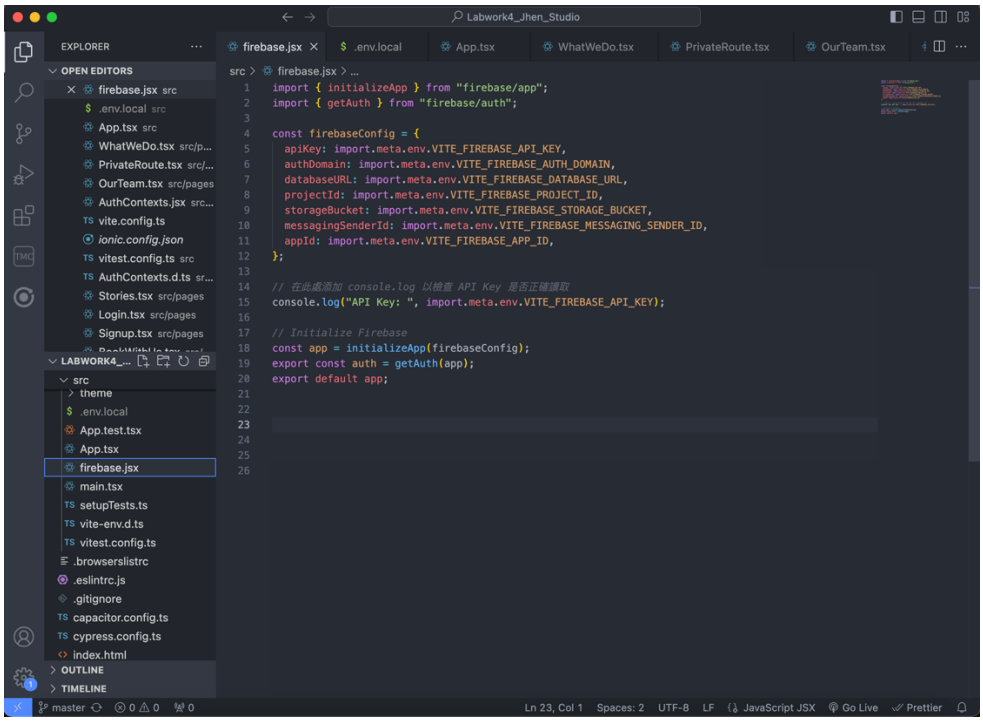
Few pages


Labwork4_Jhen_Studio
EXPLORER
ionic.config.json
vitest.config.ts
AuthContexts.d.ts
Stories.tsx
Login.tsx
Signup.tsx
OPEN EDITORS
LABWORK4_...
public
favicon.png
manifest.json
src
components
contexts
pages
BookWithUs.tsx
Login.tsx
OurTeam.tsx
Signup.tsx
Stories.tsx
WhatWeDo.tsx
theme
.env.local
OUTLINE
TIMELINE
src > pages > Signup.tsx > ...
import { useState } from 'react';
import { IonPage, IonContent, IonInput, IonButton, IonItem, IonLabel } from '@ionic/react';
import { useAuth } from '../contexts/AuthContexts';
const Signup: React.FC = () => {
const [email, setEmail] = useState('');
const [password, setPassword] = useState('');
const { signup } = useAuth();
const handleSignup = async () => {
try {
await signup(email, password);
} catch (error) {
console.error("Failed to sign up:", error);
}
};
return (
<IonPage>
<IonContent>
<IonItem>
<IonLabel>Email</IonLabel>
<IonInput onIonChange={(e) => setEmail(e.detail.value!)} />
</IonItem>
<IonItem>
<IonLabel>Password</IonLabel>
<IonInput type="password" onIonChange={(e) => setPassword(e.detail.value!)} />
</IonItem>
<IonButton onClick={handleSignup}>Sign Up</IonButton>
</IonContent>
</IonPage>
);
};
export default Signup;

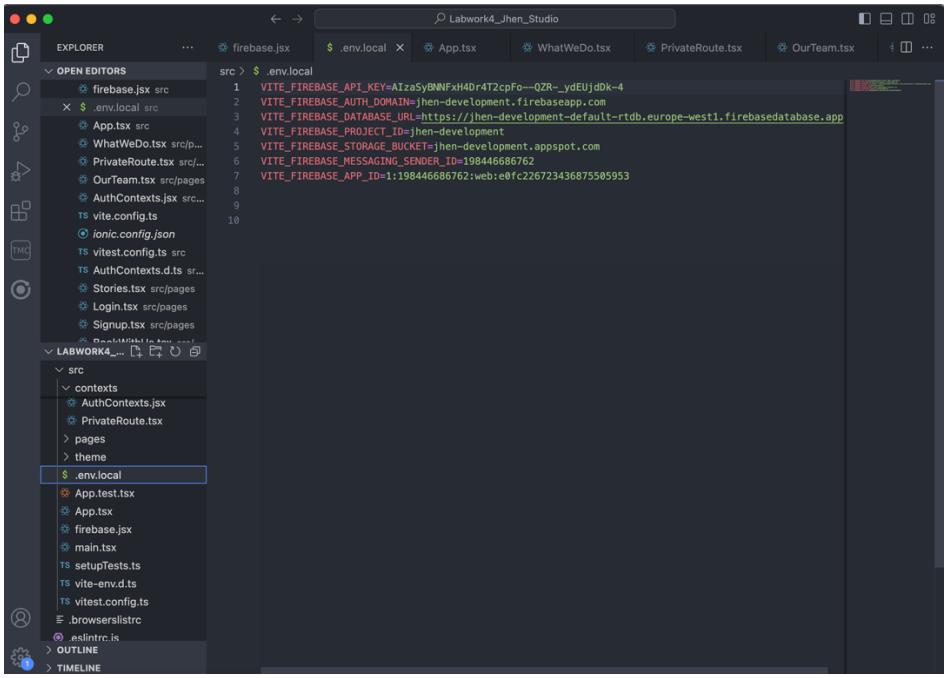

Labwork4_Jhen_Studio
EXPLORER
vite.config.ts
ionic.config.json
vitest.config.ts
AuthContexts.d.ts
Stories.tsx
OPEN EDITORS
LABWORK4_...
public
favicon.png
manifest.json
src
components
contexts
pages
BookWithUs.tsx
Login.tsx
OurTeam.tsx
Signup.tsx
Stories.tsx
WhatWeDo.tsx
theme
.env.local
OUTLINE
TIMELINE
src > pages > Stories.tsx > ...
import React from "react";
import { IonContent, IonHeader, IonPage, IonTitle, IonToolbar } from "@ionic/react";
const Stories: React.FC = () => (
<IonPage>
<IonHeader>
<IonToolbar>
<IonTitle>Stories of People</IonTitle>
</IonToolbar>
</IonHeader>
<IonContent>
Stories from clients and their experiences.
</IonContent>
</IonPage>
);
export default Stories;



Firebase.jsx



.env.local


Labwork4_Jhen_Studio
EXPLORER
OPEN EDITORS
firebase.jsx src
.env.local src
App.tsx src
WhatWeDo.tsx src/p...
PrivateRoute.tsx src/...
OurTeam.tsx src/pages
AuthContexts.jsx src...
vite.config.ts
ionic.config.json
vitest.config.ts src
AuthContexts.d.ts sr...
Stories.tsx src/pages
Login.tsx src/pages
Signup.tsx src/pages
LABWORK4_...
src
contexts
AuthContexts.jsx
PrivateRoute.tsx
pages
theme
.env.local
App.test.tsx
App.tsx
firebase.jsx
main.tsx
setupTests.ts
vite-env.d.ts
vitest.config.ts
.browserslistrc
.eslintrc.js
OUTLINE
TIMELINE
firebase.jsx
.env.local
App.tsx
WhatWeDo.tsx
PrivateRoute.tsx
OurTeam.tsx
src > .env.local
1 VITE_FIREBASE_API_KEY=AIzaSyBNNFxH4Dr4T2cpFo--QZR-_ydEUjdDk-4
2 VITE_FIREBASE_AUTH_DOMAIN=jhen-development.firebaseapp.com
3 VITE_FIREBASE_DATABASE_URL=https://jhen-development-default-rtdb.europe-west1.firebasedatabase.app
4 VITE_FIREBASE_PROJECT_ID=jhen-development
5 VITE_FIREBASE_STORAGE_BUCKET=jhen-development.appspot.com
6 VITE_FIREBASE_MESSAGING_SENDER_ID=198446686762
7 VITE_FIREBASE_APP_ID=1:198446686762:web:e0fc226723436875505953
8
9
10