



FPT POLYTECHNIC



THỰC HỌC – THỰC NGHIỆP



Conceive Design Implement Operate

LẬP TRÌNH TYPESCRIPT

CONTEXT API

REACT VỚI FIREBASE

<http://www.poly.edu.vn>

- Context API
- React với firebase

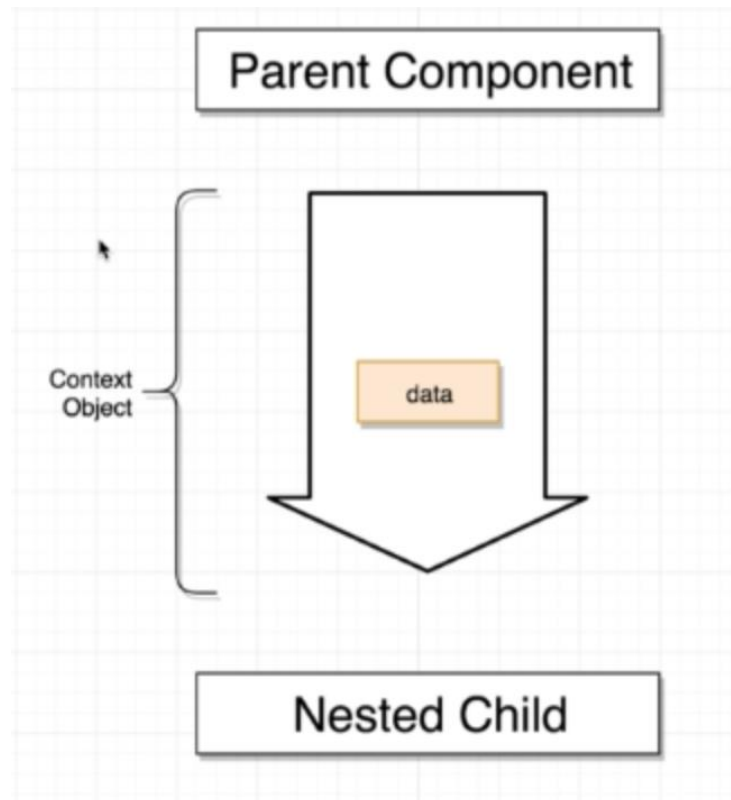




PHẦN 1

CONTEXT

- ❑ Context: cách để truyền dữ liệu xuống cây component mà không cần phải truyền props xuống tất cả các cấp component.



- Context được thiết kế để chia sẻ data được coi là global trong cây react components: current authenticated user, theme, preferred language

```
class App extends React.Component {
  render() {
    return <Toolbar theme="dark" />;
  }
}

function Toolbar(props) {
  return (
    <div>
      <ThemedButton theme={props.theme} />
    </div>
  );
}

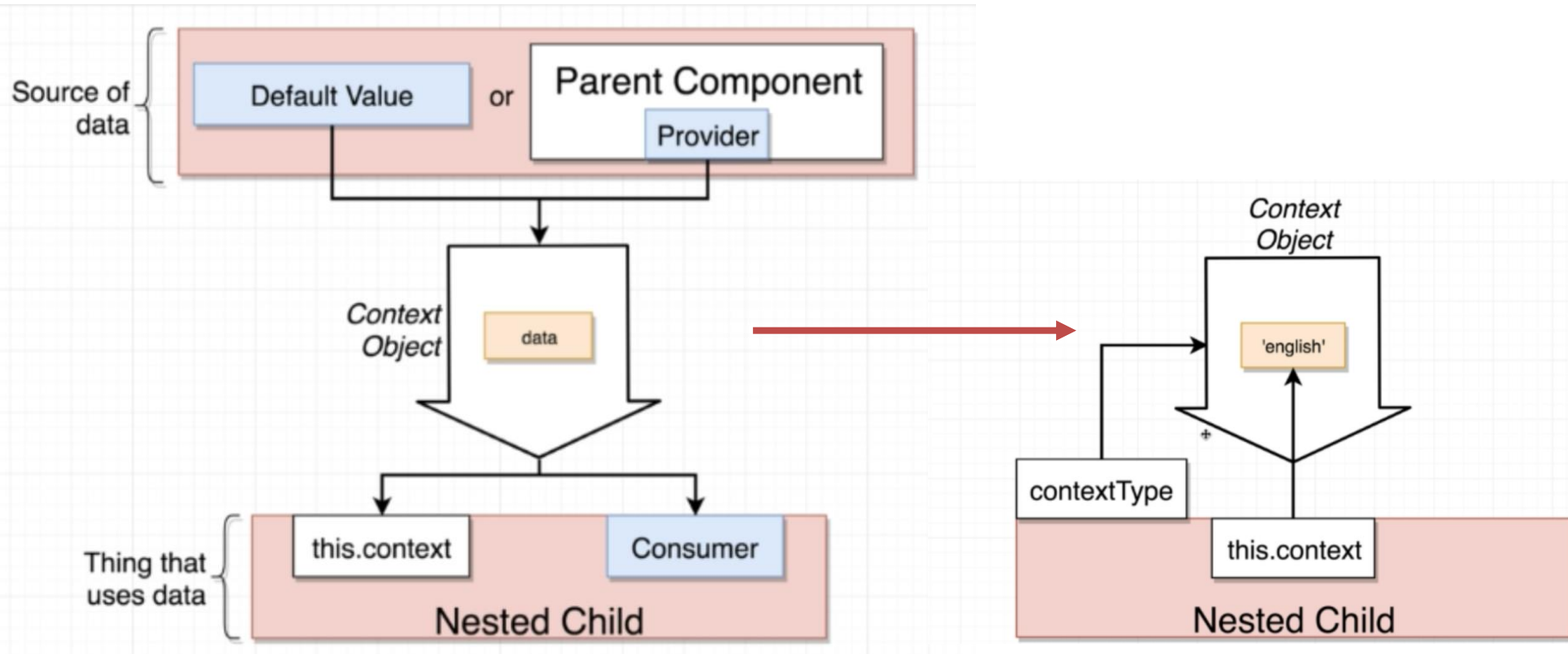
class ThemedButton extends React.Component {
  render() {
    return <Button theme={this.props.theme} />;
  }
}
```

```
const ThemeContext = React.createContext('light');

class App extends React.Component {
  render() {
    return (
      <ThemeContext.Provider value="dark">
        <Toolbar />
      </ThemeContext.Provider>
    );
  }
}

function Toolbar() {
  return (
    <div>
      <ThemedButton />
    </div>
  );
}

class ThemedButton extends React.Component {
  static contextType = ThemeContext;
  render() {
    return <Button theme={this.context} />;
  }
}
```



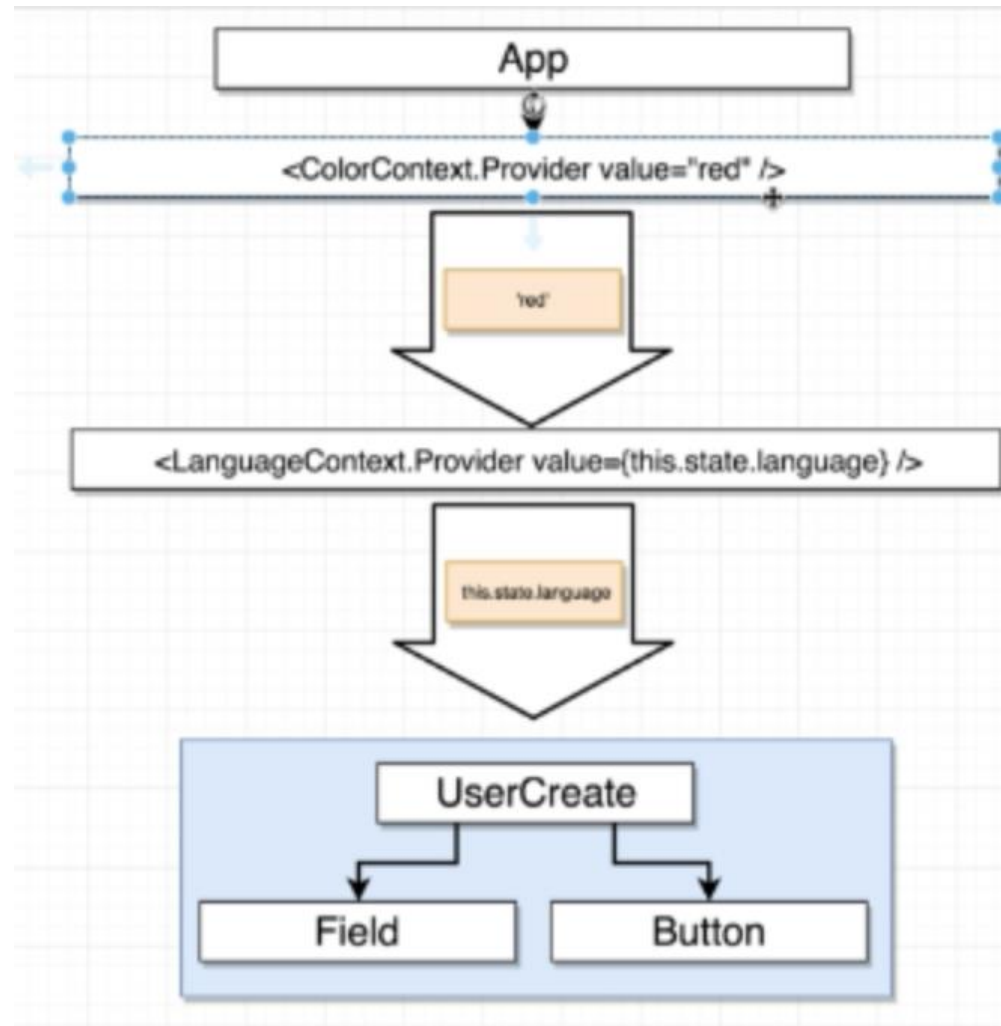
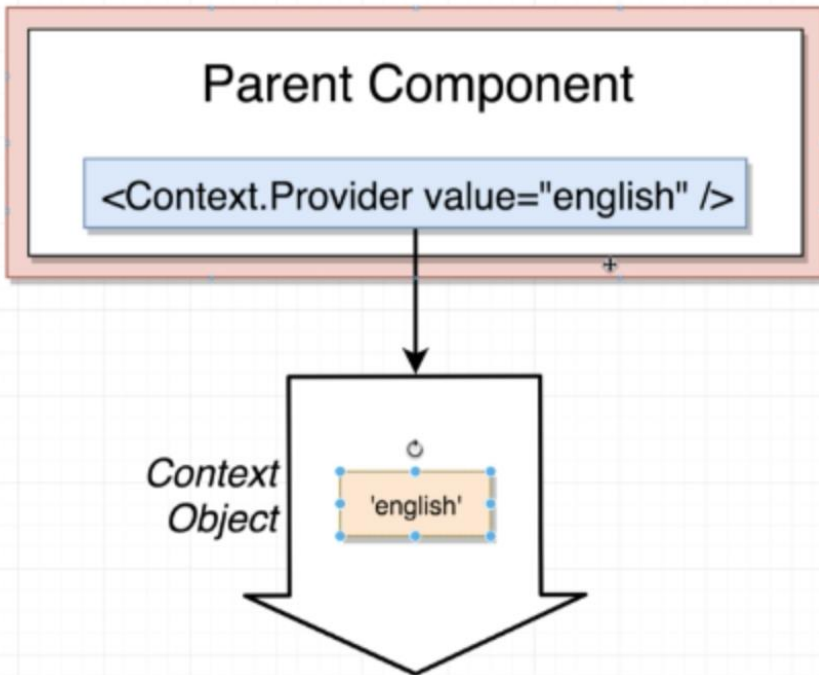
□ React.createContext

```
const MyContext = React.createContext(defaultValue);
```

- ❖ Tạo 1 context object
- ❖ Khi react render component đăng ký context này, nó sẽ đọc giá trị current context từ Provider phù hợp nhất ở trên nó (trong cây react components)
- ❖ Tham số defaultValue được sử dụng khi component không phù hợp với Provider phía trên

□ Context.Provider

- ❖ Mỗi context object đều đi kèm với Provider React component cho phép các consume components (con cháu) đăng ký các thay đổi context
- ❖ Một Provider có thể kết nối đến nhiều consumers
- ❖ Các Provider có thể lồng nhau



□ Class.contextType

- ❖ Thuộc tính contextType trên class có thể được gán 1 context object
- ❖ Sử dụng thuộc tính này cho phép sử dụng giá trị hiện tại gần nhất của context bằng this.context
- ❖ Ví dụ

```
class MyClass extends React.Component {  
  static contextType = MyContext;  
  render() {  
    let value = this.context;  
    /* render something based on the value */  
  }  
}
```

□ Context.consumer

- ❖ Component có thể sử dụng giá trị của provider và có thể hiển thị giá trị

```
<MyContext.Consumer>  
  {value => /* render something based on the context  
value */}  
</MyContext.Consumer>
```

Redux

Phân phát data đến các component khác

Trung tâm data trong store

Cung cấp cơ chế thay đổi data trong store

Context

Phân phát data đến các component khác



APP TRANSLATE



PHẦN 2

REACT VỚI FIREBASE

Truy cập <https://firebase.google.com>

Tạo project

The screenshot shows the Firebase console interface for a project named 'reactfire-cce95'. The left sidebar contains navigation links for Project Overview, Build (Authentication, Firestore, Realtime Database, Storage, Hosting, Functions, Machine Learning), Release & Monitor (Crashlytics, Performance, Test Lab, App Distribution), and Extensions. The main content area displays the 'Project settings' for the selected project. It shows a 'Linked Firebase Hosting site' as 'reactfire-cce95'. Under the 'Firebase SDK snippet' section, the 'Config' option is selected. Below this, a text box contains the JavaScript SDK configuration code, which includes fields for apiKey, authDomain, databaseURL, projectId, storageBucket, messagingSenderId, appId, and measurementId. A 'Remove this app' button is located at the bottom right of the SDK snippet area.

console.firebase.google.com/project/reactfire-cce95/settings/general/web:ZjkwNGUzNDItNjdhOC00ZmNkLThmMmltZDZkNTNjMTRmZWQ2

reactfire Project settings

Go to docs

Linked Firebase Hosting site

reactfire-cce95

Firebase SDK snippet


☐ Automatic ☐ CDN ☒ Config

Copy and paste these scripts into the bottom of your <body> tag, but before you use any Firebase services:

```
// For Firebase JS SDK v7.20.0 and later, measurementId is optional
const firebaseConfig = {
  apiKey: "AIzaSyAiguSZ_STXI67v4Em8d_19e40I2sVveug",
  authDomain: "reactfire-cce95.firebaseio.com",
  databaseURL: "https://reactfire-cce95-default-rtdb.firebaseio.com",
  projectId: "reactfire-cce95",
  storageBucket: "reactfire-cce95.appspot.com",
  messagingSenderId: "1045049216035",
  appId: "1:1045049216035:web:226dda017e061b6d63f596",
  measurementId: "G-5WQB5TM8BF"
};
```

Remove this app

← → ↻ console.firebase.google.com/project/reactfire-cce95/authentication/providers


Firebase

[Project Overview](#)

Build

- Authentication
- Firestore
- Realtime Database
- Storage
- Hosting
- Functions
- Machine Learning

Release & Monitor

- Crashlytics
- Performance
- Test Lab
- App Distribution
- Extensions




Spark

Free \$0/month

Upgrade

reactfire












Go to docs

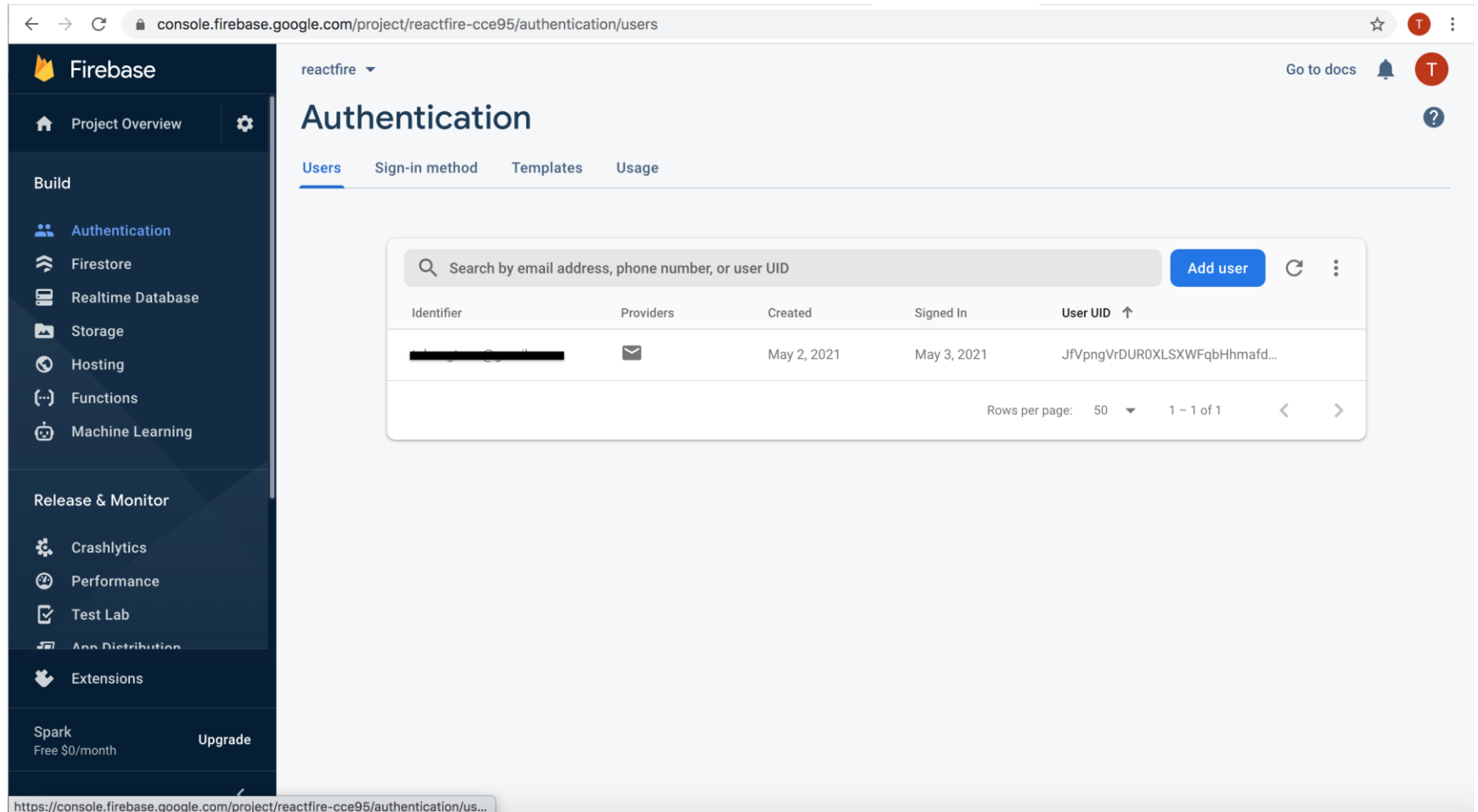
Authentication

[Users](#)
[Sign-in method](#)
[Templates](#)
[Usage](#)

Sign-in providers


Provider	Status
 Email/Password	Enabled 
 Phone	Disabled
 Google	Enabled
 Play Games	Disabled
 Game Center	Disabled
 Facebook	Disabled
 Twitter	Disabled
 GitHub	Disabled
 Yahoo	Disabled
	Disabled

https://console.firebase.google.com/project/reactfire-cce95/authentication/providers





The screenshot shows the Firebase Authentication console for a project named 'reactfire'. The left sidebar contains navigation links for 'Project Overview', 'Build' (Authentication, Firestore, Realtime Database, Storage, Hosting, Functions, Machine Learning), 'Release & Monitor' (Crashlytics, Performance, Test Lab, App Distribution, Extensions), and 'Spark' (Free \$0/month, Upgrade).


The main content area is titled 'Authentication' and has tabs for 'Users', 'Sign-in method', 'Templates', and 'Usage'. The 'Users' tab is active, displaying a table of users. At the top of the table is a search bar labeled 'Search by email address, phone number, or user UID' and an 'Add user' button. The table has columns for 'Identifier', 'Providers', 'Created', 'Signed In', and 'User UID'. A single user is listed with a redacted identifier, an email provider icon, a creation date of May 2, 2021, a sign-in date of May 3, 2021, and a User UID of 'JfVpngVrDUR0XLSXWFqbHhmafd...'. At the bottom right of the table, it shows 'Rows per page: 50' and '1 - 1 of 1'.

Identifier	Providers	Created	Signed In	User UID ↑
[REDACTED]		May 2, 2021	May 3, 2021	JfVpngVrDUR0XLSXWFqbHhmafd...

Rows per page: 50 1 - 1 of 1


Firebase


Project Overview



Build

- Authentication
- Firestore**
- Realtime Database
- Storage
- Hosting
- Functions
- Machine Learning

Release & Monitor



- Crashlytics
- Performance
- Test Lab
- App Distribution
- Extensions


Spark
Free \$0/month

Upgrade

reactfire


Go to docs











Cloud Firestore

[Data](#)
[Rules](#)
[Indexes](#)
[Usage](#)


>


tasks


9rwRprgEBjhjkf...

 reactfire-cce95	 tasks	 9rwRprgEBjhjkfbwF5aI
<div>+ Start collection</div> <div>projects</div> <div>tasks</div>	<div>+ Add document</div> <div>9rwRprgEBjhjkfbwF5aI</div>	<div>+ Start collection</div> <div>+ Add field</div> <div> authorId: "JfVpngVrDUR0XLSXWFqbHhmfadg2" checked: "false" date: May 3, 2021 at 8:25:34 AM UTC+7 task: "Hi" </div>

```

1  // Firebase App (the core Firebase SDK) is always required and must be listed first
2  import firebase from "firebase/app";
3  // If you are using v7 or any earlier version of the JS SDK, you should import firebase using namespace import
4  // import * as firebase from "firebase/app"
5
6  // If you enabled Analytics in your project, add the Firebase SDK for Analytics
7  import "firebase/analytics";
8
9  // Add the Firebase products that you want to use
10 import "firebase/auth";
11 import "firebase/firestore";
12
13
14
15  const firebaseConfig = {
16    apiKey: "AIzaSyAiguSZ_STXI67v4Em8d_19e40I2sVveug",
17    authDomain: "reactfire-cce95.firebaseio.com",
18    databaseURL: "https://reactfire-cce95-default-rtdb.asia-southeast1.firebaseio.com",
19    projectId: "reactfire-cce95",
20    storageBucket: "reactfire-cce95.appspot.com",
21    messagingSenderId: "1045049216035",
22    appId: "1:1045049216035:web:226dda017e061b6d63f596",
23    measurementId: "G-5WQB5TM8BF"
24  };
25
26  firebase.initializeApp(firebaseConfig);
27  firebase.firestore();
28
29  export default firebase;
  
```

□ withExtraArgument

```
const store = createStore(  
  rootReducer,  
  applyMiddleware(thunk.withExtraArgument({ getFirebase })))  
);
```

□ firebaseReducer

```
const rootReducer = combineReducers({  
  firebase: firebaseReducer,  
  firestore: firestoreReducer,  
  task: taskReducer,  
  auth: authReducer  
});
```

❑ ReactReduxFirebaseProvider

❖ Provider cho context chứa firebase instance mở rộng

```
const rrfProps = {
  firebase,
  config: {},
  dispatch: store.dispatch,
  createFirestoreInstance,
};

ReactDOM.render(
  <Provider store={store}>
    <ReactReduxFirebaseProvider {...rrfProps}>
      <AuthIsLoaded>
        <App />
      </AuthIsLoaded>
    </ReactReduxFirebaseProvider>
  </Provider>,
  document.getElementById("root")
);
```

□ Action: sign in , sign out

component

```
export const signIn = creds => {
  return (dispatch, getState, { getFirestore }) => {
    //console.log(creds);
    const firestore = getFirestore();

    firestore
      .auth()
      .signInWithEmailAndPassword(creds.email, creds.password)
      .then(() => {
        console.log("SIGNIN");
        dispatch({ type: "SIGN_IN" });
      })
      .catch(err => {
        dispatch({ type: "SIGN_IN_ERR" }, err);
      });
  };
};
```

```
export const signOut = () => {
  return (dispatch, getState, { getFirestore }) => {
    const firestore = getFirestore();

    firestore
      .auth()
      .signOut()
      .then(() => {
        dispatch({ type: "SIGN_OUT" });
      });
  };
};
```

```
state = {
  email: "",
  password: "",
};

handleChange = (e) => {
  this.setState({
    [e.target.id]: e.target.value,
  });
};





handleSubmit = (e) => {
  //console.log("SUBMIT");
  //console.log(this.state);
  e.preventDefault();
  this.props.signIn(this.state);
};
```

component

```
return (
  <Link to="/signin" className="nav-link" onClick={signOut}>
    Sign Out
  </Link>
);

const mapDispatchToProps = (dispatch) => {
  return {
    signOut: () => dispatch(signOut()),
  };
};
```

Firestore data

 > tasks > Qjt219DJ8RTU3...		
 reactfire-cce95	 tasks	 Qjt219DJ8RTU3TYodvWv
+ Start collection	+ Add document	+ Start collection
projects	Qjt219DJ8RTU3TYodvWv >	+ Add field
tasks >	VVfzPl40s2h3v3J1u9zq XeN6oPa7M0CmJ1DRTEIc gLl1GSWNaTeXPMwB7P1	authorId: "JfVpngVrDUR0XLSXWFqbHhmafdg2" checked: false date: May 3, 2021 at 8:34:52 PM UTC+7 id: "Qjt219DJ8RTU3TYodvWv" task: "bush"

❑ Example add new

```
export const createPost = (post) => {  
  return (dispatch, getState, {getFirestore}) => {  
    const firestore = getFirestore().firestore();  
    firestore  
      .collection("projects")  
      .add({  
        ...post  
      })  
      .then(() => {  
        dispatch({  
          type: CREATE_POST,  
          post  
        });  
      });  
  };  
};
```


❑ Example get all

```
export const fetchPosts = () => {  
  return (dispatch, getState, {getFirebase}) => {  
  
    const firestore = getFirebase().firestore();  
    firestore  
      .collection("projects")  
      .get()  
      .then(snapshot =>{  
        dispatch({  
          type: FETCH_POSTS,  
          payload: snapshot  
        });  
      });  
  }  
}
```

❑ Example delete

```
firestore.collection("projects").doc(id).delete()
  .then(()=>{
    console.log("successfully deleted! ");
    dispatch({
      type: DELETE_POST
    });
  })
  .catch((error)=>{ console.log("Error removing document:", error)}))
```

demo

- ☑ Context API
- ☑ React với firebase



thank
you!