LAPORAN PEMROGRAMAN BERBASIS FRAMEWORK

JOBSHEET XI

Dibuat oleh:

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PROGRAM STUDI TEKNIK INFORMATIKA
JURUSAN TEKNOLOGI INFORMASI
POLITEKNIK NEGERI MALANG

APRIL 2021

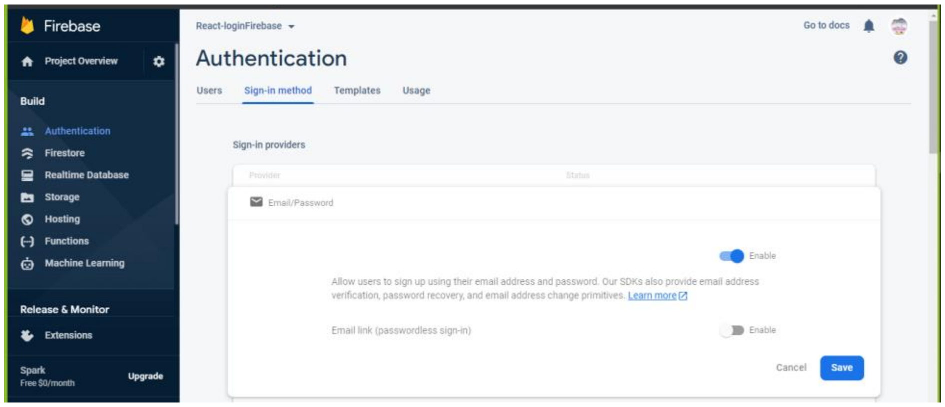
FIREBASE LOGIN

Firebase adalah serangkaian alat (bantu) untuk developer aplikasi, namun bukan hanya untuk developer aplikasi Android. Ini untuk developer aplikasi iOS dan juga developer aplikasi web. Akan tetapi, karena kursus ini adalah tentang development Android, pelajaran ini hanya membahas tentang cara menggunakan Firebase dengan aplikasi Android.

Sebagai developer Android, Anda menggunakan Android Studio untuk membangun aplikasi, namun Anda bisa menggunakan Firebase untuk menambahkan fitur ke aplikasi, mendapatkan pengguna aplikasi yang lebih luas, menguji aplikasi, menghasilkan pendapatan dari aplikasi, dan mendapatkan analisis tentang penggunaan aplikasi tersebut.

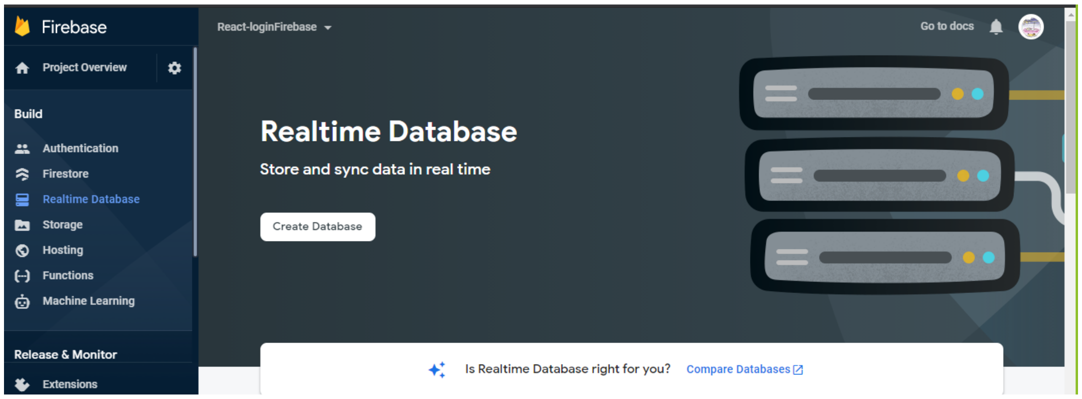
Langkah :

1. Setting Firebase Console
   Login ke firebase console dan add a new project. Pilih authentification dan pilih tab menu Set up sign in method

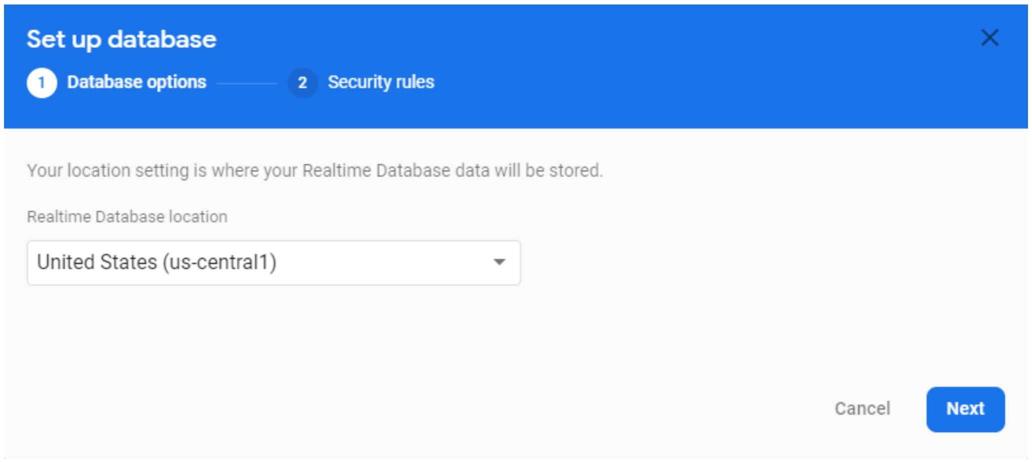


Allow users to sign up using their email address and password. Our SDKs also provide email address verification, password recovery, and email address change primitives. Learn more

2. Setelah enabling athentification pilih menu Database dan pilih create database



3. Select **Start in test mode**.



Your location setting is where your Realtime Database data will be stored.

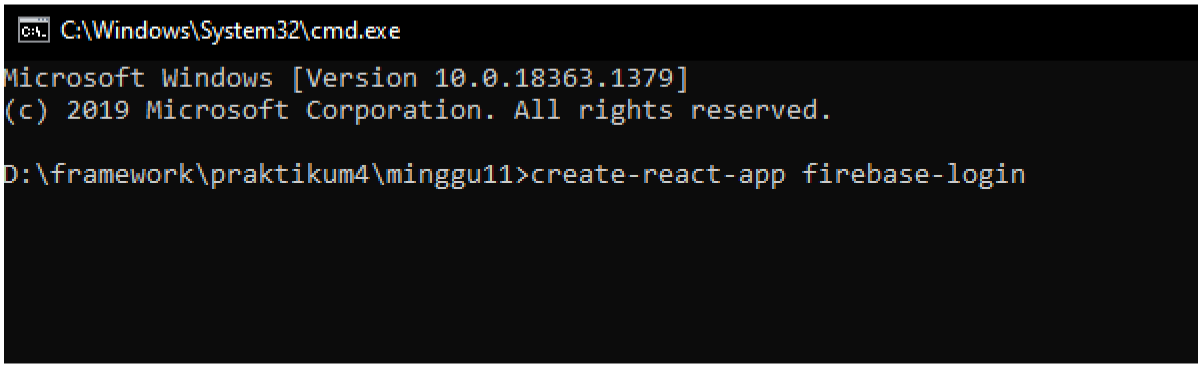
Realtime Database location

United States (us-central1)

4. PIlih Done

Setting react app dan firebase

1. Buat aplikasi baru dengan perintah



```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.18363.1379]
(c) 2019 Microsoft Corporation. All rights reserved.

D:\framework\praktikum4\minggu11>create-react-app firebase-login
```

```
create-react-app your-project-name
```

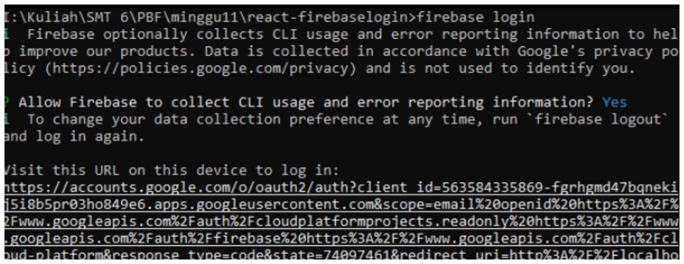
2. Install project baru dengan perintah

```
npm run start
```

3. Install firebase

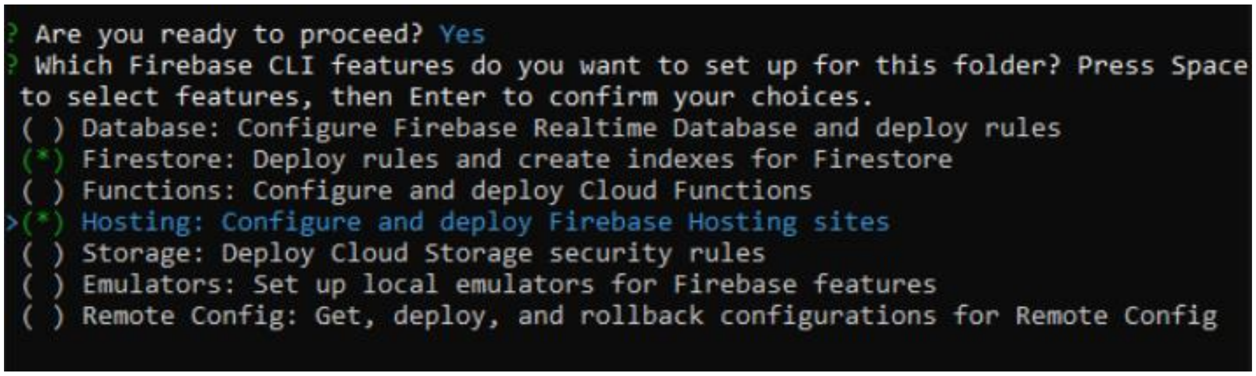
```
npm install -g firebase-tools
```

```
firebase login
```



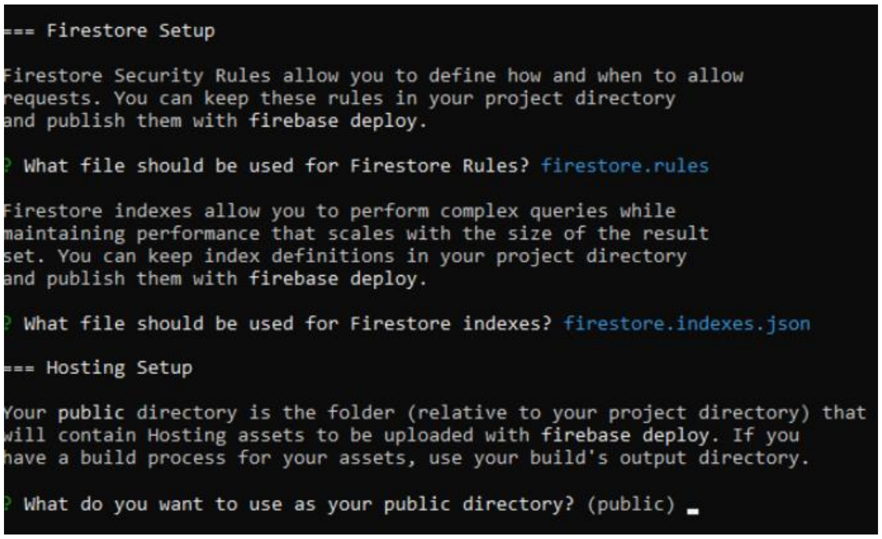
```
I:\Kuliah\SMT 6\PBF\minggu11\react-firebaselogin>firebase login
i  Firebase optionally collects CLI usage and error reporting information to hel
p improve our products. Data is collected in accordance with Google's privacy po
licy (https://policies.google.com/privacy) and is not used to identify you.

? Allow Firebase to collect CLI usage and error reporting information? Yes
i  To change your data collection preference at any time, run `firebase logout`
and log in again.

Visit this URL on this device to log in:
https://accounts.google.com/o/oauth2/auth?client_id=563584335869-fgrhgmd47bqneki
j5i8b5pr03ho849e6.apps.googleusercontent.com&scope=email%20openid%20https%3A%2F%
2Fwww.googleapis.com%2Fauth%2Fcloudplatformprojects.readonly%20https%3A%2F%2Fwww
.googleapis.com%2Fauth%2Ffirebase%20https%3A%2F%2Fwww.googleapis.com%2Fauth%2Fcl
oud-platform&response_type=code&state=74097461&redirect_uri=http%3A%2F%2Flocalho
```

4. Pilih setting untuk firebase nya firebase dan Hosting



```
? Are you ready to proceed? Yes
? Which Firebase CLI features do you want to set up for this folder? Press Space
 to select features, then Enter to confirm your choices.
 ( ) Database: Configure Firebase Realtime Database and deploy rules
 (*) Firestore: Deploy rules and create indexes for Firestore
 ( ) Functions: Configure and deploy Cloud Functions
>(*) Hosting: Configure and deploy Firebase Hosting sites
 ( ) Storage: Deploy Cloud Storage security rules
 ( ) Emulators: Set up local emulators for Firebase features
 ( ) Remote Config: Get, deploy, and rollback configurations for Remote Config
```

5. Pilih build jangan pilih Do not choose public
6. Pilih



```
=== Firestore Setup

Firestore Security Rules allow you to define how and when to allow
requests. You can keep these rules in your project directory
and publish them with firebase deploy.

? What file should be used for Firestore Rules? firestore.rules

Firestore indexes allow you to perform complex queries while
maintaining performance that scales with the size of the result
set. You can keep index definitions in your project directory
and publish them with firebase deploy.

? What file should be used for Firestore indexes? firestore.indexes.json

=== Hosting Setup

Your public directory is the folder (relative to your project directory) that
will contain Hosting assets to be uploaded with firebase deploy. If you
have a build process for your assets, use your build's output directory.

? What do you want to use as your public directory? (public)
```

Pilih Y lalu N untuk overwriting index.html

```
npm run build
```

```
firebase serve
```

7. Untuk membangun firebase

Instalasi Redux

1. Install Redux dan react redux, redux thunk

```
npm install redux
```

```
npm install react-redux
```

```
npm install redux-thunk
```

```
npm install react-router-dom
```

2. Install firebase

```
npm install firebase
```

3. Pilih UI library

```
npm install @material-ui/core
```

4. Paste kan file public/index.html

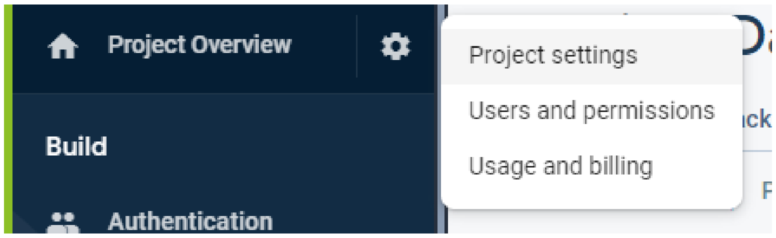
```
<link rel="stylesheet" href="https://fonts.googleapis.com
/css?family=Roboto:300,400,500,700&display=swap" />
```

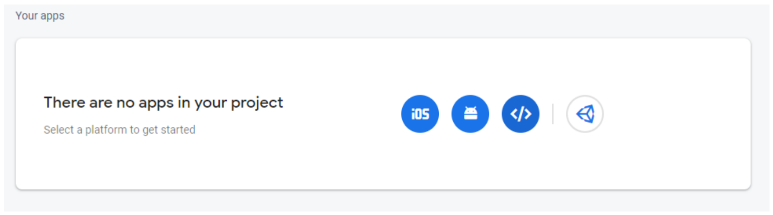
5. Install material icon

```
npm install @material-ui/icons
```

Setting firebase config

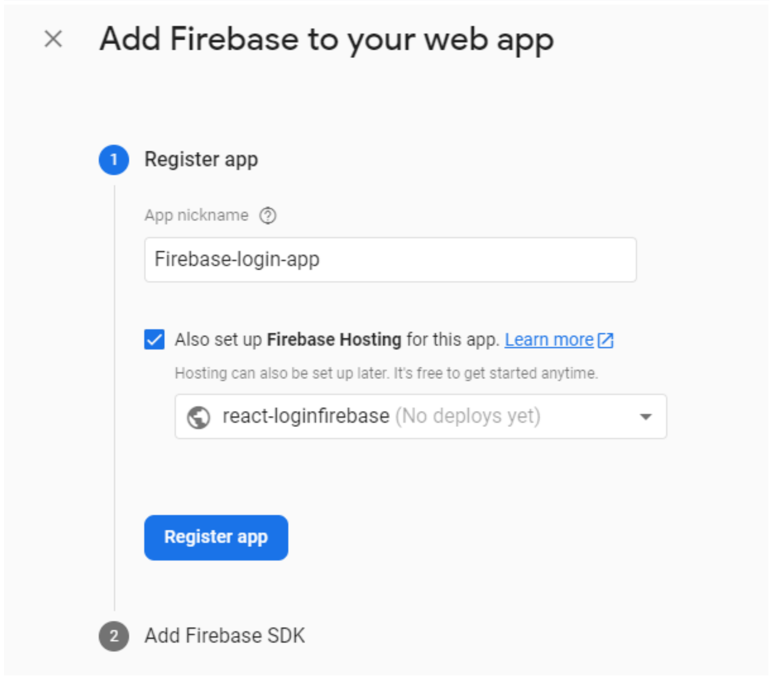
1. Pilih project setting




Your apps

There are no apps in your project

Select a platform to get started


Add Firebase to your web app

1 Register app

App nickname: Firebase-login-app

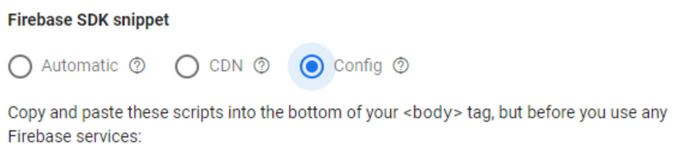
[✓] Also set up **Firebase Hosting** for this app. Learn more

Hosting can also be set up later. It's free to get started anytime.

react-loginfirebase (No deploys yet)

2 Add Firebase SDK

2. Pilih config


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:

3. Edit **firebase/firebase.js**

```
import firebase from "firebase/app";
import "firebase/auth";
import "firebase/firestore";
```

```
const firebaseConfig = {
    // Your config values
    apiKey: "AIzaSyC_VgdayZnH8MJEdkVaJZcDYecvNGmPICo",
    authDomain: "react-loginfirebase.firebaseapp.com",
    databaseURL: "https://react-loginfirebase-default-rtdb.firebaseio.com",
    projectId: "react-loginfirebase",
    storageBucket: "react-loginfirebase.appspot.com",
    messagingSenderId: "1033562874424",
    appId: "1:1033562874424:web:34bbecd46e9dda0354bccd",
    measurementId: "G-R6TEYEFHBL"
};

export const myFirebase = firebase.initializeApp(firebaseConfig);
const baseDb = myFirebase.firestore();
export const db = baseDb;
```

4. **Edit actions/auth.js**

```
import { myFirebase } from "../firebase/firebase";

export const LOGIN_REQUEST = "LOGIN_REQUEST";
export const LOGIN_SUCCESS = "LOGIN_SUCCESS";
export const LOGIN_FAILURE = "LOGIN_FAILURE";

export const LOGOUT_REQUEST = "LOGOUT_REQUEST";
export const LOGOUT_SUCCESS = "LOGOUT_SUCCESS";
export const LOGOUT_FAILURE = "LOGOUT_FAILURE";

export const VERIFY_REQUEST = "VERIFY_REQUEST";
export const VERIFY_SUCCESS = "VERIFY_SUCCESS";
```

5. user requesting to login masih dalam **actions/auth.js**

```
const requestLogin = () => {
    return {
        type: LOGIN_REQUEST
    };
};

const receiveLogin = user => {
    return {
        type: LOGIN_SUCCESS,
        user
    };
};
```

```
const loginError = () => {
    return {
        type: LOGIN_FAILURE
    };
};
```

6. edit loginUser()

```
import { myFirebase } from "../firebase/firebase";

export const LOGIN_REQUEST = "LOGIN_REQUEST";
export const LOGIN_SUCCESS = "LOGIN_SUCCESS";
export const LOGIN_FAILURE = "LOGIN_FAILURE";

export const LOGOUT_REQUEST = "LOGOUT_REQUEST";
export const LOGOUT_SUCCESS = "LOGOUT_SUCCESS";
export const LOGOUT_FAILURE = "LOGOUT_FAILURE";

export const VERIFY_REQUEST = "VERIFY_REQUEST";
export const VERIFY_SUCCESS = "VERIFY_SUCCESS";

const requestLogin = () => {
    return {
        type: LOGIN_REQUEST
    };
};

const receiveLogin = user => {
    return {
        type: LOGIN_SUCCESS,
        user
    };
};

const loginError = () => {
    return {
        type: LOGIN_FAILURE
    };
};

const requestLogout = () => {
    return {
        type: LOGOUT_REQUEST
    };
};
const receiveLogout = () => {
    return {
        type: LOGOUT_SUCCESS
    };
};

const logoutError = () => {
    return {
        type: LOGOUT_FAILURE
    };
};
const verifyRequest = () => {
    return {
        type: VERIFY_REQUEST
    };
};
const verifySuccess = () => {
    return {
        type: VERIFY_SUCCESS
    };
};

export const loginUser = (email, password) => dispatch => {
    dispatch(requestLogin());
    myFirebase
        .auth()
        .signInWithEmailAndPassword(email, password)
        .then(user => {
            dispatch(receiveLogin(user));
        })
        .catch(error => {
            //Do something with the error if you want!
            dispatch(loginError());
        });
};

export const logoutUser = () => dispatch => {
    dispatch(requestLogout());
    myFirebase
        .auth()
        .signOut()
        .then(() => {
            dispatch(receiveLogout());
        })
        .catch(error => {
            //Do something with the error if you want!
            dispatch(logoutError());
        });
```

```
};
export const verifyAuth = () => dispatch => {
    dispatch(verifyRequest());
    myFirebase.auth().onAuthStateChanged(user => {
        if (user !== null) {
            dispatch(receiveLogin(user));
        }
        dispatch(verifySuccess());
    });
};
```

Setting reducer

1. Buka reducers/auth.js

```
import {
    LOGIN_REQUEST,
    LOGIN_SUCCESS,
    LOGIN_FAILURE,
    LOGOUT_REQUEST,
    LOGOUT_SUCCESS,
    LOGOUT_FAILURE,
    VERIFY_REQUEST,
    VERIFY_SUCCESS
} from "../actions/auth";

export default (
    state = {
        isLoggingIn: false,
        isLoggingOut: false,
        isVerifying: false,
        loginError: false,
        logoutError: false,
        isAuthenticated: false,
        user: {}
    },
    action
) => {
    switch (action.type) {
        case LOGIN_REQUEST:
            return {
                ...state,
                isLoggingIn: true,
                loginError: false
            };
        case LOGIN_SUCCESS:
            return {
                ...state,
                isLoggingIn: false,
                isAuthenticated: true,
                user: action.user
            };
        case LOGIN_FAILURE:
            return {
                ...state,
                isLoggingIn: false,
                isAuthenticated: false,
                loginError: true
            };
        case LOGOUT_REQUEST:
            return {
                ...state,
                isLoggingOut: true,
                logoutError: false
            };
        case LOGOUT_SUCCESS:
            return {
                ...state,
                isLoggingOut: false,
                isAuthenticated: false,
                user: {}
            };
        case LOGOUT_FAILURE:
            return {
                ...state,
                isLoggingOut: false,
                logoutError: true
            };
        case VERIFY_REQUEST:
            return {
                ...state,
                isVerifying: true,
                verifyingError: false
            };
        case VERIFY_SUCCESS:
            return {
                ...state,
                isVerifying: false
            };
        default:
            return state;
    }
};
```

2. Edit reducers/index.js

```
import { combineReducers } from "redux";
import auth from "./auth";
export default combineReducers({ auth });
```

3. Setting Redux plumbing
4. **Pilih src** folder called **configureStore.js dan edit**

```
import { applyMiddleware, createStore } from "redux";
import thunkMiddleware from "redux-thunk";
import { verifyAuth } from "./actions/auth";
import rootReducer from "./reducers";
export default function configureStore(persistedState) {
    const store = createStore(
        rootReducer,
        persistedState,
        applyMiddleware(thunkMiddleware)
    );
    store.dispatch(verifyAuth());
    return store;
}
```

5. Pilih dan edit folder src dan root.js

```
import React from "react";
import { Provider } from "react-redux";
import { BrowserRouter as Router } from "react-router-dom";
import App from "./App";
import configureStore from "./configureStore";
const store = configureStore();
function Root() {
    return (
        <Provider store={store}>
            <Router>
                <App />
            </Router>
        </Provider>
    );
}

export default Root;
```

6. Pilih dan edit folder src/index.js

```
import React from 'react';
import ReactDOM from 'react-dom';
import Root from "./Root";
import * as serviceWorker from './serviceWorker';

ReactDOM.render(<Root />, document.getElementById("root"));

serviceWorker.unregister();
```

7. Buat lah coding App.js

```
import React from "react";
import { Route, Switch } from "react-router-dom";
import { connect } from "react-redux";
import ProtectedRoute from "./components/protectedRoute";
import Home from "./components/Home";
import Login from "./components/Login";

function App(props) {
  const { isAuthenticated, isVerifying } = props;
  return (
    <Switch>
      <ProtectedRoute
        exact
        path="/"
        component={Home}
        isAuthenticated={isAuthenticated}
        isVerifying={isVerifying}
      />
      <Route path="/login" component={Login} />
    </Switch>
  );
}

function mapStateToProps(state) {
  return {
    isAuthenticated: state.auth.isAuthenticated,
    isVerifying: state.auth.isVerifying
  };
}

export default connect(mapStateToProps)(App);
```

8. Buatlah file dan simpan **components/Login.js**

```
import React, { Component } from "react";
import { connect } from "react-redux";
import { Redirect } from "react-router-dom";
import { loginUser } from "../actions/auth";
import { withStyles } from "@material-ui/styles";

import Avatar from "@material-ui/core/Avatar";
import Button from "@material-ui/core/Button";
import TextField from "@material-ui/core/TextField";
import LockOutlinedIcon from "@material-ui/icons/LockOutlined";
import Typography from "@material-ui/core/Typography";
import Paper from "@material-ui/core/Paper";
import Container from "@material-ui/core/Container";

const styles = () => ({
    "@global": {
        body: {
            backgroundColor: "#fff"
        }
    },
    paper: {
        marginTop: 100,
        display: "flex",
        padding: 20,
        flexDirection: "column",
        alignItems: "center"
    },
    avatar: {
        marginLeft: "auto",
        marginRight: "auto",
        backgroundColor: "#f50057"
    },
    form: {
        marginTop: 1
    },
    errorText: {
        color: "#f50057",
        marginBottom: 5,
        textAlign: "center"
    }
});

class Login extends Component {
    state = { email: "", password: "" };
    handleEmailChange = ({ target }) => {
        this.setState({ email: target.value });
    };
    handlePasswordChange = ({ target }) => {
        this.setState({ password: target.value });
    };
    handleSubmit = () => {
        const { dispatch } = this.props;
        const { email, password } = this.state;
        dispatch(loginUser(email, password));
    };
    render() {
        const { classes, loginError, isAuthenticated } = this.props;
        if (isAuthenticated) {
            return <Redirect to="/" />;
        } else {
            return (
                <Container component="main" maxWidth="xs">
                    <Paper className={classes.paper}>
                        <Avatar className={classes.avatar}>
                            <LockOutlinedIcon />
                        </Avatar>
                        <Typography component="h1" variant="h5">
                            Sign in
                        </Typography>
                        <TextField
                            variant="outlined"
                            margin="normal"
                            fullWidth
                            id="email"
                            label="Email Address"
                            name="email"
                            onChange={this.handleEmailChange}/>
                        <TextField
                            variant="outlined"
                            margin="normal"
                            fullWidth
                            name="password"
                            label="Password"
                            type="password"
                            id="password"
                            onChange={this.handlePasswordChange}/>
                        {loginError && (
                            <Typography component="p" className={classes.errorTex
t}>
                                Incorrect email or password.
                            </Typography>
                        )}
                        <Button
                            type="button"
                            fullWidth
                            variant="contained"
                            color="primary"
                            className={classes.submit}
                            onClick={this.handleSubmit}>
                            Sign In
                        </Button>
                    </Paper>
                </Container>
            );
        }
    }
}

function mapStateToProps(state) {
    return {
        isLoggingIn: state.auth.isLoggingIn,
        loginError: state.auth.loginError,
        isAuthenticated: state.auth.isAuthenticated
    };
}

export default withStyles(styles)(connect(mapStateToProps)(Login));
```

9. Buka **component/Home.js**

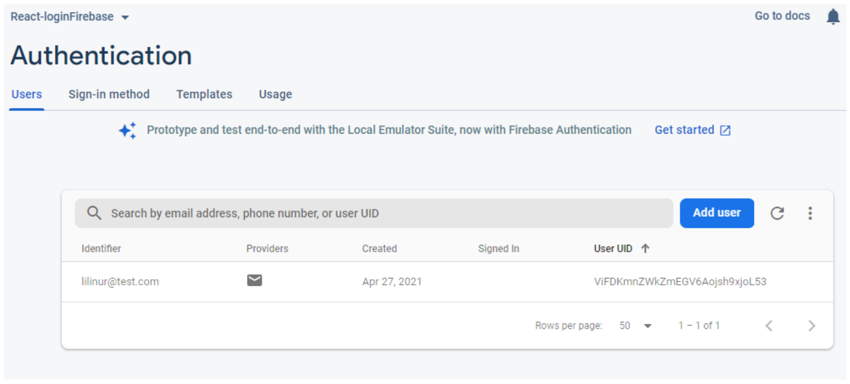
```
import React, { Component } from "react";
import { connect } from "react-redux";
import { logoutUser } from "../actions/auth";

class Home extends Component {
    handleLogout = () => {
        const { dispatch } = this.props;
        dispatch(logoutUser());
    };
    render() {
        const { isLoggingOut, logoutError } = this.props; return (
            <div>
                <h1>This is your app's protected area.</h1>
                <p>Any routes here will also be protected</p>
                <button onClick={this.handleLogout}>Logout</button>
                {isLoggingOut && <p>Logging Out....</p>}
                {logoutError && <p>Error logging out</p>}
            </div>
        );
    }
}

function mapStateToProps(state) {
    return {
        isLoggingOut: state.auth.isLoggingOut,
        logoutError: state.auth.logoutError
    };
}

export default connect(mapStateToProps)(Home);
```

10. Buatfile dalam folder /src/component/ dengan nama protectedRoute.js

```
import React from "react";
import { Route, Redirect } from "react-router-dom";

const ProtectedRoute = ({
    component: Component,
    isAuthenticated,
    isVerifying,
    ...rest
}) => (
    <Route
        {...rest}
        render={props =>
            isVerifying ? (
                <div />
            ) : isAuthenticated ? (
                <Component {...props} />
            ) : (
                <Redirect
                    to={{
                        pathname: "/login",
                        state: { from: props.location }
                    }}
                />
            )
        }
    />
);

export default ProtectedRoute;
```

11. Running start

12. MAsuk ke firebase console kemudian add user



React-loginFirebase ▾ Go to docs

Authentication

Users | Sign-in method | Templates | Usage

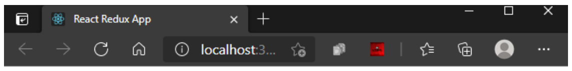
Prototype and test end-to-end with the Local Emulator Suite, now with Firebase Authentication Get started

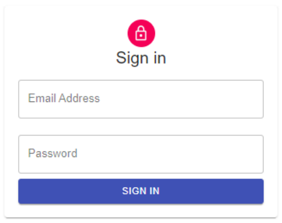
Search by email address, phone number, or user UID | Add user

Identifier	Providers	Created	Signed In	User UID ↑
lilinur@test.com	✉	Apr 27, 2021		ViFDKmnZWkZmEGV6Aojsh9xjoL53

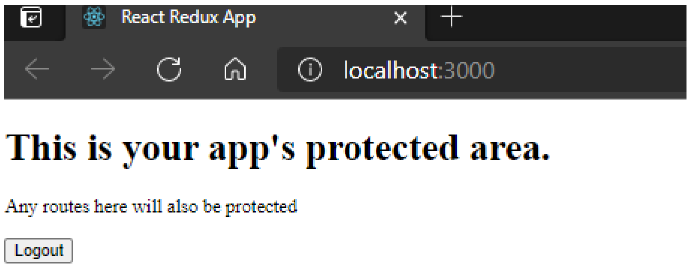
Rows per page: 50 ▾ 1 – 1 of 1

13. Pilih **npm start** kemudian masukkan username dan password





14. Kemudian masuk ke dalam halaman beranda



This is your app's protected area.

Any routes here will also be protected

Link Youtube:
https://www.youtube.com/playlist?list=PL51COvB1Q4df_GcG9Yhs7pI_J847EsjIa

Link Github: https://github.com/lilipolinema/PBFReact.git