

TUGAS INDIVIDU
Firestore Login
Pemrograman Berbasis Framework

Oleh:

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TI-3A / 02



PROGRAM STUDI – D4 TEKNIK INFORMATIKA

JURUSAN – TEKNOLOGI INFORMASI

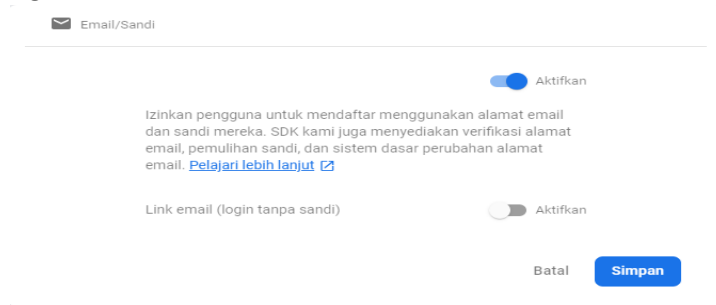
POLITEKNIK NEGERI MALANG

2020/2021

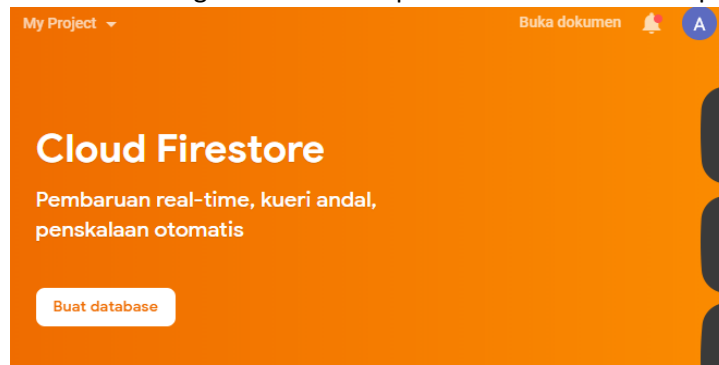
Langkah :

1. Setting Firebase Console

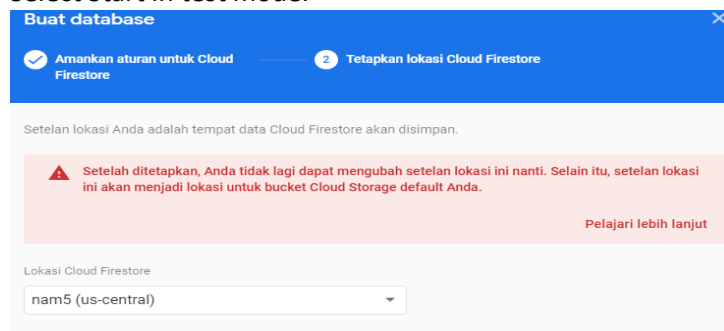
Login ke firebase console dan add a new project. Pilih authentication dan pilih tab menu Set up sign in method



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



3. Select Start in test mode.



4. Pilih Done

Setting React App dan Firebase :

1. Buat Aplikasi baru dengan perintah

```
PS D:\KULIAH\Semester6\Pemrograman Berbasis Framework\FirebaseLogin\loginfirebase\FirebaseLog
in> npx create-react-app loginfirebase

Creating a new React app in D:\KULIAH\Semester6\Pemrograman Berbasis Framework\FirebaseLogin\
loginfirebase\FirebaseLogin\loginfirebase.

Installing packages. This might take a couple of minutes.
Installing react, react-dom, and react-scripts with cra-template...
```

2. Install project baru dengan perintah

npm run start

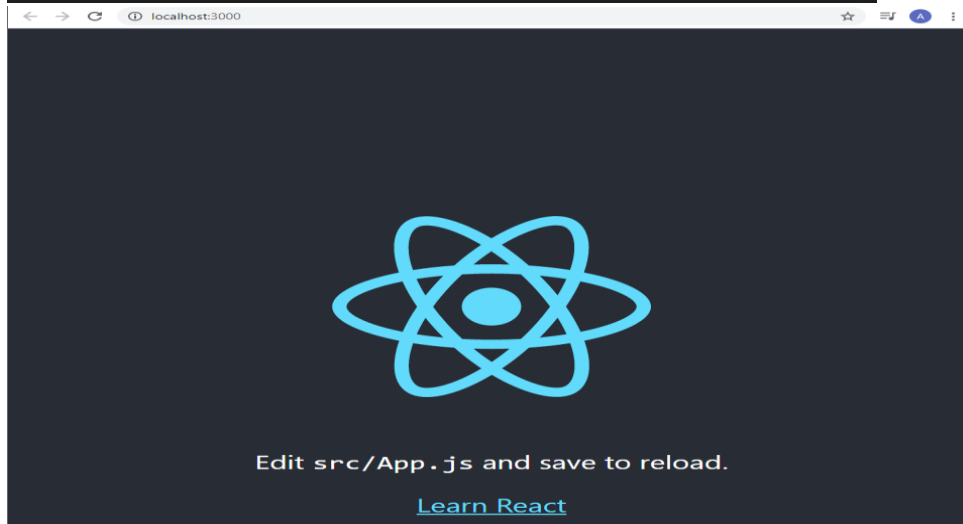
```
Compiled successfully!

You can now view loginfirebase in the browser.

  Local:            http://localhost:3000
  On Your Network:  http://192.168.56.1:3000

Note that the development build is not optimized.
To create a production build, use npm run build.


```



The screenshot shows a web browser window at localhost:3000. The page has a dark background with the React logo (a blue atom-like symbol) in the center. Below the logo, the text "Edit src/App.js and save to reload." is displayed, followed by a blue link that says "Learn React".

3. Install firebase

```
PS D:\KULIAH\Semester6\Pemrograman Berbasis Framework\FirebaseLogin\loginfirebase\FirebaseL
ogin\loginfirebase> npm install -g firebase-tools
npm WARN deprecated request@2.88.2: request has been deprecated, see https://github.com/req
uest/request/issues/3142
C:\Users\alfal\AppData\Roaming\npm\firebase -> C:\Users\alfal\AppData\Roaming\npm\node_modu
les\firebase-tools\lib\bin\firebase.js
```

Visit this URL on this device to log in:

https://accounts.google.com/o/oauth2/auth?client_id=563584335869-fgrhgm47bqnekij5i8b5pr03h0849e6.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%2Fcloud-platform&response_type=code&state=605477922&redirect_uri=http%3A%2F%2Flocalhost%3A9005

```
PS D:\KULIAH\Semester6\Pemrograman Berbasis Framework\FirebaseLogin\loginfirebase\FirebaseL
ogin\loginfirebase> firebase init
```

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85															

D:\KULIAH\Semester6\Pemrograman Berbasis Framework\FirebaseLogin\loginfirebase\FirebaseLo
gin\loginfirebase

```

2 Are you ready to proceed? Yes
3 Which Firebase CLI features do you want to set up for this folder? Press Space to select
  features, then Enter to confirm your choices. (Press <space> to select, <a> to toggle all,
  <i> to invert selection)
  ( ) Database: Deploy Firebase Realtime Database 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

```

- ```
() Database: Deploy Firebase Realtime Database 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
```

- 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? no

- ```
? Configure as a single-page app (rewrite all urls to /index.html)? No
+ Wrote no/404.html
+ Wrote no/index.html

i Writing configuration info to firebase.json...
i Writing project information to .firebaserc...
```

7. Untuk membangun firebase

```
PS D:\KULIAH\Semester6\Pemrograman Berbasis Framework\FirebaseLogin\loginfirebase\FirebaseLogin\loginfirebase> npm run build

> loginfirebase@0.1.0 build D:\KULIAH\Semester6\Pemrograman Berbasis Framework\FirebaseLogin\loginfirebase\FirebaseLogin\loginfirebase
> react-scripts build

Creating an optimized production build...

PS D:\KULIAH\Semester6\Pemrograman Berbasis Framework\FirebaseLogin\loginfirebase\FirebaseLogin\loginfirebase> firebase serve

=== Serving from 'D:\KULIAH\Semester6\Pemrograman Berbasis Framework\FirebaseLogin\loginfirebase\FirebaseLogin\loginfirebase'...

i  hosting: Serving hosting files from: no
+  hosting: Local server: http://localhost:5000
```

Instalasi Redux :

1. Install Redux dan react redux, redux thunk

```
PS D:\KULIAH\Semester6\Pemrograman Berbasis Framework\FirebaseLogin\loginfirebase\FirebaseLogin\loginfirebase> npm install redux
npm WARN tsutils@3.17.1 requires a peer of typescript@>=2.8.0 || >= 3.2.0-dev || >= 3.3.0-dev || >= 3.4.0-dev || >= 3.5.0-dev || >= 3.6.0-dev || >= 3.6.0-beta || >= 3.7.0-dev || >= 3.7.0-beta but none is installed. You must install peer dependencies yourself.

PS D:\KULIAH\Semester6\Pemrograman Berbasis Framework\FirebaseLogin\loginfirebase\FirebaseLogin\loginfirebase> npm install react-redux
npm WARN tsutils@3.17.1 requires a peer of typescript@>=2.8.0 || >= 3.2.0-dev || >= 3.3.0-dev || >= 3.4.0-dev || >= 3.5.0-dev || >= 3.6.0-dev || >= 3.6.0-beta || >= 3.7.0-dev || >= 3.7.0-beta but none is installed. You must install peer dependencies yourself.

PS D:\KULIAH\Semester6\Pemrograman Berbasis Framework\FirebaseLogin\loginfirebase\FirebaseLogin\loginfirebase> npm install redux-thunk
npm WARN tsutils@3.17.1 requires a peer of typescript@>=2.8.0 || >= 3.2.0-dev || >= 3.3.0-dev || >= 3.4.0-dev || >= 3.5.0-dev || >= 3.6.0-dev || >= 3.6.0-beta || >= 3.7.0-dev || >= 3.7.0-beta but none is installed. You must install peer dependencies yourself.

PS D:\KULIAH\Semester6\Pemrograman Berbasis Framework\FirebaseLogin\loginfirebase\FirebaseLogin\loginfirebase> npm install react-router-dom
npm WARN tsutils@3.17.1 requires a peer of typescript@>=2.8.0 || >= 3.2.0-dev || >= 3.3.0-dev || >= 3.4.0-dev || >= 3.5.0-dev || >= 3.6.0-dev || >= 3.6.0-beta || >= 3.7.0-dev || >= 3.7.0-beta but none is installed. You must install peer dependencies yourself.
npm WARN optional SKIPPING OPTIONAL DEPENDENCY: fsevents@2.1.2 (node_modules\fsevents):
```

2. Install firebase

```
PS D:\KULIAH\Semester6\Pemrograman Berbasis Framework\FirebaseLogin\loginfirebase\FirebaseLogin\loginfirebase> npm install firebase

> protobufjs@6.9.0 postinstall D:\KULIAH\Semester6\Pemrograman Berbasis Framework\FirebaseLogin\loginfirebase\FirebaseLogin\loginfirebase\node_modules\protobufjs
> node scripts/postinstall
```

3. Pilih UI library

```
PS D:\KULIAH\Semester6\Pemrograman Berbasis Framework\FirebaseLogin\loginfirebase\FirebaseLogin\loginfirebase> npm install @material-ui/core
npm WARN deprecated popper.js@1.16.1: You can find the new Popper v2 at @popperjs/core, this package is dedicated to the legacy v1
```

4. Paste kan file public/index.html

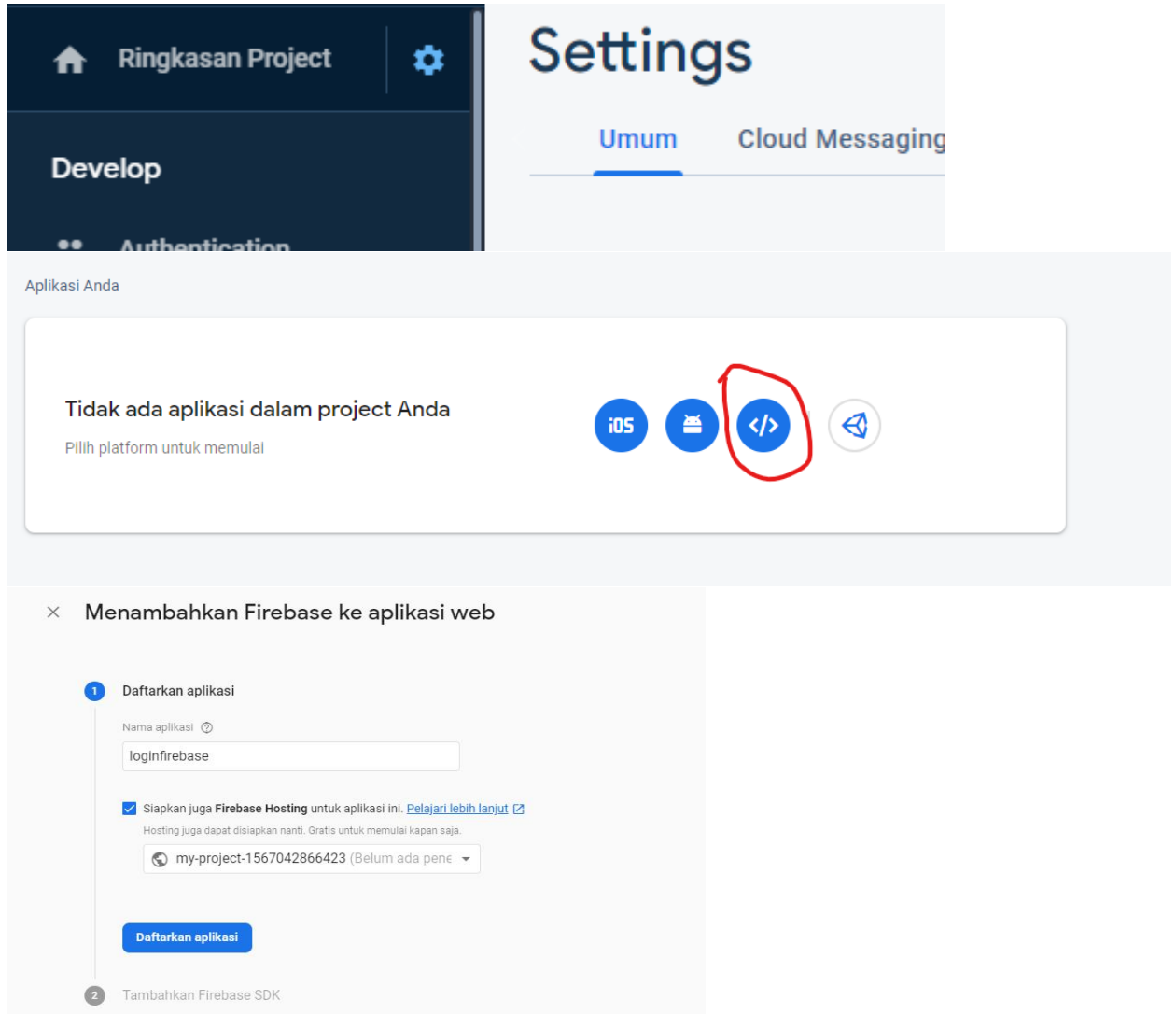
```
<link rel="manifest" href="https://fonts.googleapis.com/css?family=Roboto:300,400,500,700&display=swap"/>
```

5. Install material icon

```
PS D:\KULIAH\Semester6\Pemrograman Berbasis Framework\FirebaseLogin\loginfirebase\FirebaseL
ogin\loginfirebase> npm install @material-ui/icons
npm WARN tsutils@3.17.1 requires a peer of typescript@>=2.8.0 || >= 3.2.0-dev || >= 3.3.0-d
ev || >= 3.4.0-dev || >= 3.5.0-dev || >= 3.6.0-dev || >= 3.6.0-beta || >= 3.7.0-dev || >= 3
.7.0-beta but none is installed. You must install peer dependencies yourself.
```

Setting firebase config :

1. Pilih project setting



2. Pilih config

Firestore SDK snippet

☐ Otomatis ☐ CDN ☒ Config

3. Edit firebase/firebase.js

```
<> index.html    JS firebase.js X
src > firebase > JS firebase.js > ...
 1  import "firebase/auth";
 2  import "firebase/firestore";
 3
 4  const firebaseConfig = {
 5
 6  };
 7
 8  export const myFirebase = firebase.initializeApp(firebaseConfig);
 9  const baseDb = myFirebase.firestore() ;
10  export const db = baseDb ;
```

4. Edit actions/auth.js

```
JS auth.js X
src > actions > JS auth.js > ...
 1  import {myFirebase} from "../firebase/firebase"
 2
 3  export const LOGIN_REQUEST = "LOGIN_REQUEST" ;
 4  export const LOGIN_SUCCEST = "LOGIN_SUCCESS" ;
 5  export const LOGIN_FAILURE = "LOGIN_FAILURE" ;
 6
 7  export const LOGOUT_REQUEST = "LOGOUT_REQUEST" ;
 8  export const LOGOUT_SUCCEST = "LOGOUT_SUCCESS" ;
 9  export const LOGOUT_FAILURE = "LOGOUT_FAILURE" ;
10
11  export const VERIFY_REQUEST = "VERIFY_REQUEST" ;
12  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()

```
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());
    });
};
```

```
src > actions > JS auth.js > ...
// export const logoutUser = () => dispatch => {
78   dispatch(requestLogout());
79   myFirebase
80     .auth()
81     .signOut()
82     .then(() => {
83       dispatch(receiveLogout());
84     })
85     .catch(error => {
86       //Do something with the error if you want!
87       dispatch(logoutError());
88     });
89 };
90
91 export const verifyAuth = () => dispatch => {
92   dispatch(verifyRequest());
93   myFirebase.auth().onAuthStateChanged(user => {
94     if (user !== null) {
95       dispatch(receiveLogin(user));
96     }
97     dispatch(verifySuccess());
98   });
99 };
100
```

Setting reducer :

1. Buka reducers/auth.js

```
1 import {
2   LOGIN_REQUEST,
3   LOGIN_SUCCESS,
4   LOGIN_FAILURE,
5   LOGOUT_REQUEST,
6   LOGOUT_SUCCESS,
7   LOGOUT_FAILURE,
8   VERIFY_REQUEST,
9   VERIFY_SUCCESS
10 } from "../actions/";
11
12 export default (
13   state = {
14     isLoggingIn: false,
15     isLoggingOut: false,
16     isVerifying: false,
17     loginError: false,
18     logoutError: false,
19     isAuthenticated: false,
20     user: {}
21   },
22   action
23 ) => {
24   switch (action.type) {
25     case LOGIN_REQUEST:
26       return {
27         ...state,
28         isLoggingIn: true,
29         loginError: false
30       };
31     case LOGIN_SUCCESS:
32       return {
33         ...state,
34         isLoggingIn: false,
35         isAuthenticated: true,
36         user: action.user
37       };
38     case LOGIN_FAILURE:
39       return {
40         ...state,
41         isLoggingIn: false,
42         isAuthenticated: false,
43         loginError: true
44       };
45     case LOGOUT_REQUEST:
46       return {
47         ...state,
48         isLoggingOut: true,
49         logoutError: false
50       };
51     case LOGOUT_SUCCESS:
52       return {
53         ...state,
54         isLoggingOut: false,
55         isAuthenticated: false,
56         user: {}
57       };
58     case LOGOUT_FAILURE:
59       return {
60         ...state,
61         isLoggingOut: false,
62         logoutError: true
63       };
64     case VERIFY_REQUEST:
65       return {
66         ...state,
67         isVerifying: true,
68         verifyingError: false
69       };
70     case VERIFY_SUCCESS:
71       return {
72         ...state,
73         isVerifying: false
74       };
75     default:
76       return state;
77   }
78 };
79
```

2. Edit reducers/index.js

```
src > reducers > JS index.js > [🔍] default
1  import { combineReducers } from "redux";
2  import auth from "../auth";
3  export default combineReducers({ auth });
4
```

3. Setting Redux plumbing

4. Pilih src folder called configureStore.js dan edit

```
JS auth.js ...\actions JS auth.js ...\reducers JS index.js JS configureStore.js X
src > JS configureStore.js > ...
1  import { applyMiddleware, createStore } from "redux";
2  import thunkMiddleware from "redux-thunk";
3
4  import { verifyAuth } from "../actions/";
5  import rootReducer from "../reducers";
6
7  export default function configureStore(persistedState) {
8    const store = createStore(
9      rootReducer,
10     persistedState,
11     applyMiddleware(thunkMiddleware)
12   );
13   store.dispatch(verifyAuth());
14   return store;
15 }
16
```

5. Pilih dan edit folder src dan root.js

```
JS configureStore.js JS root.js X
src > JS root.js > ...
1  import React from "react";
2  import { Provider } from "react-redux";
3  import { BrowserRouter as Router } from "react-router-dom";
4  import App from "../App";
5  import configureStore from "../configureStore";
6  const store = configureStore();
7  function Root() {
8    return (
9      <Provider store={store}>
10        <Router>
11          <App />
12        </Router>
13      </Provider>
14    ); } export default Root;
15
```

6. Pilih dan edit folder src/index.js

```
src > JS index.js
1  import React from "react";
2  import ReactDOM from "react-dom";
3  import Root from "../Root";
4  import * as serviceWorker from "../serviceWorker";
5
6  ReactDOM.render(<Root />, document.getElementById("root"));
7
8  // If you want your app to work offline and load faster, you can change
9  // unregister() to register() below. Note this comes with some pitfalls.
10 // Learn more about service workers: https://bit.ly/CRA-PWA
11 serviceWorker.unregister();
12
```

7. Buat lah coding App.js

```
src > JS App.js > default
1  import React from "react";
2  import { Route, Switch } from "react-router-dom";
3  import { connect } from "react-redux";
4  import ProtectedRoute from "../components/ProtectedRoute";
5  import Home from "../components/Home";
6  import Login from "../components/Login";
7  function App(props) {
8    const { isAuthenticated, isVerifying } = props;
9    return (
10      <Switch>
11        <ProtectedRoute
12          exact
13          path="/"
14          component={Home}
15          isAuthenticated={isAuthenticated}
16          isVerifying={isVerifying}
17        />
18        <Route path="/login" component={Login} />
19      </Switch>
20    );
21  }
22  function mapStateToProps(state) {
23    return {
24      isAuthenticated: state.auth.isAuthenticated,
25      isVerifying: state.auth.isVerifying
26    };
27  }
28  export default connect([mapStateToProps])(App);
29
```

8. Buatlah file dan simpan components/Login.js

```
src > components > JS Login.js > ...
1  import React, { Component } from "react";
2  import { connect } from "react-redux";
3  import { Redirect } from "react-router-dom";
4  import { loginUser } from "../actions";
5  import { withStyles } from "@material-ui/styles";
6
7  import Avatar from "@material-ui/core/Avatar";
8  import Button from "@material-ui/core/Button";
9  import TextField from "@material-ui/core/TextField";
10 import LockOutlinedIcon from "@material-ui/icons/LockOutlined";
11 import Typography from "@material-ui/core/Typography";
12 import Paper from "@material-ui/core/Paper";
13 import Container from "@material-ui/core/Container";
14
15 const styles = () => ({
16   "@global": {
17     body: {
18       backgroundColor: "#fff"
19     }
20   },
21   paper: {
22     marginTop: 100,
23     display: "flex",
24     padding: 20,
25     flexDirection: "column",
26     alignItems: "center"
27   },
28   avatar: {
29     marginLeft: "auto",
30     marginRight: "auto",
31     backgroundColor: "#f50057"
32   },
33   form: {
34     marginTop: 1
35   },
36   errorText: {
37     color: "#f50057",
38     marginBottom: 5,
39     textAlign: "center"
40   }
41 });
42
```

rc > components > JS Login.js > ...

```
43 class Login extends Component {
44   state = { email: "", password: "" };
45
46   handleEmailChange = ({ target }) => {
47     this.setState({ email: target.value });
48   };
49
50   handlePasswordChange = ({ target }) => {
51     this.setState({ password: target.value });
52   };
53
54   handleSubmit = () => {
55     const { dispatch } = this.props;
56     const { email, password } = this.state;
57
58     dispatch(loginUser(email, password));
59   };
60
61   render() {
62     const { classes, loginError, isAuthenticated } = this.props;
63     if (isAuthenticated) {
64       return <Redirect to="/" />;
65     } else {
66       return (
67         <Container component="main" maxWidth="xs">
68           <Paper className={classes.paper}>
69             <Avatar className={classes.avatar}>
70               <LockOutlinedIcon />
71             </Avatar>
72             <Typography component="h1" variant="h5">
73               Sign in
74             </Typography>
75             <TextField
76               variant="outlined"
77               margin="normal"
78               fullWidth
79               id="email"
80               label="Email Address"
81               name="email"
82               onChange={this.handleEmailChange}
83             />
84             <TextField
85               variant="outlined"
86               margin="normal"
```


9. Buka component/Home.js

```
src > components > JS Home.js > ...
1  import React, { Component } from "react";
2  import { connect } from "react-redux";
3  import { logoutUser } from "../actions";class Home extends Component {
4    handleLogout = () => {
5      const { dispatch } = this.props;
6      dispatch(logoutUser());
7    };
8    render() {
9      const { isLoggingOut, logoutError } = this.props;    return (
10        <div>
11          <h1>This is your app's protected area.</h1>
12          <p>Any routes here will also be protected</p>
13          <button onClick={this.handleLogout}>Logout</button>
14          {isLoggingOut && <p>Logging Out....</p>}
15          {logoutError && <p>Error logging out</p>}
16        </div>
17      );
18    }
19  }function mapStateToProps(state) {
20    return {
21      isLoggingOut: state.auth.isLoggingOut,
22      logoutError: state.auth.logoutError
23    };
24  }export default connect(mapStateToProps)(Home);
25
```

10. Buatlah file dalam folder src/component/ dengan nama protectedRoute.js

```
src > components > JS protectedRoute.js > ...
1  import React from "react";
2  import { Route, Redirect } from "react-router-dom";
3  const ProtectedRoute = ({
4    component: Component,
5    isAuthenticated,
6    isVerifying,
7    ...rest
8  }) => (
9    <Route
10     {...rest}
11     render={props =>
12       isVerifying ? (
13         <div />
14       ) : isAuthenticated ? (
15         <Component {...props} />
16       ) : (
17         <Redirect
18           to={{
19             pathname: "/login",
20             state: { from: props.location }
21           }}
22         />
23       )
24     />
25   );
26   export default ProtectedRoute;
27
28
```

11. Running start