LAPORAN PRAKTIKUM

PEMROGRAMAN BERBASIS FRAMEWORK

Pertemuan Minggu-10

Modul 10 – Firebase ReactJS

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PROGRAM STUDI TEKNIK INFORMATIKA

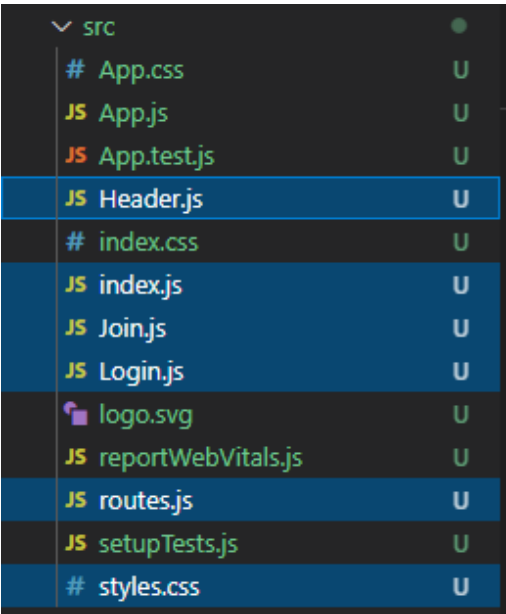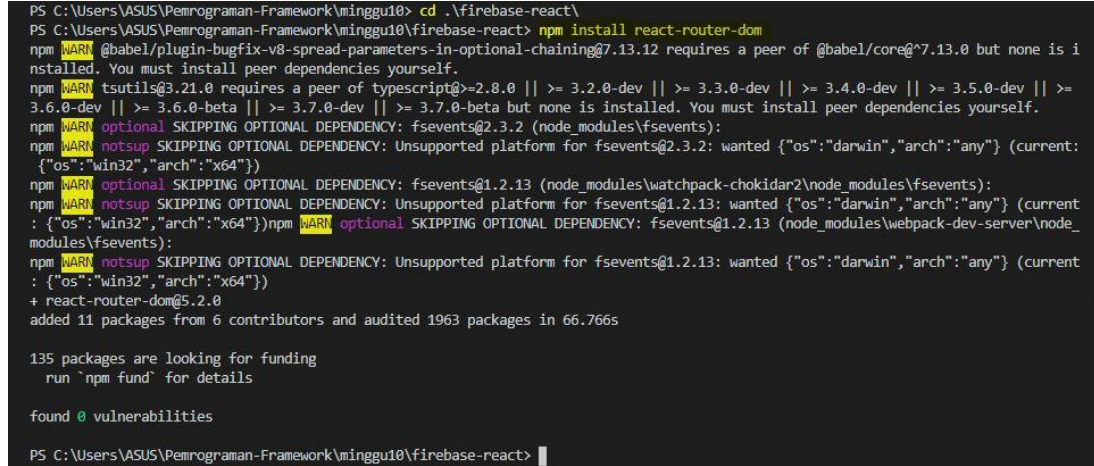JURUSAN TEKNOLOGI INFORMASI

POLITEKNIK NEGERI MALANG

2021

Praktikum

Dalam praktikum ini kita membutuhkan firebase sebagai backend dan reactjs sebagai frontend, oleh karena itu pertama kita lakukan set up pada firebase.

1.1 Langkah Praktikum

Langkah	Keterangan
1	Buatlah project react pada directory yang baru

2	Setelah itu pada folder src buatlah file dengan nama *index.js ; Login.js ; Join.js ; Header.js ; routes.js ; styles.css* (file lain yang ada di folder src bisa dihapus saja).
3	Karena pada praktikum ini kita menggunakan react router dom, maka lakukan *npm install react-router-dom* dahulu.
4	Jika sudah, isilah code seperti dibawah ini sesuai dengan nama file masing-masing. **index.js**

```
firebase-react > src > JS index.js > ⦿ App
    1    import React, { useState } from "react";
    2    import ReactDOM from "react-dom";
    3    import { Switch, BrowserRouter as Router, Route } from "react-router-dom";
    4    import routes from "./routes.js";
    5    import Header from "./Header.js";
    6    import "./styles.css";
    7
    8    export const AuthContext = React.createContext(null);
    9
   10    function App() {
   11      const [isLoggedIn, setLoggedIn] = useState(false);
   12
   13      return (
   14        <AuthContext.Provider value={{ isLoggedIn, setLoggedIn }}>
   15          Is logged in? {JSON.stringify(isLoggedIn)}
   16          <div className="App">
   17            <Router>
   18              <Header />
   19
   20              <Switch>
   21                {routes.map((route) => (
   22                  <Route
   23                    key={route.path}
   24                    path={route.path}
   25                    exact={route.exact}
   26                    component={route.main}
   27                  />
   28                ))}
   29              </Switch>
   30            </Router>
   31          </div>
   32        </AuthContext.Provider>
   33      );
   34    }
   35
   36    const rootElement = document.getElementById("root");
   37    ReactDOM.render(<App />, rootElement);
   38
```

Login.js

```
firebase-react > src > JS Login.js > [∅] Login
    1    import React, { useState, useContext } from "react";
    2    import { AuthContext } from "./index";
    3
    4    const Login = () => {
    5      const [email, setEmail] = useState("");
    6      const [password, setPassword] = useState("");
    7      const [error, setErrors] = useState("");
    8
    9      const Auth = useContext(AuthContext);
   10      const handleForm = (e) => {
   11        e.preventDefault();
   12        console.log(Auth);
   13        Auth.setLoggedIn(true);
   14      };
   15
   16      return (
   17        <div>
   18          <h1>Login</h1>
   19          <form onSubmit={(e) => handleForm(e)}>
   20            <input
```

```
21                        value={email}
22                        onChange={(e) => setEmail(e.target.value)}
23                        name="email"
24                        type="email"
25                        placeholder="email"
26                    />
27                    <input
28                        onChange={(e) => setPassword(e.target.value)}
29                        name="password"
30                        value={password}
31                        type="password"
32                        placeholder="password"
33                    />
34                    <hr />
35                    <button class="googleBtn" type="button">
36                        <img
37                            src="https://upload.wikimedia.org/wikipedia/commons/5/53/Google_%22G%22_Logo.svg"
38                            alt="logo"
39                        />
40            Login With Google
41        </button>
42                    <button type="submit">Login</button>
43                    <span>{error}</span>
44                </form>
45            </div>
46        );
47    };
48
49    export default Login;
```

Join.js

firebase-react > src > JS Join.js > [∅] Join

```
1    import React, { useState, useContext } from "react";
2    import { AuthContext } from "./index";
3
4    const Join = () => {
5        const [email, setEmail] = useState("");
6        const [password, setPassword] = useState("");
7        const [error, setErrors] = useState("");
8
9        const Auth = useContext(AuthContext);
10       const handleForm = (e) => {
11           e.preventDefault();
12           console.log(Auth);
13           Auth.setLoggedIn(true);
14       };
15
16       return (
17           <div>
18               <h1>Join</h1>
19               <form onSubmit={(e) => handleForm(e)}>
20                   <input
21                       value={email}
22                       onChange={(e) => setEmail(e.target.value)}
23                       name="email"
24                       type="email"
25                       placeholder="email"
26                   />
27                   <input
28                       onChange={(e) => setPassword(e.target.value)}
29                       name="password"
30                       value={password}
31                       type="password"
32                       placeholder="password"
33                   />
34                   <hr />
35                   <button class="googleBtn" type="button">
36                       <img
37                           src="https://upload.wikimedia.org/wikipedia/commons/5/53/Google_%22G%22_Logo.svg"
38                           alt="logo"
39                       />
40           Join With Google
```
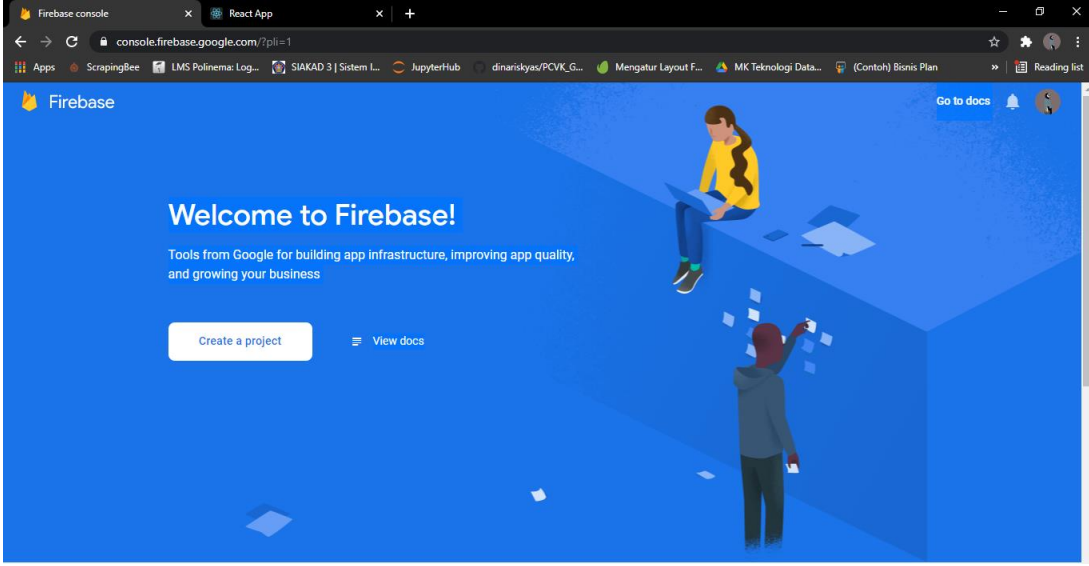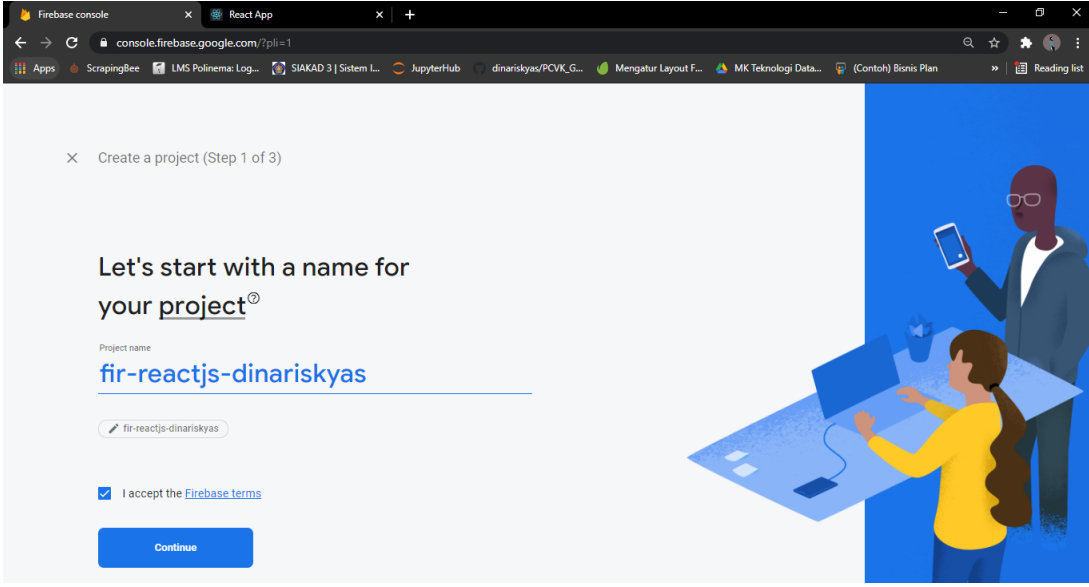
```
41              </button>
42                  <button type="submit">Join</button>
43                  <span>{error}</span>
44              </form>
45          </div>
46      );
47   };
48
49   export default Join;
```

Header.js

```
firebase-react > src > JS Header.js > [∅] Header
1    import React from "react";
2    import routes from "./routes";
3    import { Link } from "react-router-dom";
4
5    const Header = () => (
6        <ul className="nav">
7            {routes.map((route, i) => (
8                <li key={{i}>
9                    <Link to={route.path}>{route.name}</Link>
10               </li>
11           ))}
12       </ul>
13   );
14
15   export default Header;
```

routes.js

```
firebase-react > src > JS routes.js > [∅] default
1    import React from "react";
2    import Login from "./Login";
3    import Join from "./Join";
4
5    const routes = [
6      { name: "Join", path: "/", exact: true, main: () => <Join /> },
7      { name: "Login", path: "/login", exact: true, main: () => <Login /> },
8    ];
9
10   export default routes;
```

styles.css

```css
 1   .App {
 2     font-family: sans-serif;
 3     padding: 50px;
 4   }
 5
 6   h1 {
 7     margin: 0 0 25px 0;
 8     text-align: left;
 9   }
10
11   form {
12     display: flex;
13     flex-direction: column;
14   }
15
16   input {
17     max-width: 450px;
18     width: auto;
19     border: none;
20     margin: 0 0 25px 0;
21     box-shadow: 0 1px 3px rgba(0, 0, 0, 0.12), 0 1px 2px rgba(0, 0, 0, 0.24);
22     transition: all 0.3s cubic-bezier(0.25, 0.8, 0.25, 1);
23     padding: 10px;
24   }
25
26   button {
27     width: 125px;
28     box-shadow: 0 1px 3px rgba(0, 0, 0, 0.12) 0 1px 2 px rgba(0, 0, 0, 0.24);
29     border: none;
30     padding: 7px;
31     text-align: center;
32     cursor: pointer;
33   }
34
35   button[type="submit"] {
36     background-color: #4c566a;
37     color: white;
38     font-size: 14px;
39     font-weight: 900;
40     border-radius: 5px;
41     text-transform: uppercase;
42     padding: 15px;
43   }
44
45   .googleBtn {
46     width: 225px;
47     margin: 0 0 50px 0;
48     display: flex;
49     justify-content: center;
50     font-size: 16px;
51   }
52
53   .googleBtn img {
54     width: 16px;
55     height: 16px;
56     padding: 0;
57     margin: 0 5px;
58     vertical-align: middle;
59   }
60
61   .nav {
62     display: flex;
63     text-decoration: none;
64     list-style-type: none;
65     justify-content: flex-start;
66     margin: 0 0 50px;
67     padding: 0;
68   }
69
70   .nav li {
71     margin: 0 10px;
72   }
```

5	Kemudian buka https://console.firebase.google.com/
	Setelah itu buat project baru dengan nama project yang kalian inginkan.
6	Pada cmd lakukan perintah *npm install --save firebase* di directory project react untuk menambahkan dependency firebase kedalam react kita.

```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\ASUS\Pemrograman-Framework\minggu10\firebase-react> npm install --save firebase

> core-js@3.6.5 postinstall C:\Users\ASUS\Pemrograman-Framework\minggu10\firebase-react\node_modules\@firebase\polyfill\node_modules\core-js
> node -e "try{require('./postinstall')}catch(e){}"

Thank you for using core-js ( https://github.com/zloirock/core-js ) for polyfilling JavaScript standard library!

The project needs your help! Please consider supporting of core-js on Open Collective or Patreon:
> https://opencollective.com/core-js
> https://www.patreon.com/zloirock

Also, the author of core-js ( https://github.com/zloirock ) is looking for a good job -)


> protobufjs@6.10.2 postinstall C:\Users\ASUS\Pemrograman-Framework\minggu10\firebase-react\node_modules\protobufjs
> node scripts/postinstall

npm WARN @babel/plugin-bugfix-v8-spread-parameters-in-optional-chaining@7.13.12 requires a peer of @babel/core@^7.13.0 but none is installed.
ll peer dependencies yourself.
npm WARN tsutils@3.21.0 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
ta || >= 3.7.0-dev || >= 3.7.0-beta but none is installed. You must install peer dependencies yourself.
npm WARN @firebase/auth-types@0.10.2 requires a peer of @firebase/util@0.x but none is installed. You must install peer dependencies yourself.
npm WARN @firebase/auth-interop-types@0.1.5 requires a peer of @firebase/util@0.x but none is installed. You must install peer dependencies yo
npm WARN optional SKIPPING OPTIONAL DEPENDENCY: fsevents@1.2.13 (node_modules\webpack-dev-server\node_modules\fsevents):
npm WARN notsup SKIPPING OPTIONAL DEPENDENCY: Unsupported platform for fsevents@1.2.13: wanted {"os":"darwin","arch":"any"} (current: {"os":"w
x64"})
npm WARN optional SKIPPING OPTIONAL DEPENDENCY: fsevents@1.2.13 (node_modules\watchpack-chokidar2\node_modules\fsevents):
npm WARN notsup SKIPPING OPTIONAL DEPENDENCY: Unsupported platform for fsevents@1.2.13: wanted {"os":"darwin","arch":"any"} (current: {"os":"w
x64"})
npm WARN optional SKIPPING OPTIONAL DEPENDENCY: fsevents@2.3.2 (node_modules\fsevents):
npm WARN notsup SKIPPING OPTIONAL DEPENDENCY: Unsupported platform for fsevents@2.3.2: wanted {"os":"darwin","arch":"any"} (current: {"os":"wi
n32","arch":"x64"})

+ firebase@8.4.1
added 83 packages from 69 contributors and audited 2046 packages in 299.436s

136 packages are looking for funding
  run `npm fund` for details

found 0 vulnerabilities

PS C:\Users\ASUS\Pemrograman-Framework\minggu10\firebase-react> []
```
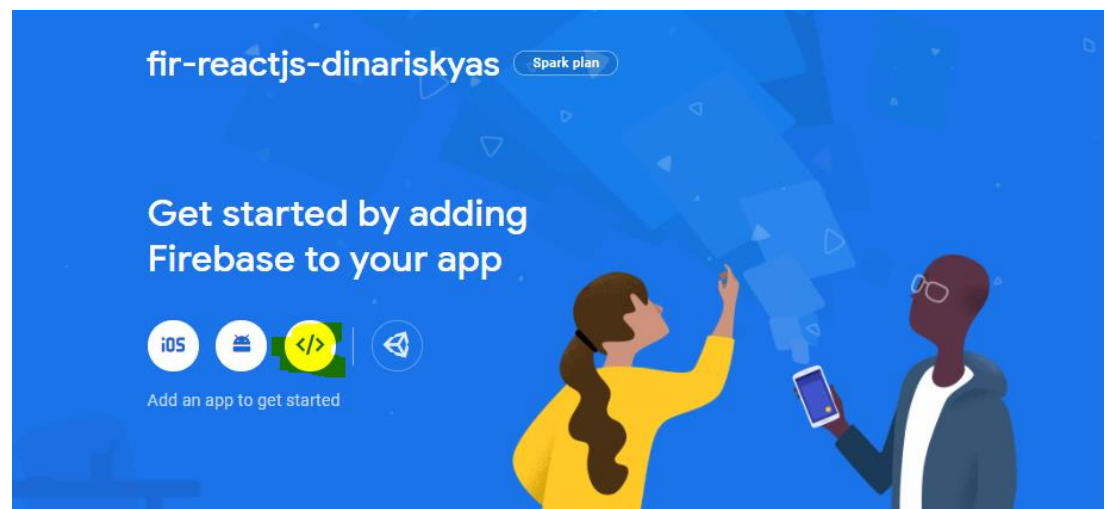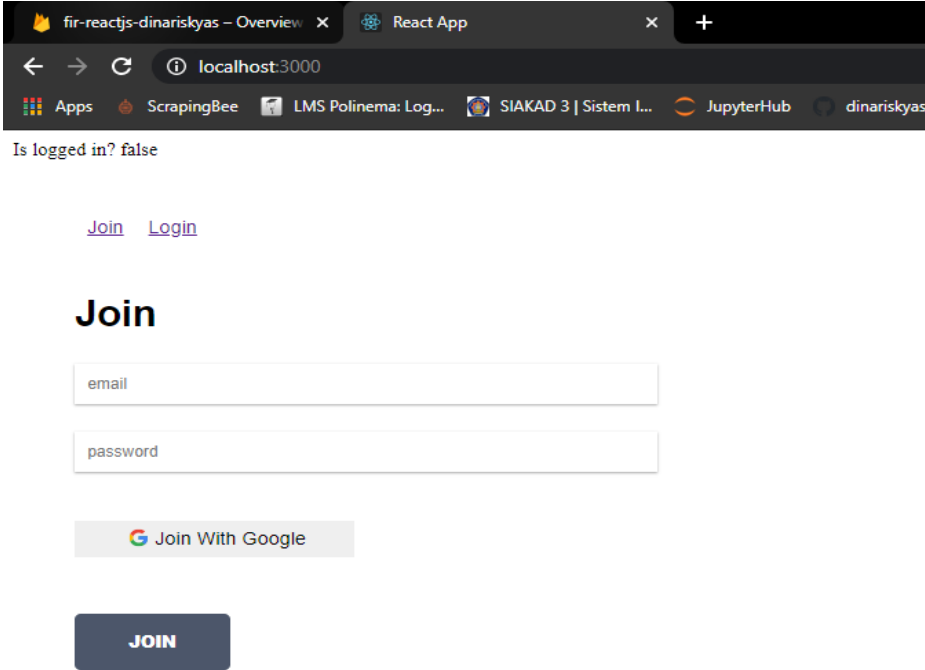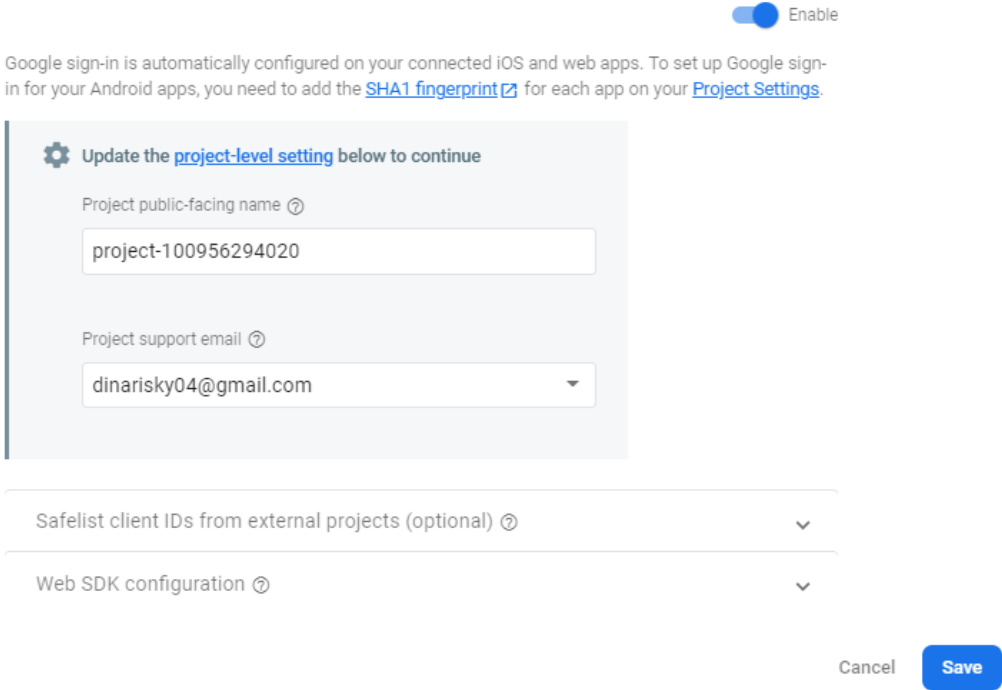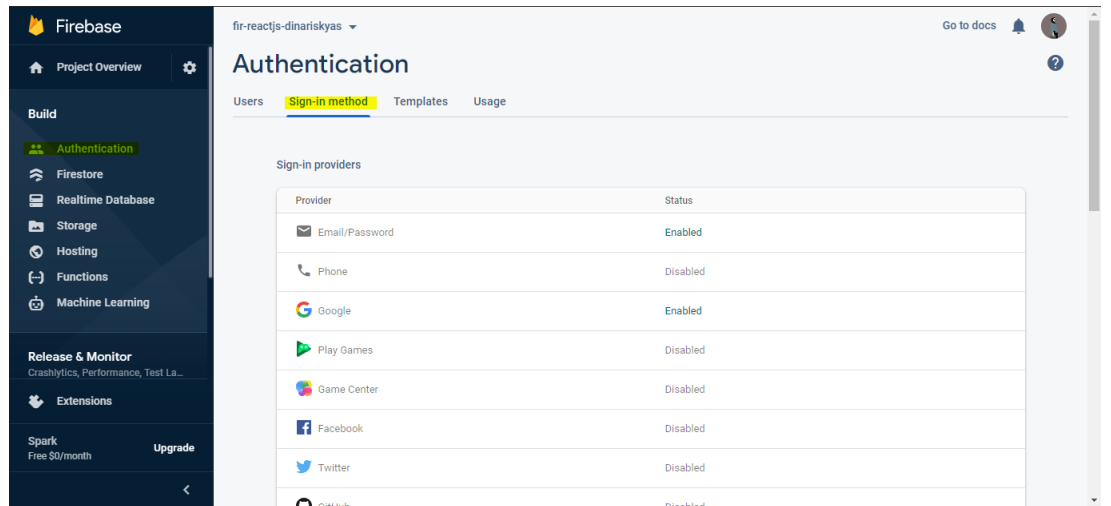
| 7 | Setelah itu lakukan setting pada project firebase yang kalian buat tadi agar react kalian dapat terhubung dengan firebase. Pada setting get started pilih yang untuk web. |

8	Lalu setelah itu anda akan mendapatkan script konfigurasi yang akan menjadi penghubung dengan project react anda. Salin script tersebut lalu tempel pada file baru di dalam folder **src** yang kita beri nama ***firebase.config.js*** (gambar dibawah adalah contoh, sesuaikan script yang anda dapat dari firebase).

	firebase.config.js
	
	``js
	firebase-react > src > JS firebase.config.js > ...
	1 var firebaseConfig = {
	2 apiKey: "AIzaSyAxN01YcknMBOanPRria_XO0yyo9fOFp84",
	3 authDomain: "fir-reactjs-dinariskyas.firebaseapp.com",
	4 projectId: "fir-reactjs-dinariskyas",
	5 storageBucket: "fir-reactjs-dinariskyas.appspot.com",
	6 messagingSenderId: "100956294020",
	7 appId: "1:100956294020:web:19ae121ed6d9a8545debd1",
	8 measurementId: "G-CGFHGE3649"
	9 };
	10
	11 export default firebaseConfig;
	12
	``

9	Lalu lakukan inisialisasi firebase config dengan menambahkan code pada index.js seperti dibawah ini.
	
	``js
	firebase-react > src > JS index.js > ...
	1 import React, { useState } from "react";
	2 import ReactDOM from "react-dom";
	3 import { Switch, BrowserRouter as Router, Route } from "react-router-dom";
	4 import routes from "./routes.js";
	5 import Header from "./Header.js";
	6 import "./styles.css";
	7 import firebase from "firebase";
	8 import firebaseConfig from "./firebase.config";
	9
	10 firebase.initializeApp(firebaseConfig);
	11
	12 export const AuthContext = React.createContext(null);
	``

10	Jika sudah berhasil maka coba jalankan, jika tidak terdapat error maka project anda telah terhubung dengan firebase.

11	Selanjutnya aktifkan terlebih dahulu authentication email dan google pada firebase console.

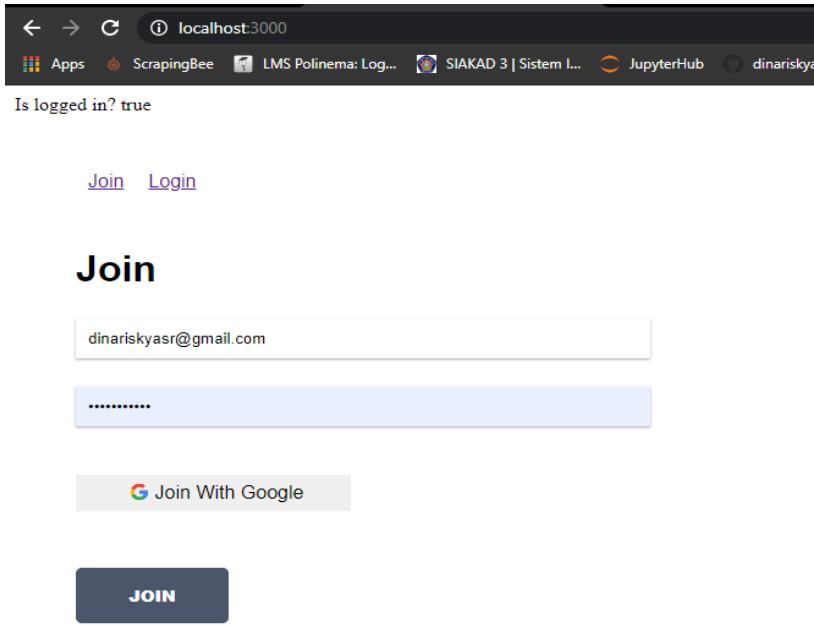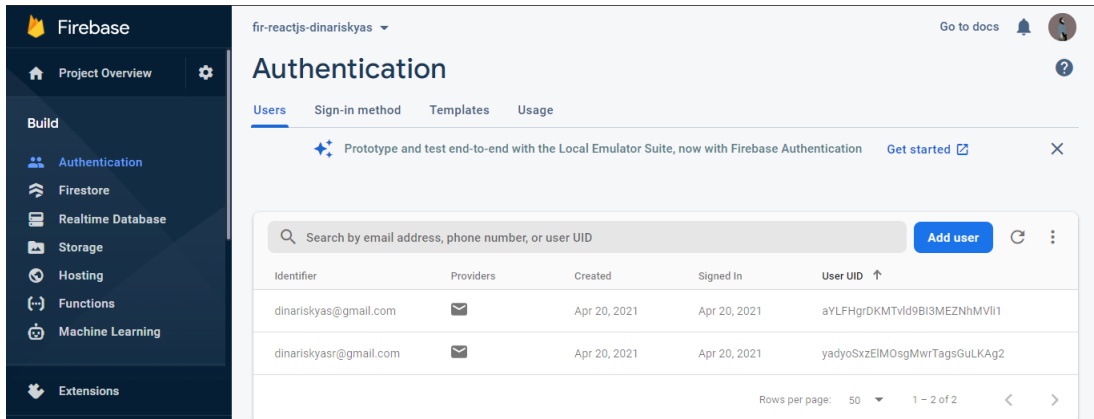|	
12	Jika sudah, lakukan edit code pada *Join.js* untuk membuat email dan password untuk user. Pertama import dahulu objek firebase agar bisa digunakan pada *Join.js* dengan code berikut.
	Kemudian cari method auth dan lakukan edit code seperti dibawah ini.

13	Silahkan coba pada aplikasi dengan klik join, lalu isikan email dan password.
	Coba cek pada firebase maka user telah terbuat seperti dibawah ini.
14	Langkah selanjutnya adalah bagaimana caranya agar kita dapat sign in/login dengan akun yang telah dibuat, yaitu dengan cara melakukan edit code pada *Login.js*. Pertama import dahulu objek firebase agar bisa digunakan pada *Login.js* dengan code berikut.

```
firebase-react > src > JS Login.js > ...
  1    import React, { useState, useContext } from "react";
  2    import { AuthContext } from "./index";
  3    import firebase from "firebase";
  4
```

Kemudian cari method auth dan lakukan edit code seperti dibawah ini.

```
  9
 10        const Auth = useContext(AuthContext);
 11        const handleForm = (e) => {
 12            e.preventDefault();
 13            firebase
 14                .auth()
 15                .signInWithEmailAndPassword(email, password)
 16                .then((res) => {
 17                    if (res.user) Auth.setLoggedIn(true);
 18                })
 19                .catch((e) => {
 20                    setErrors(e.message);
 21                });
 22            // console.log(Auth);
 23            // Auth.setLoggedIn(true);
 24        };
```

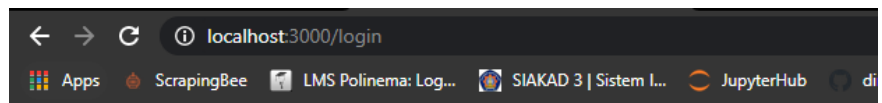|	
15	Silahkan coba pada aplikasi dengan cara klik login kemudian masukkan email dan password yang telah didaftarkan, kemudian perhatikan keterangan login pada pojok kiri atas dengan perubahan kondisi dari *false* menjadi *true* yang menandakan anda telah berhasil login.
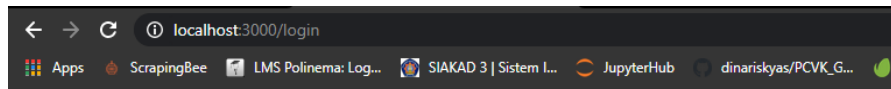
Menjadi

1.2 Soal Langkah Praktikum
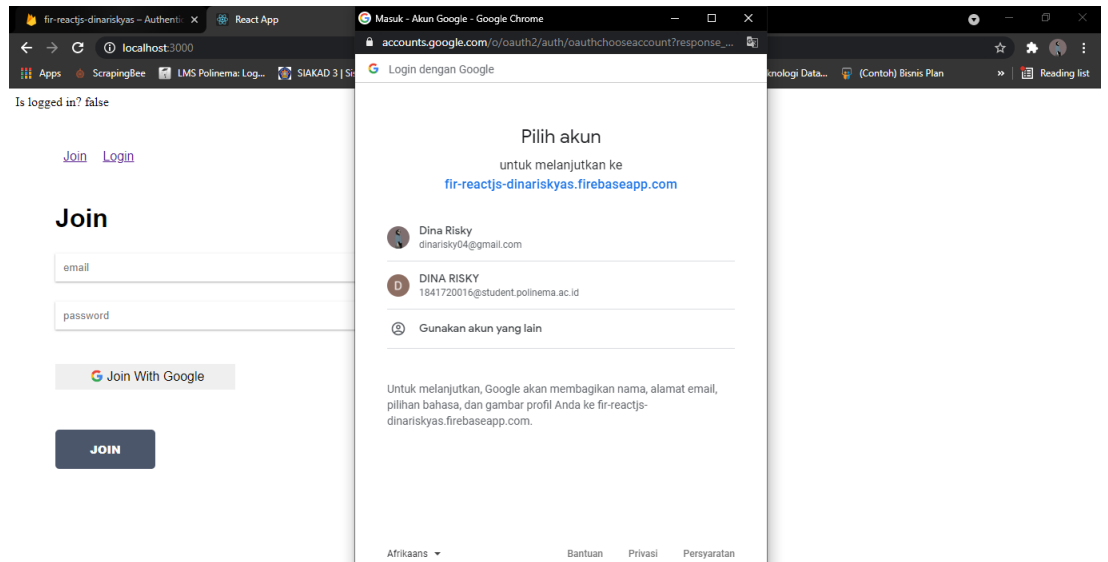
Pada button join with google belum terdapat aksi, silahkan tambahkan function agar dapat mendaftar dengan cara klik button tersebut lalu memilih akun gmail yang akan dipakai.

| Langkah	Keterangan

1	Buka file Login.js kemudian tambahkan beberapa kode seperti gambar berikut:
	
	`firebase-react > src > JS Join.js > [∅] Join > [∅] signInWithGoogle`
	
	```\n21 });\n22 // console.log(Auth);\n23 // Auth.setLoggedIn(true);\n24 };\n25\n26 const auth = firebase.auth();\n27 const googleProvider = new firebase.auth.GoogleAuthProvider()\n28 const signInWithGoogle = () => {\n29 auth.signInWithPopup(googleProvider).then((res) => {\n30 console.log(res.user)\n31 if (res.user) Auth.setLoggedIn(true);\n32 }).catch(e => {\n33 setErrors(e.message);\n34 });\n35 }\n36\n```

	Dan tambahkan juga pada tag button untuk melakukan aksi onClick Login With Google
	
	`firebase-react > src > JS Join.js > [∅] Join`
	
	```\n49 onChange={(e) => setPassword(e.target.value)}\n50 name="password"\n51 value={password}\n52 type="password"\n53 placeholder="password"\n54 />\n55 <hr />\n56 <button class="googleBtn" type="button" onClick={signInWithGoogle}>\n57 <img\n58 src="https://upload.wikimedia.org/wikipedia/commons/5/53/Google_%2\n59 alt="logo"\n60 />\n61 Join With Google\n```

2	Hasil

Ketika dipilih salah satu akun gmail maka yang sebelumnya false akan menjadi true pada is logged in.
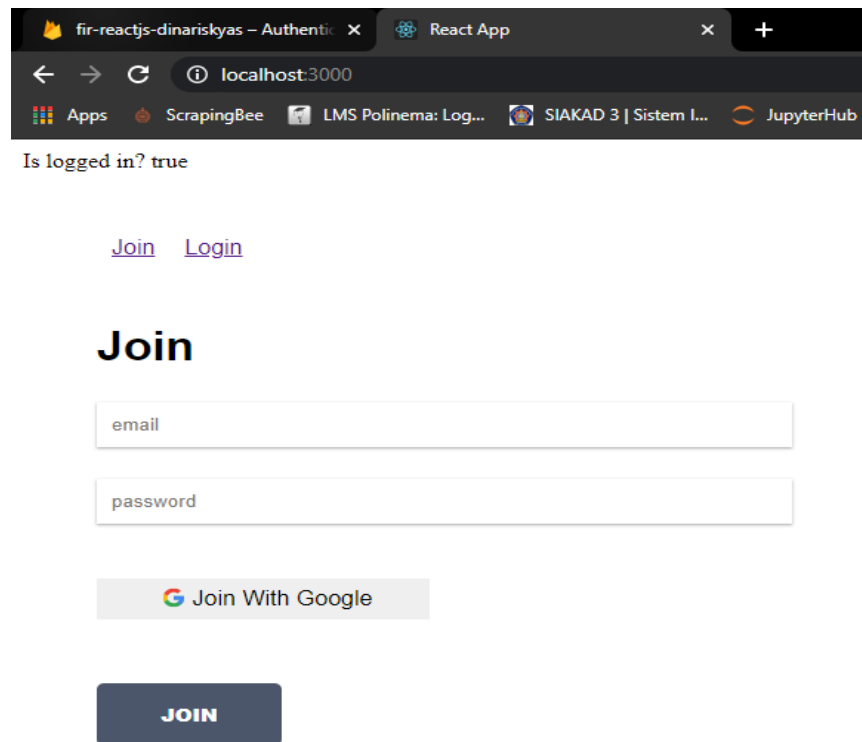
Maka pada fitur Authentication Users pada console.firebase.google.com akan tersimpan akun gmail yang telah dipilih pada saat memilih akun gmail yang akan

dipakai pada gambar sebelumnya.

Link Github:

https://github.com/dinariskyas/PemrogramanFramework2021/tree/master/minggu10
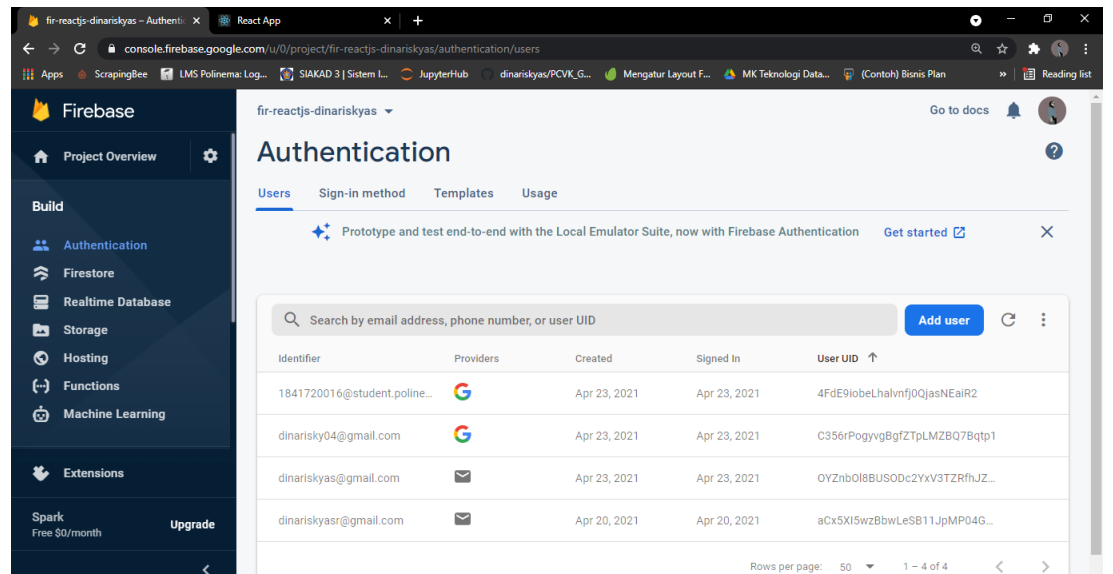
Link Youtube :

https://youtu.be/RFpd-SF_N1w