

# Fullstack Development

# **Authentication / Authorization**

# Part 4: SPA

# Setup

- `git clone https://github.com/fullstack-68/auth-spa.git`
- Backend
  - `cd backend`
  - Fill in `.env`
  - `pnpm install`
  - `pnpm run db:reset`
  - `pnpm run dev`

# Setup

- Frontend
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  - `pnpm install`
  - `pnpm run dev`

# Backend

- Routes now return json / redirect header instead of html.
- Created `GET /me` route for clients to check their `auth` states.
- Apart from that, there is very minimal change, surprisingly.

File Edit Selection View Go Run Terminal Helpauth-spa

index.mpa.ts ↔ index.ts X

backend > src > index.ts > ...

22 hidden lines

23 app.use(passportIns.session());

24

25 // \* Endpoints

26 app.get("/", async (req, res, next) => {

27 const sessions = await formatSession(req);

28 res.render("pages/index", {

29 title: "Home",

30 user: req.user,

31 sessions: sessions,

32 });

33 });

34

35 app.get("/signup", function (req, res) {

34 hidden lines

70 app.post("/login", passportIns.authenticate("local"), function (req, res) {

71 debug("@login handler");

72 setSessionInfoAfterLogin(req, "CREDENTIAL");

73 res.setHeader("HX-Redirect", "/");

74 res.send("<div></div>");

75 });

76

77 app.get("/login/oauth/github", passportIns.authenticate("github"));

20 hidden lines | app.get("/callback/google") callback

98 }

99 );

100

101 app.post("/logout", function (req, res, next) {

102 // req.logout will not delete the session in db. It will generate new one for the

103 // When the user login again, it will generate new session with the user id.

104 req.logout(function (err) {

5 hidden lines | req.session.destroy() callback

110 if (err) {

111 return next(err);

112 }

113 res.setHeader("HX-Redirect", "/");

114 res.send("<div></div>");

115 }

116 });

117 });

22 hidden lines

23 app.use(passportIns.session());

24

25 // \* Endpoints

26+ app.get("/me", async (req, res, next) => {

27 const sessions = await formatSession(req);

28+ const user = req?.user ?? null;

29+ res.json({ sessions, user });

30 });

31

32 app.get("/signup", function (req, res) {

34 hidden lines

67 app.post("/login", passportIns.authenticate("local"), function (req, res) {

68 debug("@login handler");

69 setSessionInfoAfterLogin(req, "CREDENTIAL");

70+ res.status(200).json("Login Successful");

71 });

72

73 app.get("/login/oauth/github", passportIns.authenticate("github"));

20 hidden lines | app.get("/callback/google") callback

94 }

95 );

96

97+ app.get("/logout", function (req, res, next) {

98 // req.logout will not delete the session in db. It will generate new one for the alr

99 // When the user login again, it will generate new session with the user id.

100 req.logout(function (err) {

5 hidden lines | req.session.destroy() callback

106 if (err) {

107 return next(err);

108 }

109+ res.redirect("/");

110 }

111 });

112 });

# Frontend

- Created (client-side) routing.
- Created logic to query/update `auth`'s state.
- Modified proxy server to take care of `Callback URL` (bypass client-routing).
- Created signup form/login and other UI.



# Highlighted packages

```
{  
  "@tanstack/react-query": "^5.85.5",  
  "react-router": "^7.8.2"  
}
```

# Client-side routing

src/App.tsx

```
import { RouterProvider } from "react-router-dom";
import { createBrowserRouter } from "react-router";
const router = createBrowserRouter([
  {
    path: "/",
    element: <Layout />,
    children: [
      {
        path: "/",
        element: <Home />,
      },
    ],
  },
]);
```

# Client-side routing

src/App.tsx

```
function App() {  
  return (  
    // ...  
    <RouterProvider router={router} />  
    // ...  
  );  
}  
  
export default App;
```

# Getting auth state

src/hooks/useAuth.ts

```
import { useQuery } from "@tanstack/react-query";  
// ...  
function getMe() {  
  return axios.get<AuthData>("/api/me");  
}  
  
function useAuth() {  
  // Queries  
  const { data, error, refetch } = useQuery({  
    queryFn: getMe,  
    // Other options  
  });  
  return { user: data?.user, sessions: data?.sessions, error, refetch };  
}
```

# Getting auth state

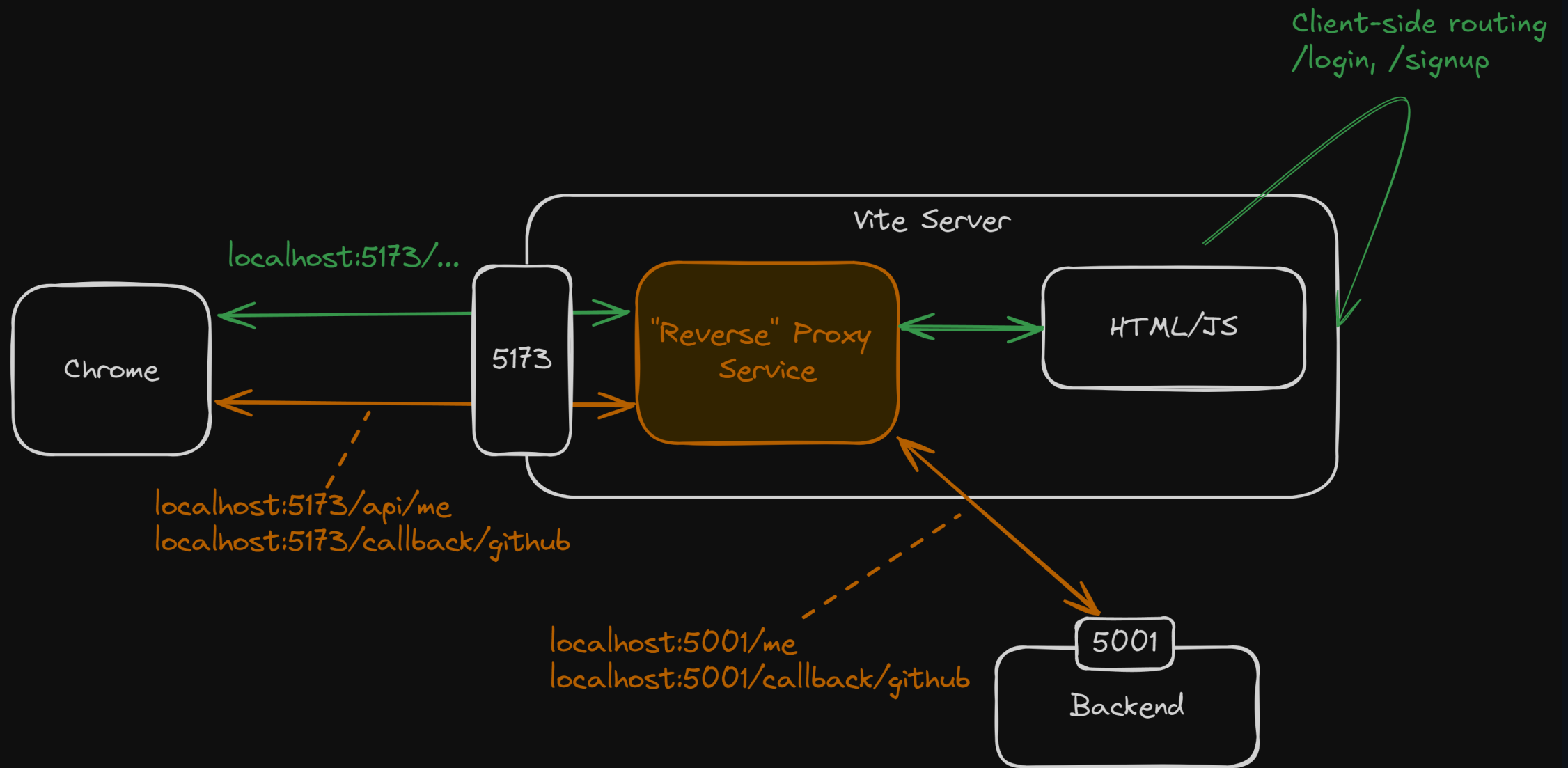
src/components/Nav.tsx

```
const Nav: FC = () => {  
  const { user } = useAuth(); ➡➡➡  
  // ...  
  return (  
    <nav>  
      // ...  
    </nav>  
  );  
};  
  
export default Nav;
```

# Handle Callback URL

vite.config.ts

```
export default defineConfig({
  plugins: [react()],
  server: {
    proxy: {
      "/api": {
        // ...
      },
      "/callback": { ➡➡➡
        target: "http://localhost:5002",
      },
    },
  },
});
```



## With proxy server

- The cookie will automatically sent to backend for all requests because it is the "same site".



## If you don't have proxy server.

- Cookies are still automatically sent given the same host but different port.
- Need to set `withCredentials` to `true` on any AJAX request (via `fetch` or `axios` APIs)
  - Note that `httpOnly` cookie are sent by this technique.
- Need to allow CORS in the backend.

# Better-Auth

Link

# Setup

- `git clone https://github.com/fullstack-68/auth-spa-better-auth.git`
- Backend
  - `cd backend`
  - Fill in `.env`
  - `pnpm install`
  - `pnpm run db:reset`
  - `pnpm run dev`

# Setup

- Frontend
  - `cd frontend`
  - `pnpm install`
  - `pnpm run dev`

# Note

- DB schema
- `npx @better-auth/cli@latest generate`

# New routes (backend)

```
16 // Better-Auth
17 app.all("/api/auth/*splat", toNodeHandler(auth)); // Add catch-all
18 app.use(express.json()); // Mount express json middleware after
19
20 // Running app
21 app.listen(PORT, async () => {
22   // ...
23 });
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
[nodemon] watching path(s): src\**\* db\**\* views\**\* public\**
[nodemon] watching extensions: js,ts,json
[nodemon] starting `tsx src/index.ts`
```

```
fs-auth:index Listening on port 5002: http://localhost:5002 +0m
POST /api/auth/sign-out 200 19.558 ms - -
GET /api/auth/get-session 200 4.931 ms - -
POST /api/auth/sign-in/email 200 170.991 ms - -
GET /api/auth/get-session 200 5.691 ms - -
POST /api/auth/sign-out 200 11.994 ms - -
GET /api/auth/get-session 200 1.368 ms - -
POST /api/auth/sign-in/social 200 22.641 ms - -
GET /api/auth/callback/github?code=133c5432bc10bd79999a&state=2owl
- -
GET /api/auth/get-session 200 4.126 ms - -
[nodemon] restarting due to changes...
[nodemon] starting `tsx src/index.ts`
```

# Frontend client

useAuth.ts

```
import { useQuery } from "@tanstack/react-query";
import { authClient } from "../lib/auth-client";
function getMe() {
  return authClient.getSession();
}
```

# Sign up

Signup.tsx

```
const res = await authClient.signUp.email({  
  email,  
  password,  
  name,  
  image: "logos/robot.png",  
});
```



# Login (email)

```
const res = await authClient.signIn.email({  
  email,  
  password,  
  rememberMe: true,  
});
```

# Login (Social)

```
const signInGithub = async () => {  
  const data = await authClient.signIn.social({  
    provider: "github",  
  });  
  console.log({ data });  
};
```

# More features

- Forget password
- Email confirmation
- OTP link
- Two factor