Deploying and Hosting a React App on an Apache Server

You can run React apps even on shared hosting!

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Photo by James Harrison on Unsplash

When I first started developing in React, I thought that — in order to host a React app — it was required that I had a VPS to install Node.js. Additionally, I had always associated Apache with PHP, believing that only PHP apps could be deployed on an Apache server. However, now I realize that neither of these statements is true. In fact, it's entirely possible to deploy and host a React app on an Apache webserver; it's even possible to do this on shared hosting. This article aims to outline this process for you so that you don't fall into the same misconceptions that I did!

Step 1. Creating a React App

First of all, you need a React app. If you already have one then you can skip this step.

To create a new React app, I am going to use **Create React App**.

> *Create React App is a comfortable environment for learning React, and is **the best way to start building a new single-page application in React**.* — React documentation

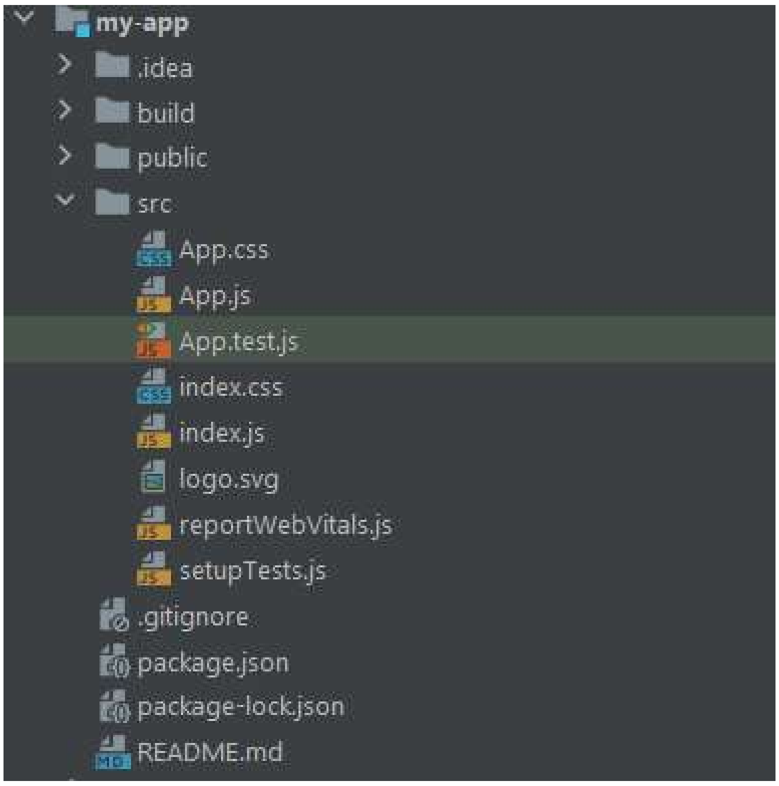
Install Create React App with the following command:

```
npm install -g create-react-app
```

Run this command to create a new React app called *my-app:*

```
npx create-react-app my-app
```

In the *my-app* folder you should now have the same files and folders displayed in the picture below:



```
my-app
  .idea
  build
  public
  src
    App.css
    App.js
    App.test.js
    index.css
    index.js
    logo.svg
    reportWebVitals.js
    setupTests.js
  .gitignore
  package.json
  package-lock.json
  README.md
```

You can now start coding and developing your React app!

The Top 3 React UI Libraries for Beginners

The pros and cons of my favorite React UI libraries

betterprogramming.pub

The goal of this article is not to show you how to develop and build a React app. Rather, I will use a simple example of a three-page app from the React Router official documentation.

```
import React from "react";
import {
  BrowserRouter,
  Switch,
  Route,
  Link
} from "react-router-dom";

export default function App() {
  return (
    <BrowserRouter>
      <div>
        <nav>
          <ul>
            <li>
              <Link to="/">Home</Link>
            </li>
            <li>
              <Link to="/about">About</Link>
            </li>
            <li>
              <Link to="/users">Users</Link>
            </li>
          </ul>
        </nav>

        {/* A <Switch> looks through its children <Route>s and
            renders the first one that matches the current URL. */}
        <Switch>
          <Route path="/about">
            <About />
          </Route>
```

```
            <Route path="/users">
              <Users />
            </Route>
            <Route path="/">
              <Home />
            </Route>
          </Switch>
        </div>
      </BrowserRouter>
    );
  }

  function Home() {
    return <h2>Home</h2>;
  }

  function About() {
    return <h2>About</h2>;
  }

  function Users() {
    return <h2>Users</h2>;
  }
```

App.js hosted with ❤ by GitHub view raw

Step 2. Configuring package.json

To allow Create React App to produce a running build, add the following property to your *package.json* file:

```
"homepage": "https://yourdomain.com"
```

As explained here, this will allow the Create React App to correctly infer which root path to use in the generated HTML file.

This is what my *package.json* file looks like:

```
{
  "name": "my-app",
  "homepage": "https://antonellozanini.com",
  "version": "0.1.0",
  "private": true,
  "dependencies": {
    "@testing-library/jest-dom": "^5.11.6"
    "@testing-library/react": "^11.2.2",
    "@testing-library/user-event": "^12.2.2",
    "react": "^17.0.1",
    "react-dom": "^17.0.1",
    "react-scripts": "4.0.0",
    "web-vitals": "^0.2.4",
    "react-router-dom": "^5.2.0"
  },
  "scripts": {
    "start": "react-scripts start",
    "build": "react-scripts build",
    "test": "react-scripts test",
    "eject": "react-scripts eject"
  },
  "eslintConfig": {
    "extends": [
      "react-app",
      "react-app/jest"
    ]
  },
  "browserslist": {
    "production": [
      ">0.2%",
      "not dead",
      "not op_mini all"
    ],
    "development": [
      "last 1 chrome version",
      "last 1 firefox version",
      "last 1 safari version"
    ]
  }
}
```

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Step 3. Building the React App

Use this command to build your React app:

```
npm run build
```

As soon as the build process ends, a *build* folder will be created, ready to be deployed onto your Apache webserver.

How To Correctly Build a Multi-Environment React App

Keep one dedicated build folder per environment

betterprogramming.pub

Please note: **if your React app involves frontend routing this is not enough** as you need a *.htaccess* file. Create a *.htaccess* file and place it inside the *public* folder. This way, it will be automatically replicated into the *build* folder at the end of the build process.

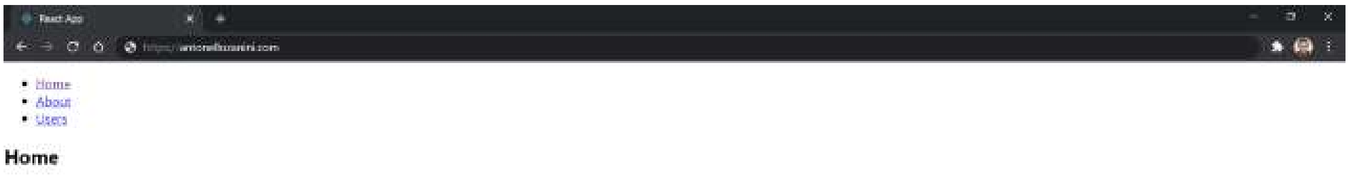
Place the following line in your .htaccess file:

```
FallbackResource ./index.html
```

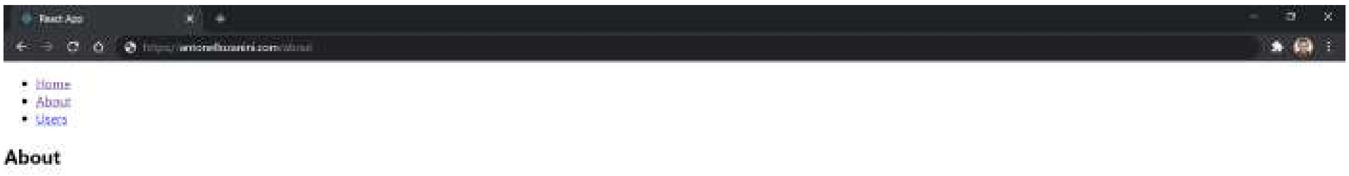
If users try to access a particular page directly without this configuration (for example `https://yourdomain.com/about`) a 404 error will be returned. This is because that URL does not map to anything in the filesystem of your server. FallbackResource ensures that *index.html* is loaded instead of allowing the frontend routing to be applied as expected.

Step 4. Deploying the React App

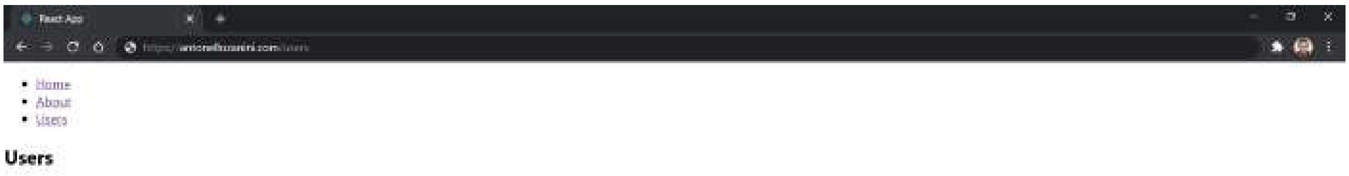
Now, you are ready to deploy your app! Upload each file from your build folder into your domain's Document Root folder. Any FTP client, like Filezilla, will do. Et voilà!



Home page [https:// `yourdomain` .com/]



About page [https:// `yourdomain.com` /about]



Users page [https:// `yourdomain` .com/users]

Bonus: Building for Relative Paths

If you want to **deploy your application to a subfolder** of your Document Root, you must follow these instructions. This also works for subdomains created using Virtual Hosts.

Configuring a Subdomain in Apache2

How to set up Apache Virtual Hosts on a Linux server

codeburst.io

First, update the `homepage` property of your *package.json* file accordingly. Let's assume you want to deploy your React app to the *test* subfolder, then your homepage property should be changed as follows:

```
"homepage": "https://yourdomain.com/test"
```

This is what my *package.json* file would look like:

```
{
  "name": "my-app",
  "homepage": "https://antonellozanini.com/test",
  "version": "0.1.0",
  "private": true,
  "dependencies": {
    "@testing-library/jest-dom": "^5.11.6",
    "@testing-library/react": "^11.2.2",
    "@testing-library/user-event": "^12.2.2",
    "react": "^17.0.1",
    "react-dom": "^17.0.1",
    "react-scripts": "4.0.0",
    "web-vitals": "^0.2.4",
    "react-router-dom": "^5.2.0"
  },
  "scripts": {
    "start": "react-scripts start",
    "build": "react-scripts build",
    "test": "react-scripts test",
    "eject": "react-scripts eject"
  },
  "eslintConfig": {
    "extends": [
      "react-app",
      "react-app/jest"
    ]
  },
  "browserslist": {
    "production": [
      ">0.2%",
      "not dead",
      "not op_mini all"
    ],
    "development": [
      "last 1 chrome version",
      "last 1 firefox version",
      "last 1 safari version"
    ]
  }
}
```

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Then, you need to pass `"/test"` to the `basename` prop in `<BrowserRouter>`. This way, **your app will be served from the specified subfolder.**

This is what my *App.js* would look like:

```
import React from "react";
import {
    BrowserRouter as Router,
    Switch,
    Route,
    Link
} from "react-router-dom";

export default function App() {
    return (
        <Router
            basename={"/test"}
        >
            <div>
                <nav>
                    <ul>
                        <li>
                            <Link to="/">Home</Link>
                        </li>
                        <li>
                        <Link to="/about">About</Link>
                    </li>
                    <li>
                        <Link to="/users">Users</Link>
                    </li>
                </ul>
            </nav>

            {/* A <Switch> looks through its children <Route>s and
        renders the first one that matches the current URL. */}
            <Switch>
                <Route path="/about">
                    <About />
                </Route>
                <Route path="/users">
                    <Users />
                </Route>
                <Route path="/">
                    <Home />
                </Route>
            </Switch>
        </div>
    </Router>
    );
}

function Home() {
    return <h2>Home</h2>;
}

function About() {
    return <h2>About</h2>;
}

function Users() {
    return <h2>Users</h2>;
}
```

App.js hosted with ❤ by GitHub view raw

Now, you can follow steps 3 and 4 (from earlier on in this tutorial) and everything will work as expected!

Conclusion

Node servers are not required to deploy and host React apps, as I have just shown. This can be achieved without any kind of degradation, and it will also help in maintaining frontend routing. The procedure is easy and can be replicated even on shared hosting (although this can be a bit tricky for relative paths).

Thanks for reading! I hope that you found this article helpful. Feel free to reach out to me for any questions, comments, or suggestions.

Thanks to Zack Shapiro.

React Tutorial JavaScript Apache Software Development