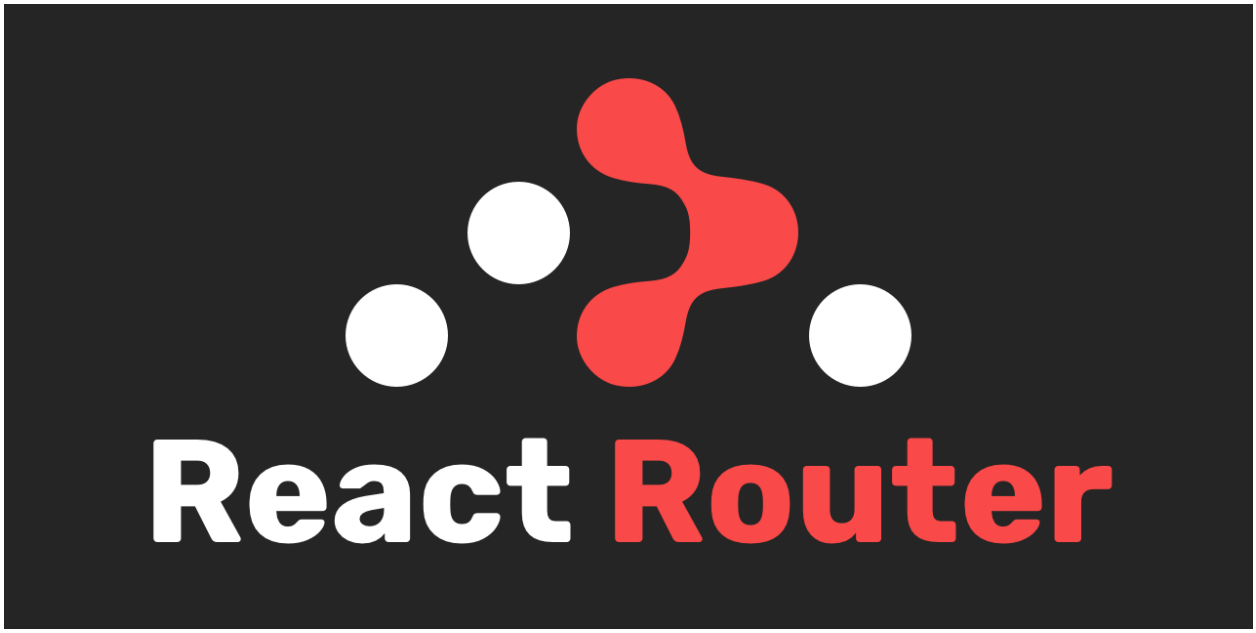
React Routing (react-router-dom)



What is routing and React router?

- Routing is a process in which a user is directed to different pages based on their action or request.
- ReactJS Router is mainly used for developing Single Page Web Applications, it is used to define multiple routes in the application.
- When a user types a specific URL into the browser, and if this URL path matches any 'route' inside the router file, the user will be redirected to that particular route.

React Router-

- React Router is a standard library system built on top of React and used to create routing in the React application using React Router Package.
- It provides the synchronous URL on the browser with data that will be displayed on the web page.

- It maintains the standard structure and behavior of the application and is mainly used for developing single-page web applications.
- We cannot use react-router directly in our application, for this, we have to install the react-router-dom module in our application.

- The command for installing react-router-dom -
  - npm install react-router-dom

How to use react-router-dom?

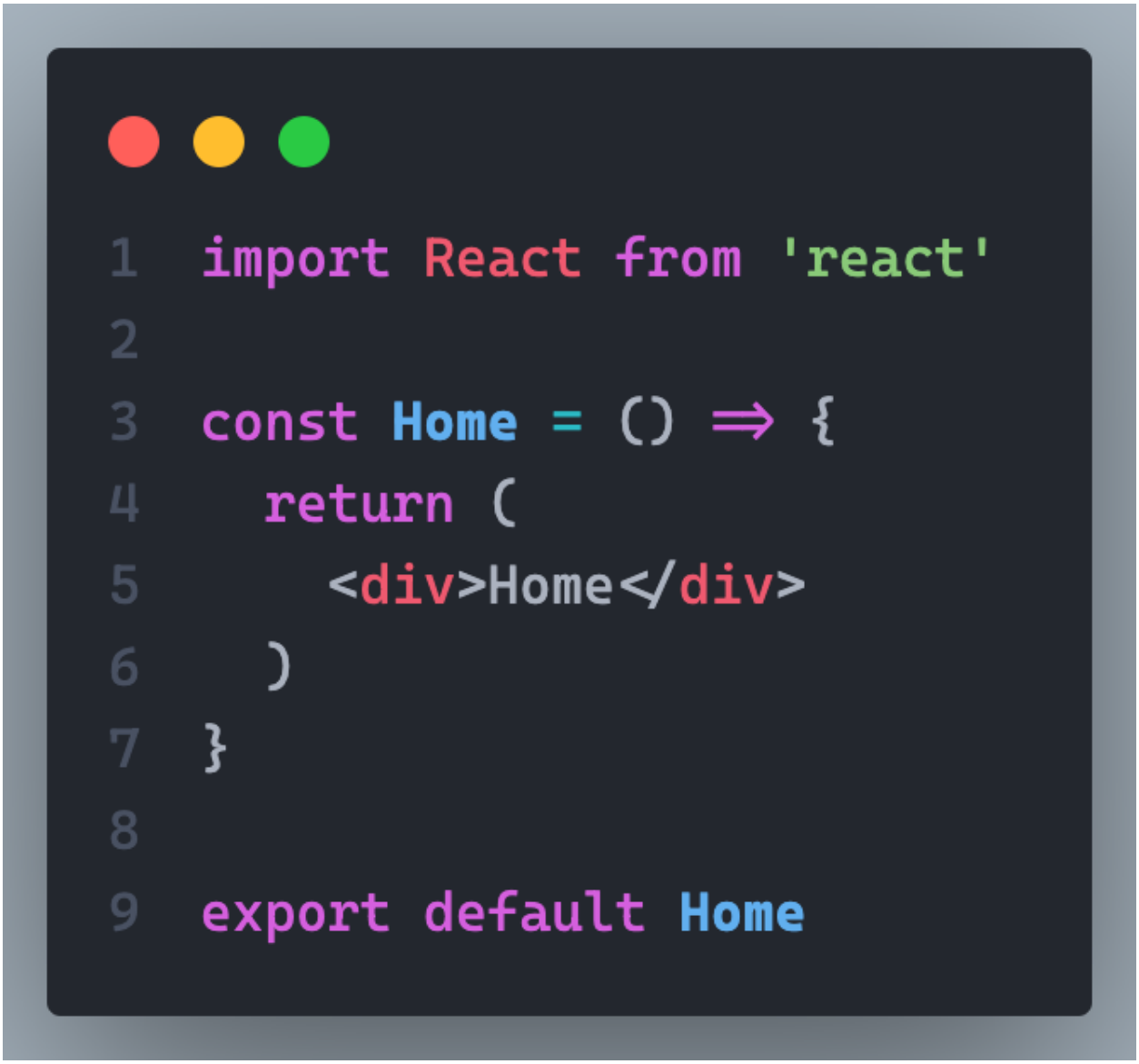
Let's say we have 3 pages to display and consider them as individual components.

- Home.jsx,
- About.jsx
- Contact.jsx

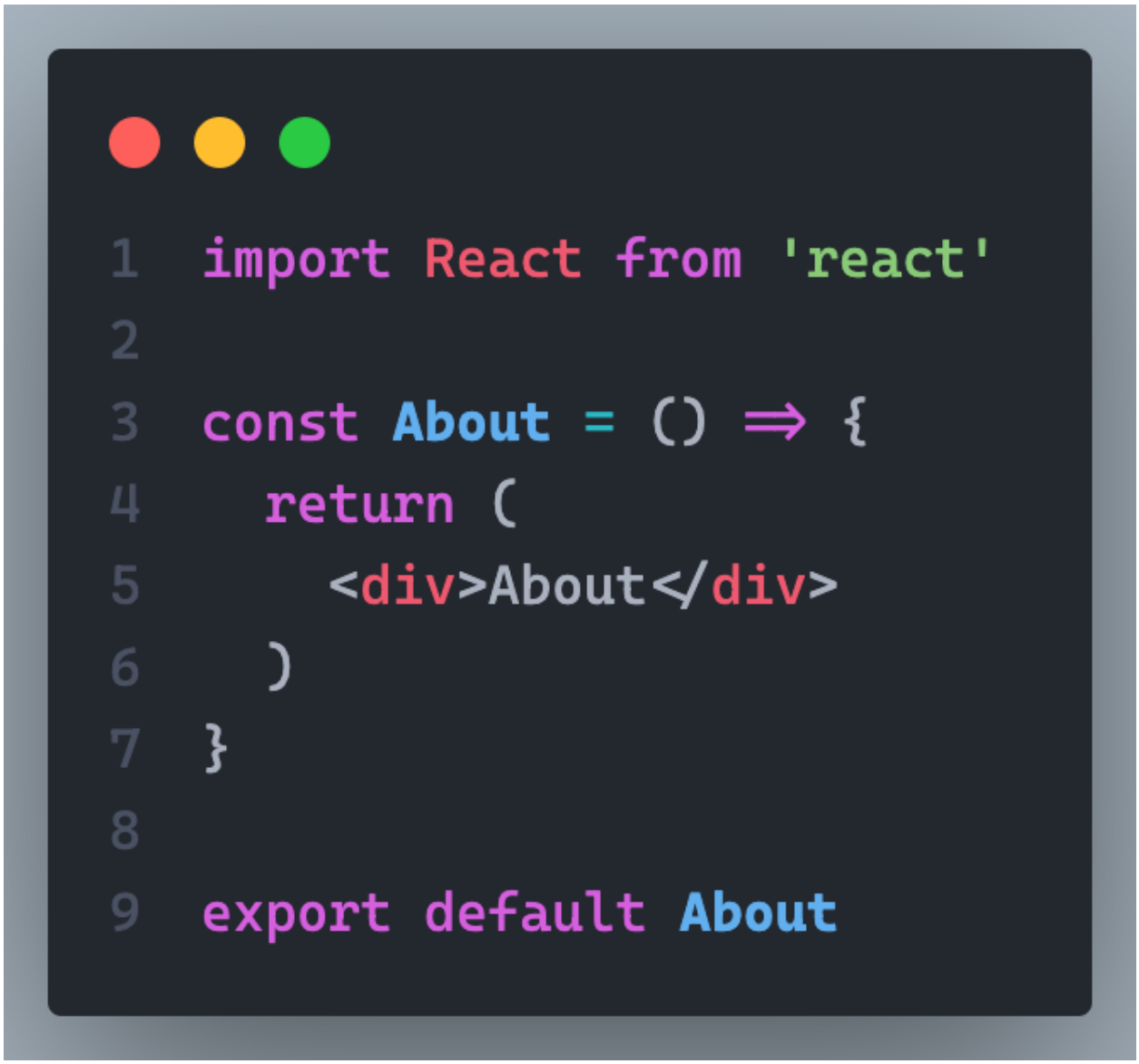
We will be routing to these components using react-router.

Now let's make these components first.

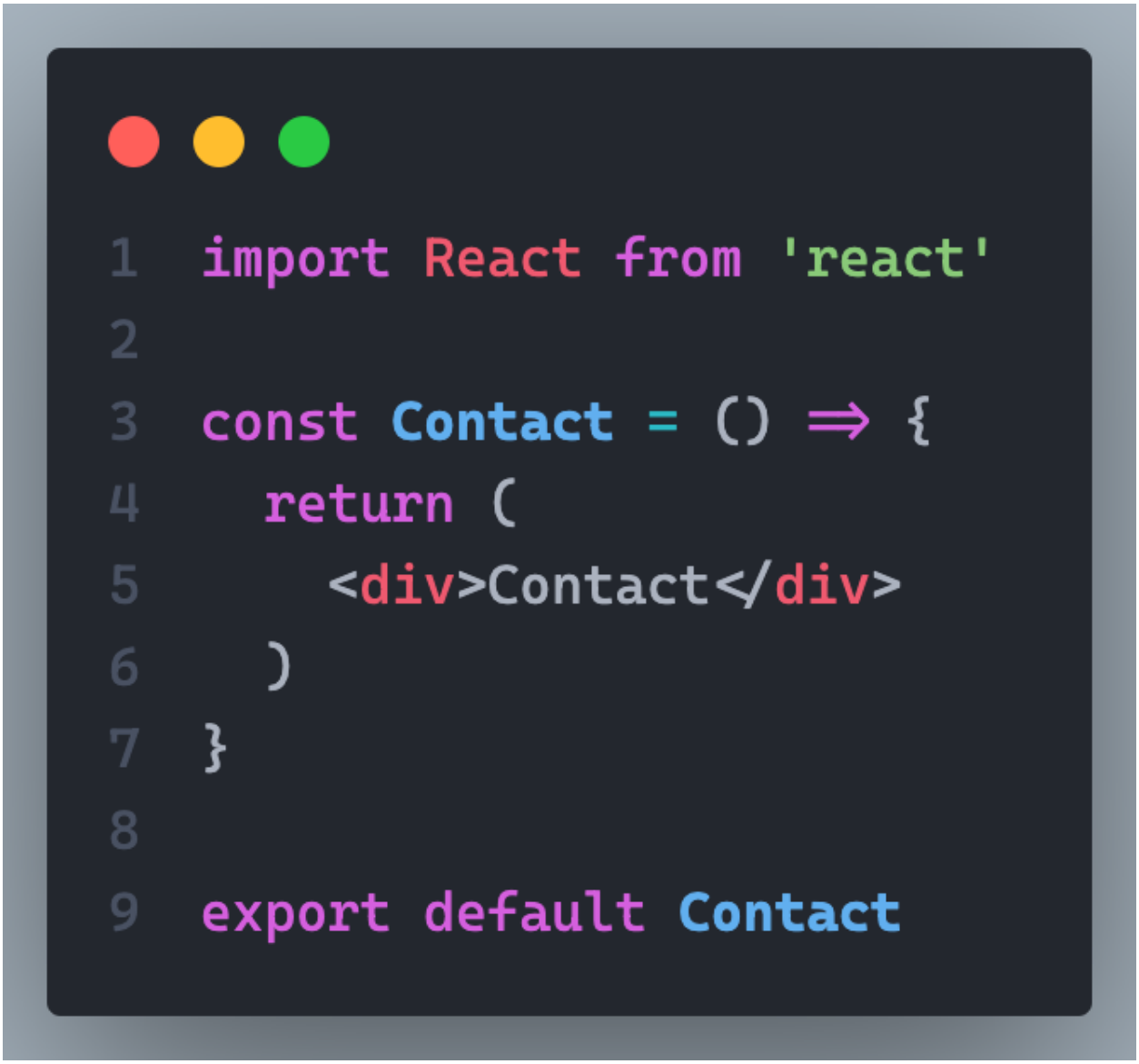
Home.jsx



About.jsx


import React from 'react'
const About = () => {
return (
About
)
}
export default About

Contact.jsx



Now that we have created our components now let's set up the react-router-dom.

For this, we have to import the react-router-dom in our topmost parent component i.e, the App component.

Let's have a look at the App.jsx file also.

App.jsx

```jsx
import React from "react";
import { BrowserRouter, Route, Routes } from "react-router-dom";

const App = () => {
  return (
    <>
      <div>App</div>
    </>
  );
};

export default App;
```

Here we can see that there are 3 components that we imported, that are **BrowserRouter**, **Route,** and **Routes**

- BrowserRouter - it will be used as a provider of routing, it will wrap all the route components.
- Routes - it is used as a switch for different routes and corresponding components.
- Route - it is used to define each individual route to its respective component which is to be rendered.

App.jsx

```jsx
import React from "react";
import { BrowserRouter, Route, Routes } from "react-router-dom";
import About from "./components/About";
import Contact from "./components/Contact";
import Home from "./components/Home";

const App = () => {
  return (
    <>
      <BrowserRouter>
        <Routes>
          <Route path="/" element={<Home />} />
          <Route path="/about" element={<About />} />
          <Route path="/contact" element={<Contact />} />
        </Routes>
      </BrowserRouter>
    </>
  );
};

export default App;
```

- Here we can see that BrowserRouter is wrapping all the routes
- Next routes are providing us the switch functionality for routes
- And at last, each component is assigned a specific route path with the “path” attribute and “element” attribute.

How do access routes?

To access it we use another component we will use Link component.

```jsx
import React from "react";
import { Link } from "react-router-dom";

const Home = () => {
  return <>
    <div>
        <h1>Home</h1>
        <Link to='/' />
    </div>
  </>;

};

export default Home;
```

Here **link** component helps us to redirect to the mentioned endpoint or route and renders the page.