

# React Router

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## Installation

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```
npm install react-router-dom
```

## Initialisation

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```
// index.js
import App from "./App";
import { BrowserRouter } from "react-router-dom";

const root = ReactDOM.createRoot(document.getElementById("root"));
root.render(
  <BrowserRouter>
    <App />
  </BrowserRouter>
);
```

## Utilisation

---

```
// App.js
import { Link, Route, Routes } from "react-router-dom";

function App() {
  return (
    <>
      <nav>
        <ul>
          <li><Link to="/">Home</Link></li>
          <li><Link to="/books">Books</Link></li>
        </ul>
      </nav>
      <Routes>
        <Route path="/" element={<Home />} />
        <Route path="/books" element={<Books />} />
        <Route path="/books/:id" element={<Book />} />
        <Route path="/books/new" element={<NewBook />} />
        <Route path="*" element={<NotFound />} />
      </Routes>
    </>
  );
}
```

```
)  
}
```

```
// Book.jsx  
import { useParams } from "react-router-dom";  
  
function Book() {  
  const { id } = useParams();  
  return (  
    <h1>Book {id}</h1>  
  )  
}
```

## Nested routes

---

```
// App.js  
import { Link, Route, Routes } from "react-router-dom";  
import ...  
  
function App() {  
  return (  
    <>  
      <Routes>  
        <Route path="/" element={<Home />} />  
        <Route path="/books" element={<Layout />}>  
          <Route index element={<Books />} />  
          <Route path=":id" element={<Book />} />  
          <Route path="new" element={<NewBook />} />  
        </Route>  
        <Route path="*" element={<NotFound />} />  
      </Routes>  
    </>  
  )  
}
```

```
// Layout.js  
import { Link, Outlet } from "react-router-dom";  
  
export default function Layout() {  
  return (  
    <>  
      <Link to="/books/1">Book 1</Link>  
      <br />  
      <Link to="/books/2">Book 2</Link>  
      <br />  
      <Link to="/books/3">Book 3</Link>  
  
      <Outlet context={{ hello: "World" }} />  
    </>  
  )  
}
```

```
)  
}
```

```
// Book.jsx  
import { useParams } from "react-router-dom";  
  
function Book() {  
  const { id } = useParams();  
  const { hello } = useOutletContext();  
  return (  
    <h1>Book {id} - {hello}</h1>  
  )  
}
```

## Nested routes in separate files

---

```
// App.js  
import { Link, Route, Routes } from "react-router-dom";  
import ...  
  
function App() {  
  return (  
    <>  
      <Routes>  
        <Route path="/" element={<Home />} />  
        <Route path="/books/*" element={<BooksRoutes />} />  
      </Routes>  
    </>  
  )  
}
```

```
import { Route, Routes } from "react-router-dom";  
import ...  
  
export default function BooksRoutes() {  
  return (  
    <>  
      <Routes>  
        <Route element={<Layout />}>  
          <Route index element={<Books />} />  
          <Route path=":id" element={<Book />} />  
          <Route path="new" element={<NewBook />} />  
        </Route>  
      </Routes>  
    </>  
  )  
}
```

# useRoutes Hook

---

```
import { useRoutes } from "react-router-dom";

...
let elements = useRoutes([
  {
    path: "/",
    element: <NavLayout />,
    children: [
      {
        index: true,
        element: <Home />
      },
      {
        path: 'about',
        element: <About />
      },
      {
        path: 'contact',
        element: <Contact />
      },
      {
        path: "*",
        element: <NotFound />
      }
    ]
  }
]);

...
{elements}
```

## Link

---

```
<Link to="/login" replace>Login</Link>
<Link to="/" reloadDocument>Home</Link>
```

## NavLink

---

```
<NavLink style={({ isActive }) => {
  return isActive ? { color: 'red' } : {}
}} to="/">
  ({ isActive }) => {
    return isActive ? "Active Home" : "Home"
  }
</NavLink>
```

```
    }}  
  </NavLink>
```

## Navigate and useNavigate

---

```
// NotFound.jsx  
import { Navigate } from "react-router-dom";  
  
function NotFound() {  
  return <Navigate to="/" />  
}
```

```
// NotFound.jsx  
import { useNavigate } from "react-router-dom";  
import ...  
  
function NotFound() {  
  const navigate = useNavigate();  
  
  useEffect(() => {  
    setTimeout(() => {  
      navigate("/");  
      // or  
      navigate(-1);  
    }, 1000);  
  }, []);  
  
  return <h1>Not Found...</h1>  
}
```

## SearchParameters

---

```
import { useSearchParams } from "react-router-dom";  
  
...  
const [searchParams, setSearchParams] = useSearchParams({ n: 3 });  
const number = searchParams.get("n");  
...
```

## State

---

```
import { useLocation } from "react-router-dom";  
  
...  
<NavLink to="/" state="Hi">Home</NavLink>  
...  

```

```
...  
const location = useLocation();  
location.state; // -> "Hi"  
...
```

```
// NotFound.jsx  
import { useNavigate } from "react-router-dom";  
import ...  
  
function NotFound() {  
  const navigate = useNavigate();  
  
  useEffect(() => {  
    setTimeout(() => {  
      navigate("/", { state: "404 Error" });  
    }, 1000);  
  }, []);  
  
  return <h1>Not Found...</h1>  
}
```