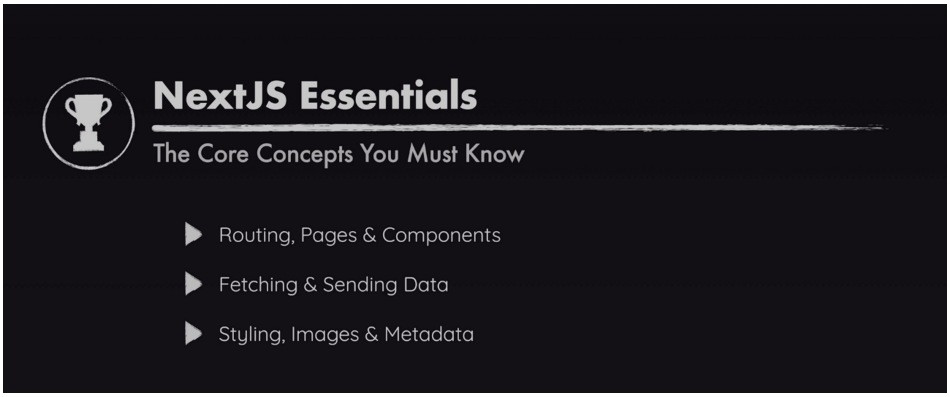
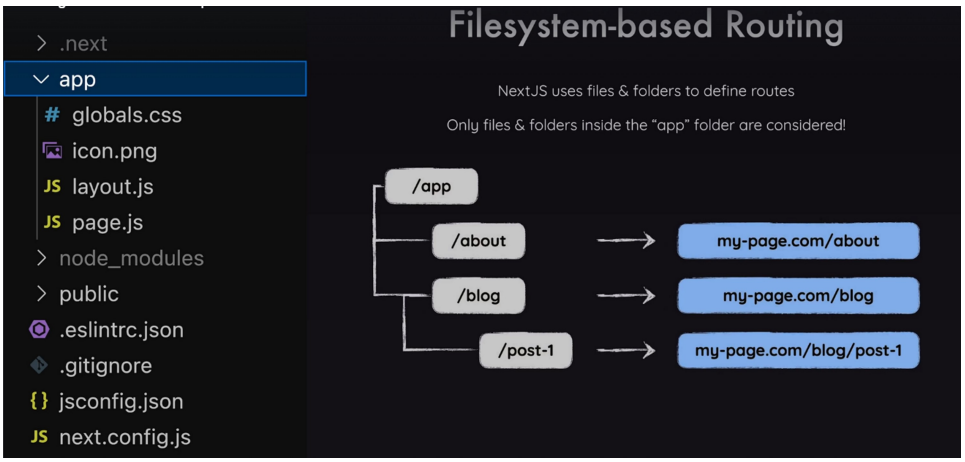
Section 3: NextJS Essentials (App Router)

08 September 2024 14:04



Understanding File-based Routing & React Server Components

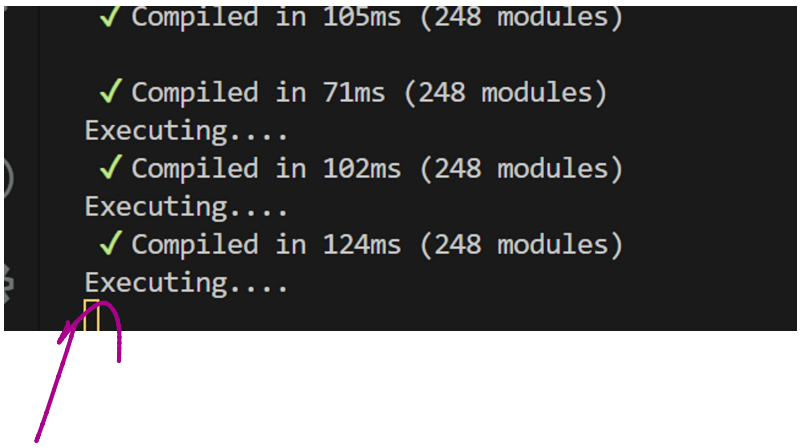


A file named page.js simply tells Next.JS that it simply should render a page.

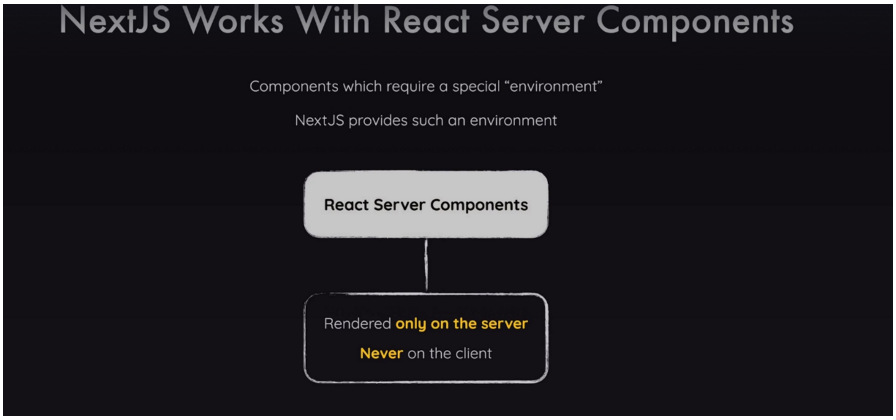
This is a so-called Server Component.

```tsx
export default function Home() {

  console.log("Executing....");

  return (
    <main>
      <img src="/logo.png" alt="A server surrounging" />
      <h1>Welcome to this NextJS Course!</h1>
      <p>🔥 Lets's get started!</p>
    </main>
  );
}
```

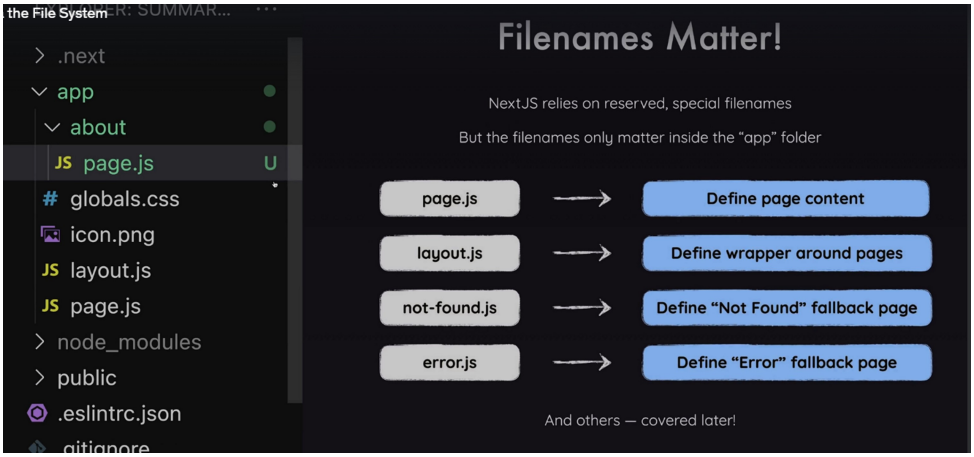
Hence, it's a sever component, that is why in the browser, console log message won't appear.



you can see this message on the vs code terminal (backend)



Adding Another Route via the File System

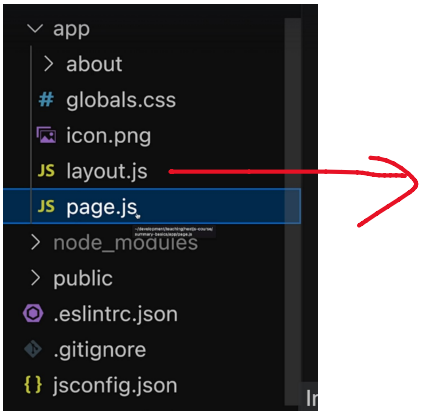



```
export default function Home() {
      <p>🔥 Lets's get started!</p>

      {/* it's no longer a single page application if we use <a></a>
      */}
      {/* <p><a href="/about ">About Us</a></p> */}

      <p><Link href="/about ">About Us</Link></p>
    </main>
  );
}

//localhost:3000/
```

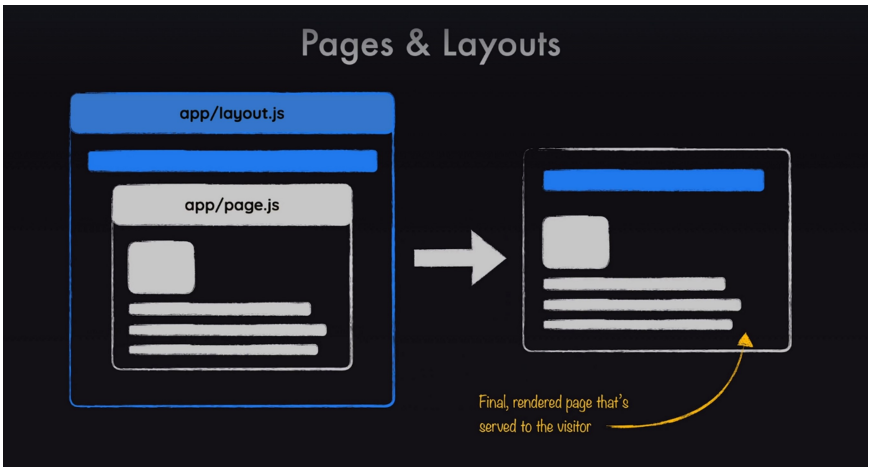
If we use <a>; each time it gets the data from the server and shows to us, in this way, our page reloads and we lost the single page application benefit.

But if we use LINK tag, it still loads the page from the server, but it'll then be sent to the client, and there it'll be handled by client-side javascript code to update what we see on the screen.

Working with Pages & Layouts



Where page.js file defines the content of a page, the layout.js file defines the shell around one or more pages.



Every Next.Js project needs at least one root layout.js file.

Reserved Filenames

As you already learned, there are some reserved filenames when working with NextJS.

Important: These filenames are only reserved when creating them inside of the app/ folder (or any subfolder). Outside of the app/ folder, these filenames are not treated in any special way.

Here's a list of reserved filenames in NextJS - you'll, of course, learn about the important ones throughout this section:

page.js => Create a new page (e.g., app/about/page.js creates a <your-domain>/about page)

layout.js => Create a new layout that wraps sibling and nested pages

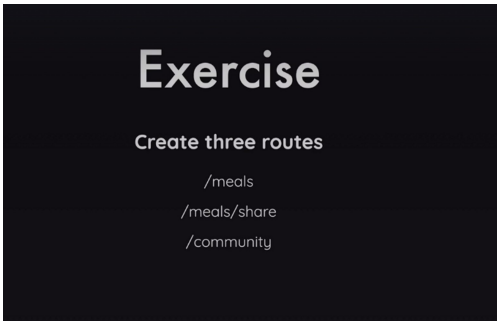
not-found.js => Fallback page for "Not Found" errors (thrown by sibling or nested pages or layouts)

error.js => Fallback page for other errors (thrown by sibling pages or nested pages or layouts)

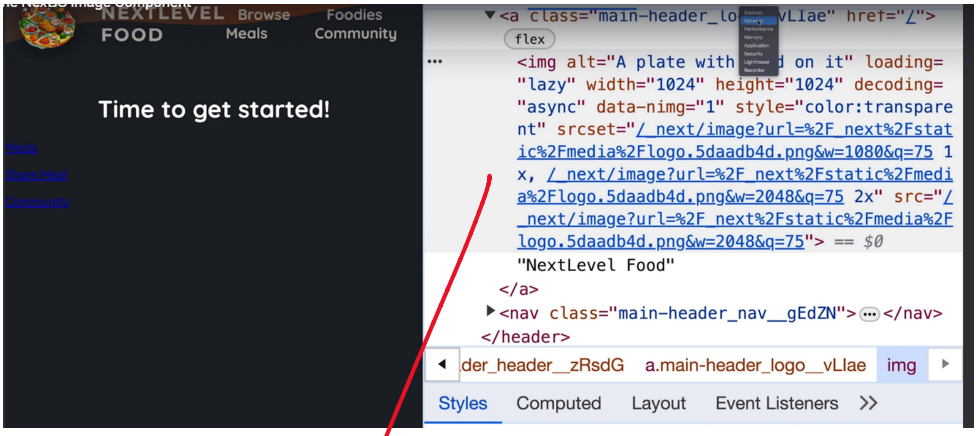
loading.js => Fallback page which is shown whilst sibling or nested pages (or layouts) are fetching data

route.js => Allows you to create an API route (i.e., a page which does NOT return JSX code but instead data, e.g., in the JSON format)

You also find a list with all supported filenames & detailed explanations in the official docs: https://nextjs.org/docs/app/api-reference/file-conventions

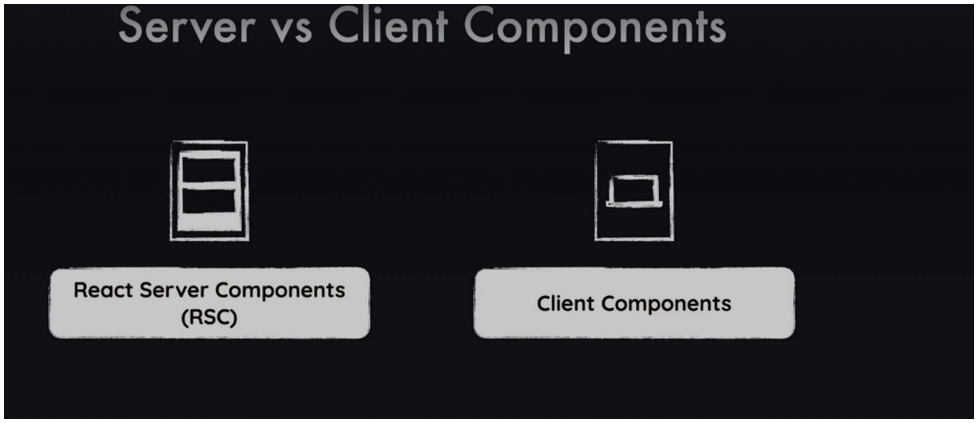


Optimizing Images with the NextJS Image Component

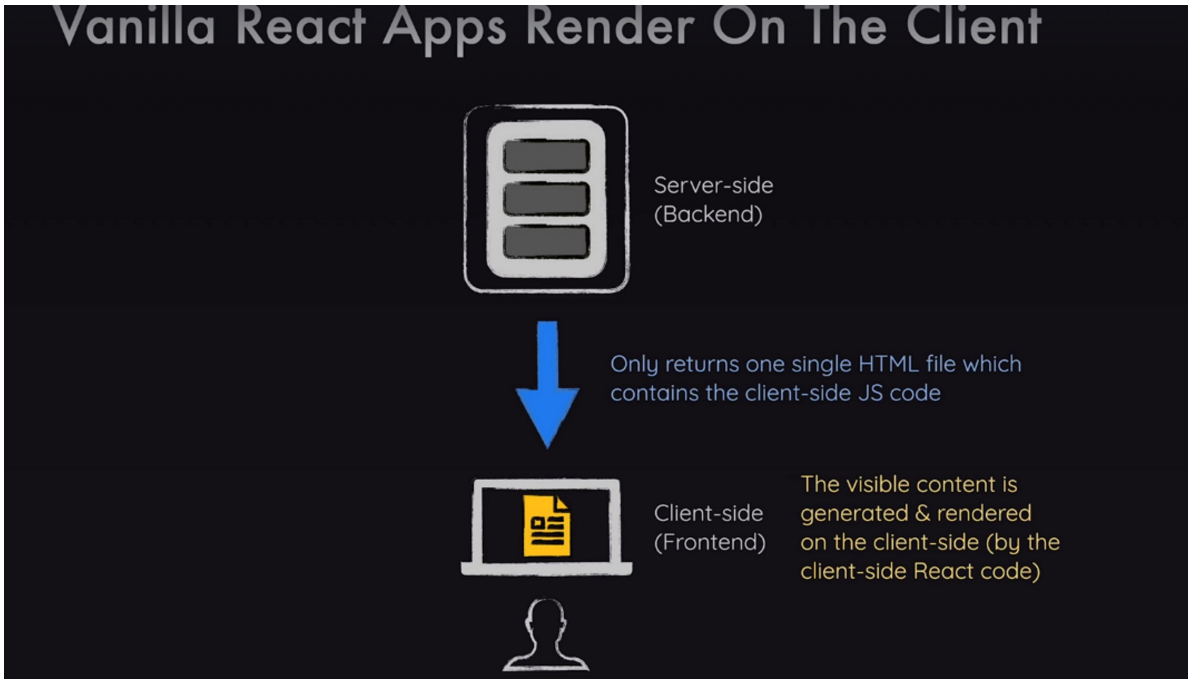


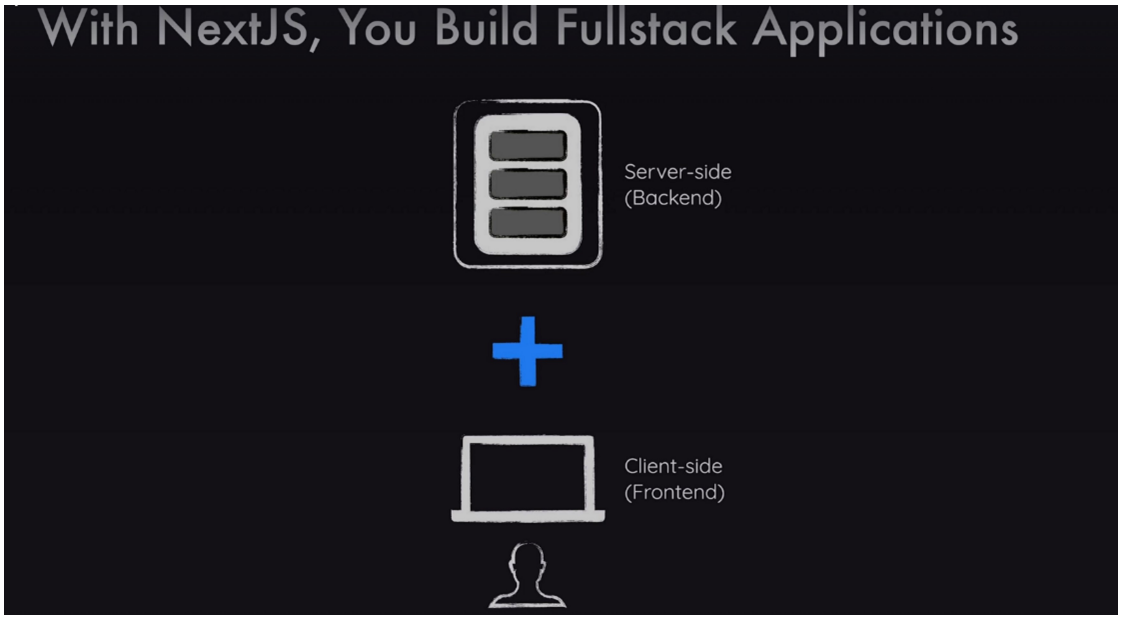

```
<Image src={logofImg} alt="A plate with food on it" />
        NextLevel Food
```

React Server Components vs Client Components - When To Use What

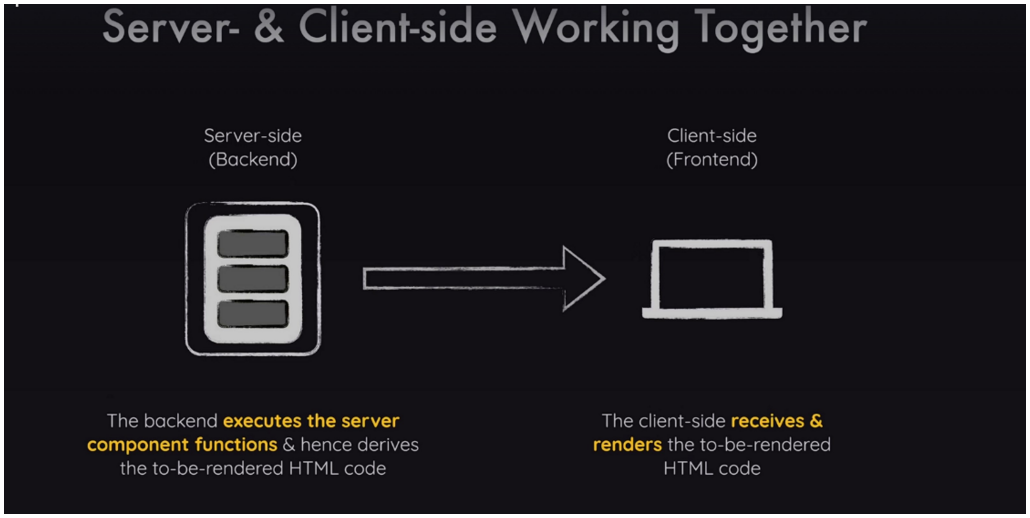


Now that's something that's super important in NextJS. NextJS knows Server components, React Server components and Client Components. And actually that's technically not just NextJS,
instead, React itself has this differentiation though in most React apps,
in all those vanilla React apps which you are building with help of npx create React app or with help of Vite,
you are using client components out of the box.

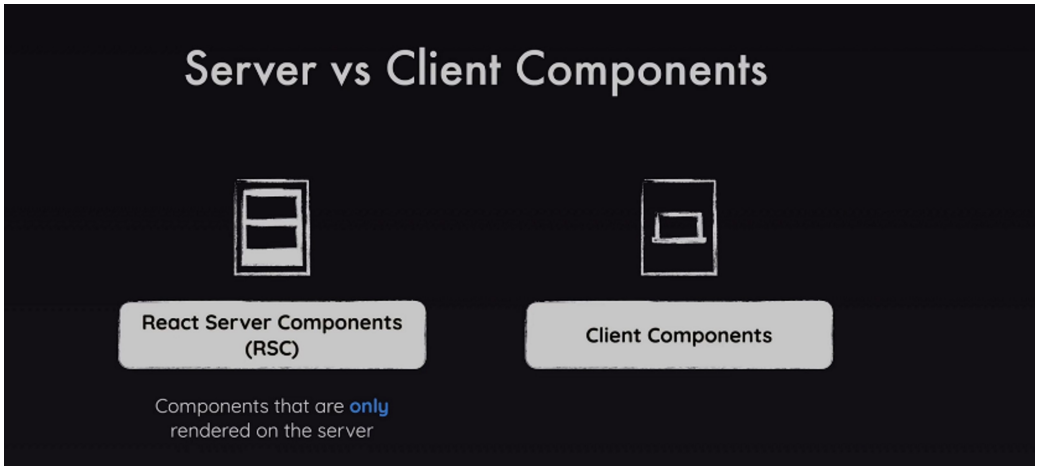




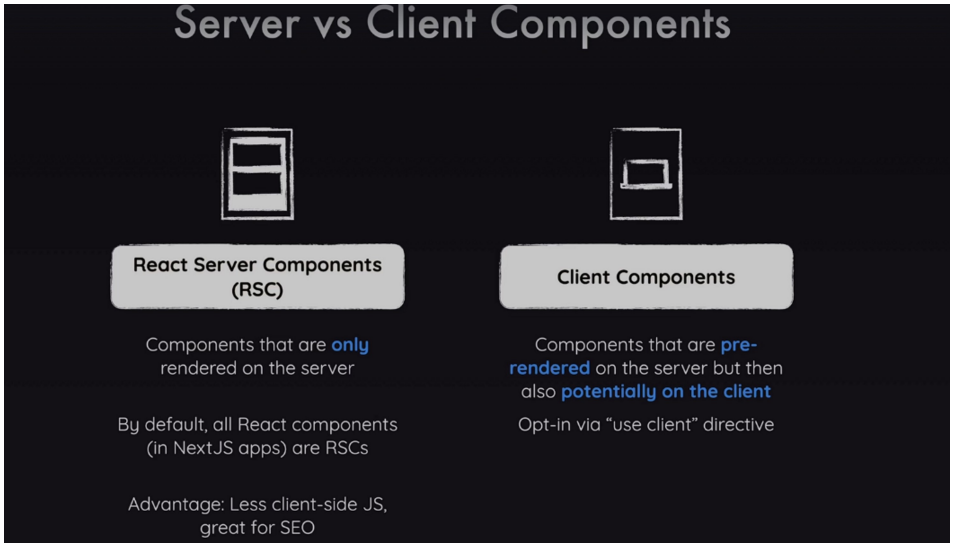
Because in those projects, React.js is a pure client side library, running code in the browser on the client.
With NextJS, that changes because NextJS is a full stack framework. It has a backend, not just a front end,
and therefore code also executes on that backend when working with NextJS.



By default, all those React components you have in your NextJS project, no matter if they're pages, layouts or standard components are only rendered on the Server. That's why they are called React Server Components.



Now as mentioned, that's actually technically a feature built into React,
but it must be unlocked, you could say, with a certain behind the scenes build process and structure,
that's not part of most React projects. But it is unlocked and it is the standard in NextJS projects.



Hooks/Events are not available on the server side component.

```
  { image: schnitzelImg, alt: 'A delicious schnitzel' },
  { image: tomatoSaladImg, alt: 'A delicious tomato salad' },
];

export default function ImageSlideshow() {
  const [currentImageIndex, setCurrentImageIndex] = useState(0);

  useEffect(() => {
    const interval = setInterval(() => {
      setCurrentImageIndex((prevIndex) =>
        prevIndex < images.length - 1 ? prevIndex + 1 : 0
      );
    }, 5000);

    return () => clearInterval(interval);
  }, []);

  return (
```

Suspense is a component that is provided by React that allows you to handle loading states and show fallback content until some data or resource has been loaded.