

- Next JS static site generation is *just one thing* that Next.js is great at.
- Next JS is an **automatic static optimization** framework, which is opinionated about embracing React at its core.
- Next.js uses an opinionated [file-system based routing](#)
- In the early 90s you would make a request to a specific Web server using a URL. The request would ultimately get delivered to a Web server, which would then respond back with an HTML file.
- **server-side rendering**
  - The server-side rendering approach enabled tons of great Web page *but at the cost of page load time*.
- **JavaScript and AJAX**
- **Client-side rendering and SPAs**

Ditched PHP, and rendered the *entire* page using only JavaScript, running right in the Web browser.

Around this time, the concept of a “single page application” (**SPA**) took shape, in which a Web page only sent one request to the server to fetch the initial HTML, and then every update to the page afterwards was done with JavaScript and AJAX, instead of completely reloading the page.

- **Problems with client-side rendering**

Seo, loading time

With client-side rendering, the browser receives a mostly blank HTML page, then starts downloading JavaScript, then parses, compiles, and executes the JavaScript, which then generates HTML, and then the page is finally rendered.

This all takes time.

- **The return of server-side rendering**

- Fortunately, **Node.js** was created — a technology which allows writing a Web server in JavaScript
- Libraries like [ReactDOMServer](#) made it even easier to render the app on a Node.js server.
- [hydration](#) - [progressively enhance](#)
- When combined with techniques like [lazy module loading](#), [code splitting](#), and [bundling](#), this new world can result in a page that loads much faster than a fully client-rendered page.

**Problems:**

A huge fraction of Web pages can just be static HTML files which did not require dynamic rendering.

Solution - We can use static file with ajax

So, with static HTML served from a CDN, we get the initial HTML to the user *super* quickly