Progressive Hydration

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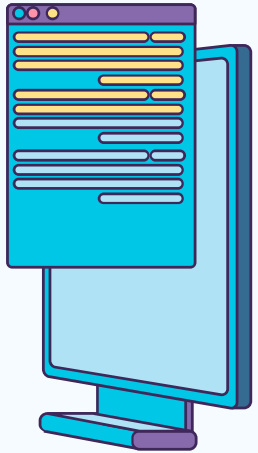
SSR vs CSR

- CSR Refer to client-side-render. It is a concept witch allow the browser to create the website (Creation of nodes handled by the javascript)
- SSR refer to server side rendering. The rendering handled by the server
- React is best example to CSR/SPA.
- Next is react framework to service SSR

Progressive Hydration

- Progressive Hydration also known as Progressive rendering or Streaming rendering.
- Progressive Hydration Is a technique used in react to improve performance and user experience.
- Allows for a smoother and more responsive experience.



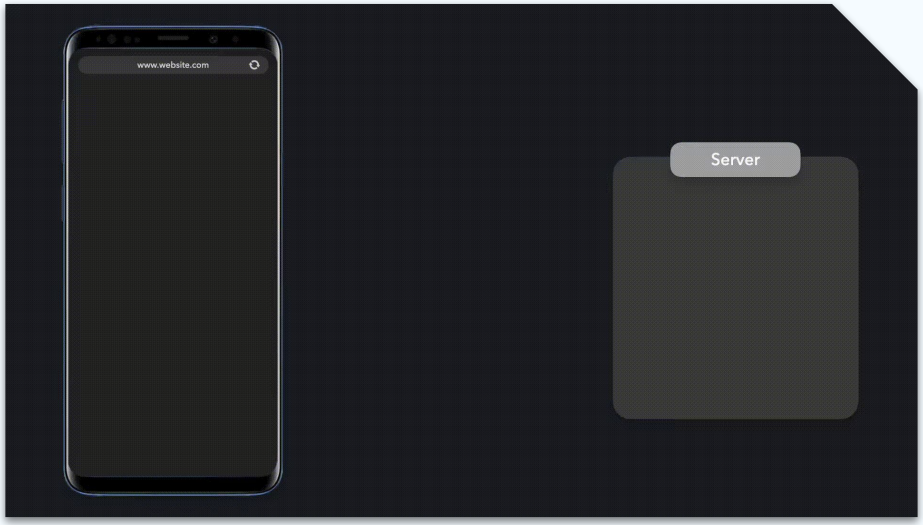
How It Works

- Deferring loading of JavaScript until after initial page content has loaded.
- Instead of creation a node we reuse existing node
- If the node not exist then create one

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

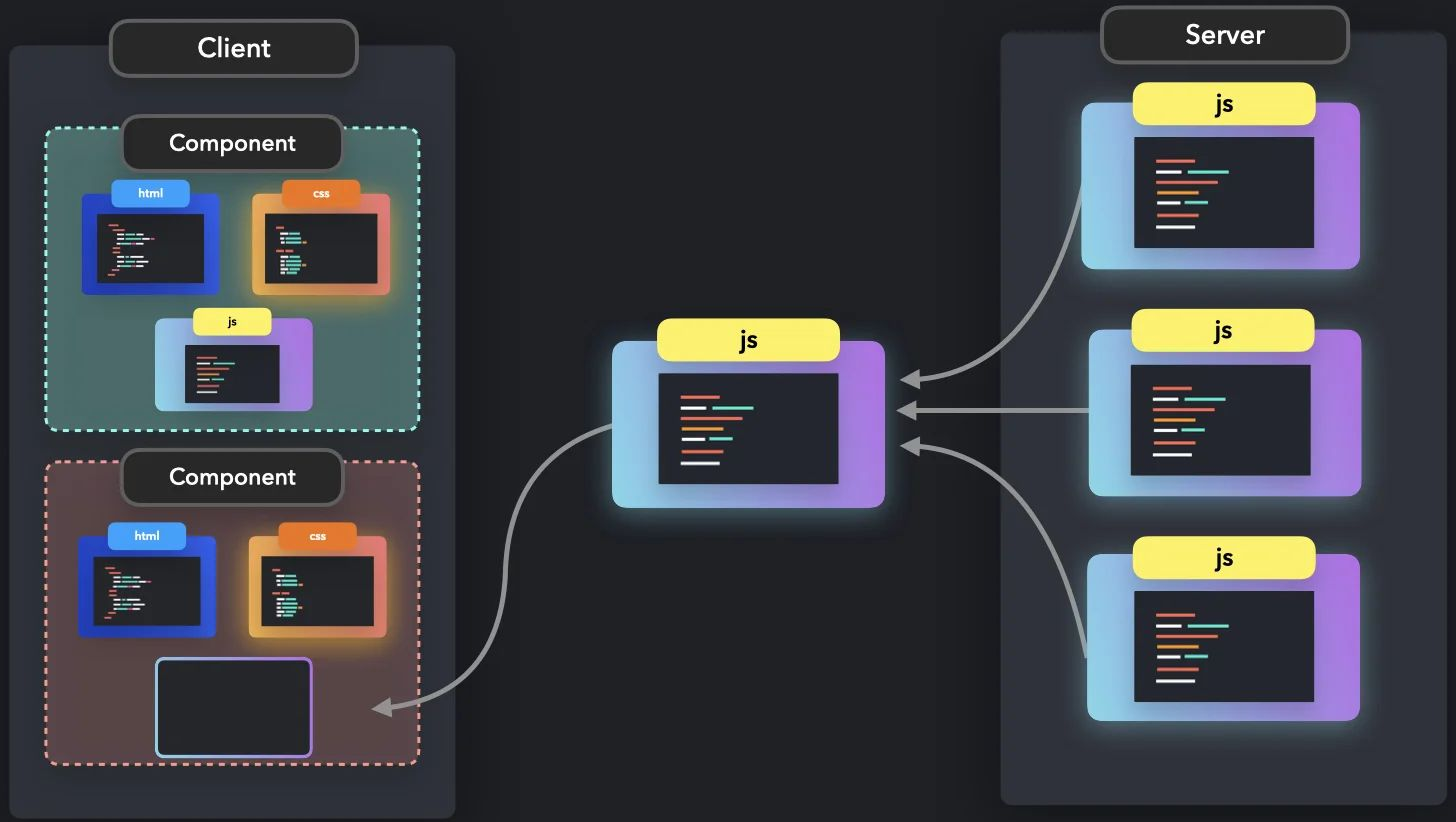
In Server-side

- When the page has been requested the server will return the page with the bundle
- The bundle is the initial content of the page



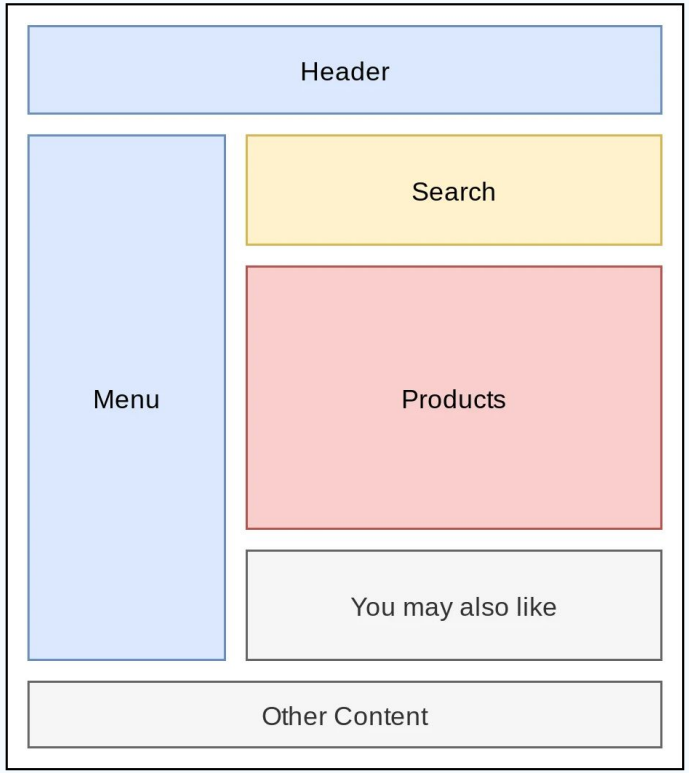
In client side

- Once the initial content loaded the client side will hydrate them as need
- The hydration freeze the js of the unnecessary parts


Client
Component
html
css
js
Component
html
css
Server
js
js
js
js

Progressive Hydration implementation

- Hydrate only certain parts of the application when the page loads
- Other content hydrated progressively as required
- Server-rendered application are activated over a period of time
- Reducing the amount of JavaScript required to make pages interactive.



Advantages of progressive hydration

- Fast Rendering to static UI
- Let the most important parts of website rendered by server
- Hydration reuse the exist nodes rather than create one

Thank you. Please feel free to ask any questions. 😄