

# Navigation

Which way do I go?



# Agenda

## Navigation

- Terminology
  - SPA vs Multi-Page Application
  - Client-side vs server-side routing
  - React-router library
  - React-router setup
  - React-router Concepts
  - Summary
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# Terminology

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A **page** is an HTML file served to the browser, which can include CSS and JS.

What is a route?

- A URL pattern that is mapped to a handler
- A **route** will tell an app that certain content/functionality will exist at the URL of our choosing.

# Multi-Page Applications

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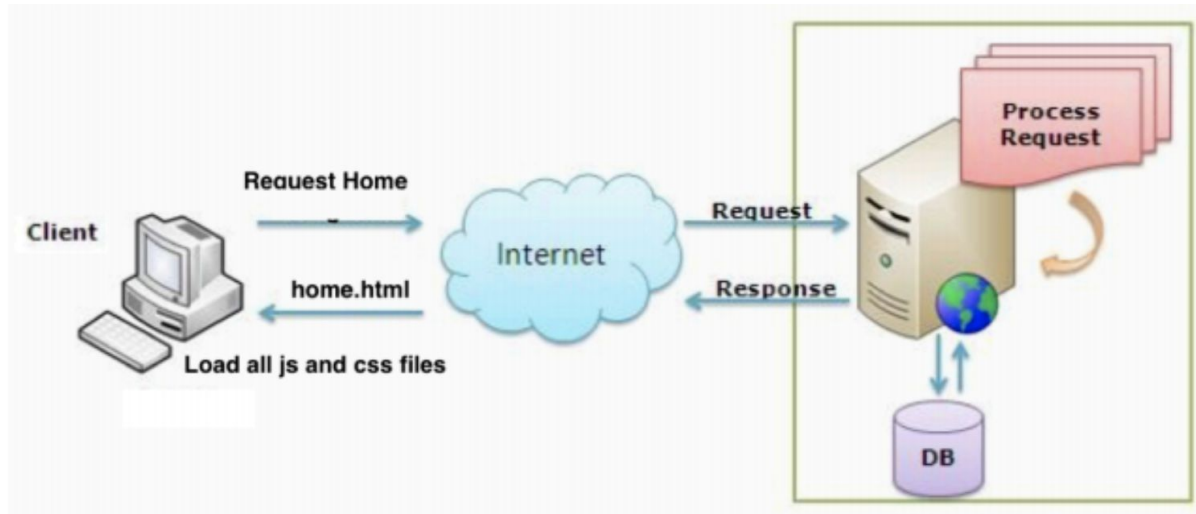
# Traditional Multi-Page Applications

1. Browser makes initial request to load the home page
2. When a user clicks a link, another page has to be requested, served, and rendered in the browser.
3. JS and CSS have to be loaded for every page

# Multi-page Apps Continued

Requesting the homepage of an app(index.html)

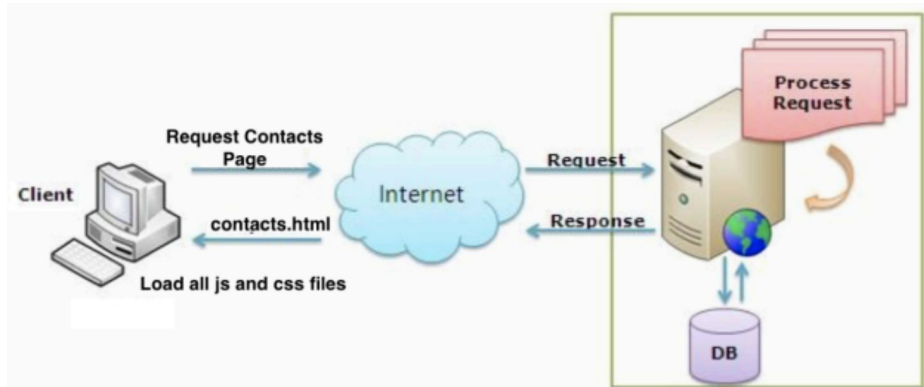
- Makes a round trip to the server



# Multi-page Apps Continued

Requesting /contacts route from index

- Also makes a round trip to the server
- Looks very much like requesting the initial page
- No optimization for shared assets or HTML components between index.html and contacts.html pages



## Pros

- SEO
- Scalability
- Good visualization

## Cons

- Slower speed and performance compared to SPAs
- More time for development
- Maintenance and Updates
- Frontend and Backend are tightly coupled

# Single Page Applications



**Not that kind of SPA**

# Modern Single Page Apps

- The initial request loads all the JS and CSS for any route in the app, all at once
- Any additional requests are used to ask for JSON data from the server, if any is needed(via AJAX), and adds/removes elements to the DOM dynamically using JS to manipulate the DOM
- Browser never refreshes.
- Initial load time is a little longer, but subsequent data requests are much faster