

REACT JS

Single Page Application

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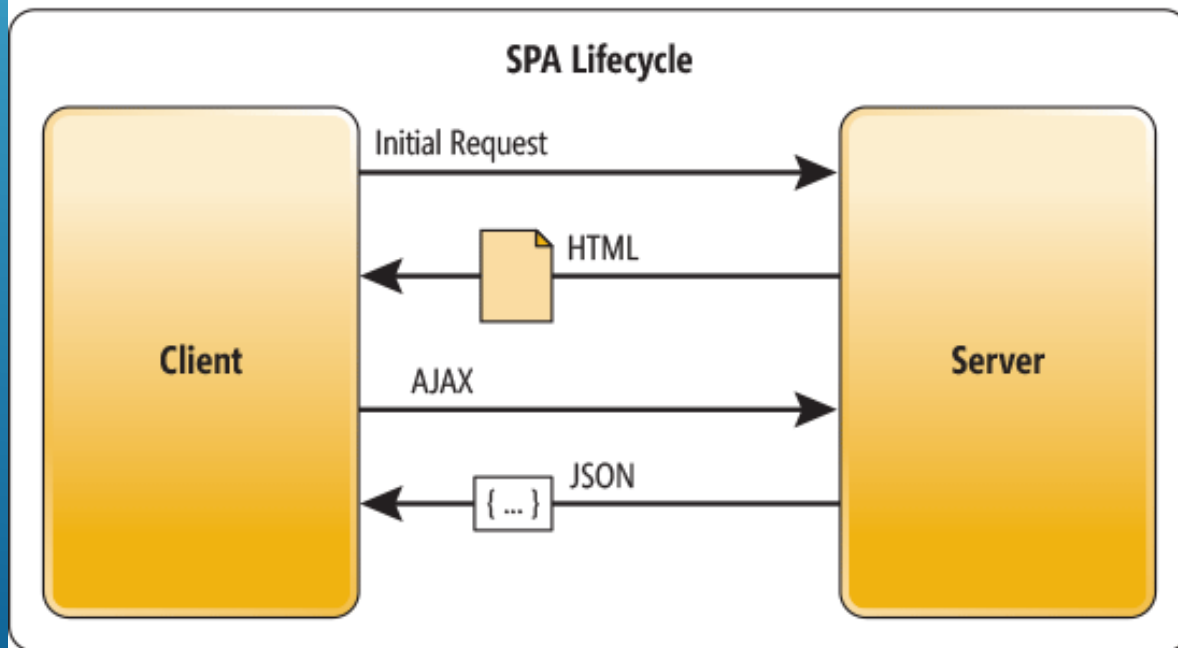
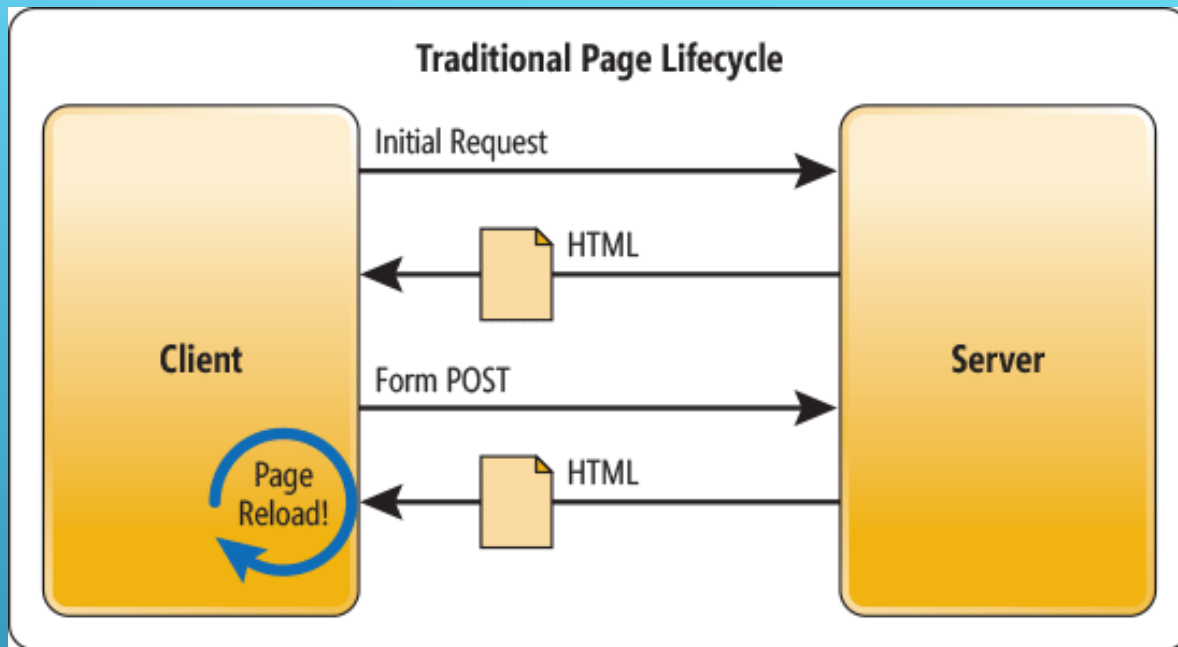
SPA stands for Single Page Application.

A SPA retrieves all of the application's HTML/CSS/JS on initial load. Subsequent server interaction is to send and receive data only.

A MPA retrieves HTML/CSS/JS from the server multiple times based on user interaction.

SPAs are responsive and more closely replicate a desktop application or a native app.

They are more fluid and interactive, without the jarring effect of reloading and re-rendering the page.



SPAs use AJAX (Asynchronous JavaScript and XML) to communicate with the web server behind the scenes.

An SPA moves logic from the web server to the web browser (into JavaScript).

So the browser does most of the heavy lifting.

THIN SERVER ARCHITECTURE

The role of the web server reduces to just a service layer (typically JSON serving data API).

SPA creates a separation between presentation and application logic.

This separation makes it easier to design and evolve each layer independently.

Entire back-end that runs the service can be replaced as long as the API is not changed.

Similarly, entire front-end can be replaced as long as the API is not changed.

For example, a new native mobile client that consumes the same API can be introduced.

SPA has a slower first page load than MPA.

This is because the first load has to bring all the HTML/CSS/JS required by the app.

The browser does most of the heavy lifting, which means performance can be a problem especially on less capable mobile devices.

Though SPA provides the perception and navigability of separate logical pages in the application , search engine optimization (SEO) can be a challenge.

SOME POPULAR SPA LIBRARIES & FRAMEWORKS:

React

Angular

Ember

Vue.js

Backbone

END OF CHAPTER

APPENDIX