

Welcome Geeks

Topics to be covered

- Introduction to React JS
- Setting up your Dev Environment
- Introduction to Node & NPM
- Create React App Boilerplate & Introduction to JSX
- Organising Code & Creating a Hello World Application
- Projects Discussion

Introduction to React JS

React JS is a JavaScript Library for building frontend applications or user interfaces

It allows you to create reusable UI components.

Component?

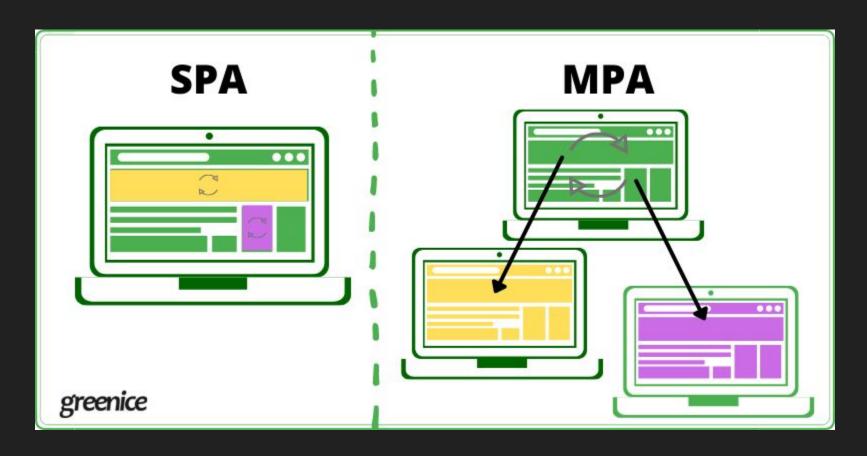
Building block of a react app. (code or function doing a specific function)

```
<Card src="mh.jpg"/>
<Card src="2.jpg"/>
<Card src="3.jpg" heading="hello"
description="this is description"/>
function Card(sourceImage, heading,
description) {
    <div>
        {description}
        <img src={sourceImage}/>
    </div>
```

Advantages of React JS

- Efficient & Fast allows you to build SPA
- Created by Facebook
- Popularity
- Community Support

SPA?



Components?

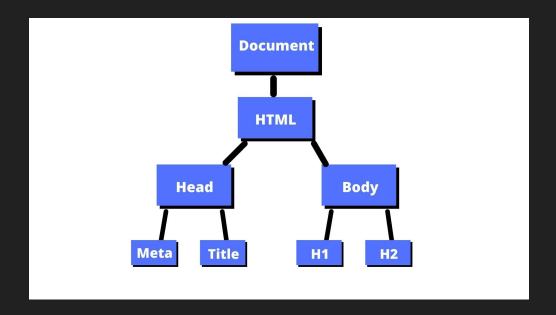


Components?



DOM and Virtual DOM

The DOM views an HTML document as a tree of nodes. A node represents an HTML element. It is a structural representation of the HTML elements of the web application.



Virtual DOM

- In React, each UI is an individual component and each component has it's own state.
- React follows the observable pattern and observes the changes of the states.
- Whenever a change is made in the state of any component, React updates the virtual DOM tree but does not change the real DOM tree
- After updating, React then compares the current version of the virtual DOM with the previous version.
- React knows which objects are changed in the virtual DOM, based on that it only changes those objects in the Real DOM, making minimum manipulating operations.
- This process is noted as "diffing".

Setting up your Dev Environment

Install NodeJS and NPM:
 Go to https://nodejs.org/en/
 Download the latest version of NodeJS LTS with
 Administrator privileges.

npm

- npm - package manager for JS and world's largest software registry

Setting up your Dev Environment

- Install Create React App
 npx create-react-app my-app
- Gives a major head start for creating react applications!
- Install React Dev Tools

Directory Structure Created using create-react-app

JSX - JavaScript XML

- Syntax extension to JavaScript

```
Example -
const name = "test"
const el = <h1> Hello {name} </h1>
```