



# Welcome Geeks

FSRNL - 22

Session 6

# Topics to be covered

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

# 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)



# Advantages of React JS

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

# React JS

Documentation - [reactjs.org](https://reactjs.org)

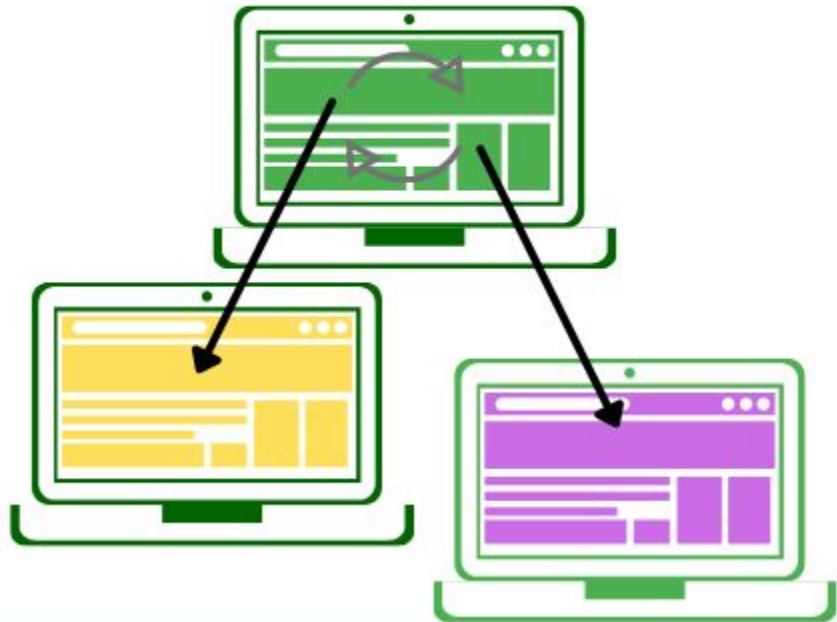
# SPA?

## SPA



greenice

## MPA



# Components?

## No Commitments

Cancel online anytime with no long-term contracts.

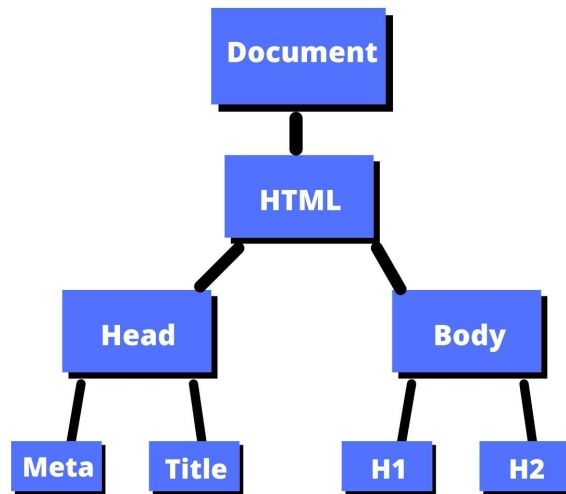






# DOM and Virtual DOM

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 el = <h1> Hello </h1>
```



# SASS

- CSS Pre Processor
- Gives superpowers to CSS

```
npm install sass --save-dev
```

# SASS Variables

```
$color-primary: #ffff00; // Yellow
```

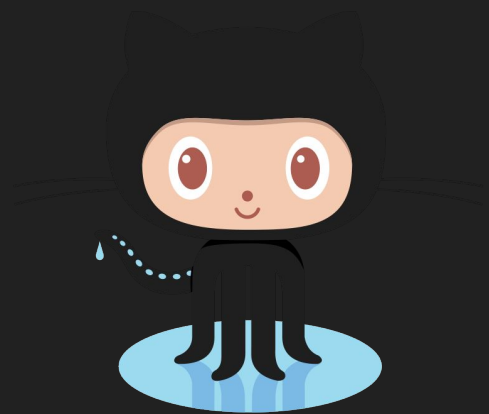
```
body {  
  background-color: $color-primary;  
}
```

# SASS Nesting

```
<nav class="navbar">
  <ul>
    <li>Home</li>
    <li>Store</li>
    <li>Contact Us</li>
  </ul>
</nav>
```

```
.navbar {
  background-color:
  orangered;
  padding: 1rem;
}
.navbar ul {
  list-style: none;
}
.navbar li {
  text-align: center;
  margin: 1rem;
}
```

```
.navbar {
  background-color:
  orangered;
  padding: 1rem;
  ul {
    list-style: none;
  }
  li {
    text-align: center;
    margin: 1rem;
  }
}
```



# GitHub Repo

<https://github.com/geekanant/geeks-fsrnl22>