**ReactJS**

**ReactJS is a JavaScript library** used for building **reusable UI components**.

According React, sometimes referred to as a frontend JavaScript framework, is a JavaScript library created by **Facebook**.

React is a tool for building UI components.

Instead of manipulating the browser's **DOM directly**, React creates a **virtual DOM** in memory, where it does all the necessary **manipulating**, before making the changes in the browser DOM.

React is a JavaScript library for building user interfaces.

React is used to build **single-page applications.**

React allows us to create **reusable** UI components.

**React.JS History**

**React.JS was first used in 2011 for Facebook's News Feed feature.**

Initial Release to the Public (V0.3.0) was in July 2013.

Facebook Software Engineer, Jordan Walke, created it.

Current version of React.JS is V17.0.2 (August 2021).

React 18 was released in **March 2022**.

Current version of **create-react-app**is v4.0.3 (August 2021).

React Advantages

* Uses **virtual DOM** which is a **JavaScript object**. This will improve apps performance, since JavaScript virtual DOM is faster than the regular DOM.
* Can be used on client and server side as well=> as with other frameworks.
* Component and data patterns improve readability, which helps to maintain larger apps.

Why React

**Virtual Dom** in react so faster from real dom

Difference

Virtual dom work very smartly only & light weight. Also only affect one time on not again again for the whole element.

**Reusable** Web component

Maintained By **Facebook**

Hirable for fresher Students

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Like Example

Collection of webpages   :  https://www.makemytrip.com/

home.html

about.html

blog.html

contact.html

**SPA single page application**

index.html  =>  all pages/**component**

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Setting up a React Environment

Step :1 **node.js & npm** Install

To get an overview of what React is, you can write React code directly in HTML.

But in order to use React in production, you **need NPM and Node.js** installed.

If you have NPM and Node.js installed, you can create a React application by first installing the create-react-app.

npm stands for Node Package Manager. It's a library and registry for JavaScript software packages. npm also has command-line tools to help you install the different packages and manage their dependencies.

**https://nodejs.org/en/download/   download & install**

then check version

cmd : **node -v**

cmd: **npm -v**

**Step : 2  Download editors (vs code/ sublime)**

**Step : 3 Using node js install the create-node-app package**

**cmd: C    // only one time in pc**

Setting up a React Environment

**If you have NPM and Node.js installed,** you can create a React application by first installing the create-react-app.

Install React / Two Types

1. CDN file link

<script src="https://unpkg.com/react@16/umd/react.production.min.js"></script>

<script src="https://unpkg.com/react-dom@16/umd/react-dom.production.min.js"></script>

<script src="https://unpkg.com/babel-standalone@6.15.0/babel.min.js"></script>

1. Instal by npx

Install create-react-app by running this command in your terminal:

C:\Users\*Your Name*>npm -g install create-react-app

**cmd:  create-react-app --version**

Then you are able to create a React application, let's create one called myfirstreact.

Run this command to create a React application named myfirstreact:

C:\Users\*Your Name*>npx create-react-app myfirstreact

cmd : **create-react-app myfirstreact**

The create-react-app will set up everything you need to run a React application.

Run the React Application

Now you are ready to run your first *real* React application!

Run this command to move to the myfirstreact directory:

C:\Users\*Your Name*>cd myfirstreact

Run this command to run the React application myfirstreact:

C:\Users\*Your Name*\myfirstreact>npm start