

React Essentials: Introduction to Hooks

Abhin Rustagi



Google Developer Student Club
University of Melbourne

About Me

- Masters of IT Student at University of Melbourne
 - Specialising in Artificial Intelligence
- Worked as a Software Engineer for multiple small & medium startups using technologies like React, Next, Django, Javascript, Typescript, SQL & more for over 2 years.

- LinkedIn - [linkedin.com/in/abhinrustagi](https://www.linkedin.com/in/abhinrustagi)
- Github - github.com/AbhinRustagi
- Twitter - twitter.com/@abhinrustagi

Summary

- What is React?
 - Features
 - Virtual DOM
 - Javascript Refresher
 - State
 - Hooks
 - CSS in React
- Todo App
- Further Topics



What is React?

React (aka React.js or ReactJS) is an open-source front-end JavaScript library that is used for building composable user interfaces, especially for single-page applications.

It is used for handling view layer for web and mobile apps based on components in a declarative approach.



Features of React

- Uses **JSX** syntax, a syntax extension of JS that allows developers to write HTML in their JS code, uses Babel for transpilation.
- It uses **Virtual DOM** instead of Real DOM considering that Real DOM manipulations are expensive.
- Uses **reusable/composable** UI components to develop the view.
- It is state-based.



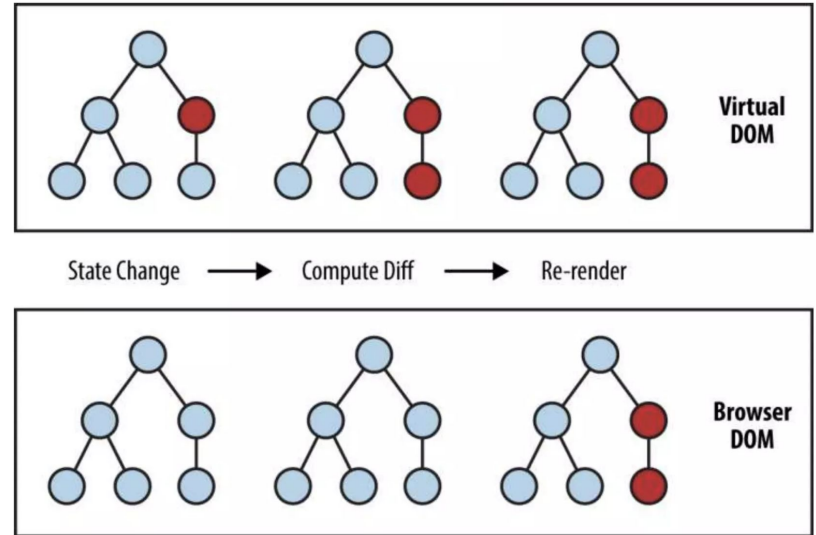
More Features

- Supports server-side rendering which is useful for Search Engine Optimizations(SEO).
- Follows **Unidirectional or one-way** data flow or data binding. (Doesn't allow HTML to change the data; only raise events)



Virtual DOM

- The *Virtual DOM* (VDOM) is an in-memory representation of *Real DOM*.



Javascript Refresher

- Import/Export functions
- Arrow Functions
- Template Strings
- Destructuring



State

- Components have an internal state
- View will update if state changes
- State is immutable; we use setters

Hooks

- Special functions that allow developers to hook into state and lifecycle of React components.
- The events associated with a React component instance (create, render, destroy, etc)



CSS in React

- CSS file with the same base name as the JSX file
- style definition at the top of a component definition file
- inline style definition in the component template



Todo List!

- Go to codesandbox.io
- Sign Up/Sign In
- Click on `Repository +`
 - connect account to Github.
- Paste this link to fork:
<https://github.com/AbhinRustagi/react-workshop-gdsc-unime>
- Start hacking!



Further

- Hooks
 - useCallback
 - useMemo
 - useContext + useReducer
 - Creating own hooks!
- More technologies
 - Next - SSR + SSG
 - Redux - Global State Management
 - Deno, Bun - JS Runtimes
 - TypeScript
 - Webpack, Rollup - Bundlers
 - CRA, Vite - FE Development Tools
 - Git + Github
- Useful Links
 - <https://react.dev/>
 - <https://github.com/sudheerj/reactjs-interview-questions>



Thank you!



Google Developer Student Club
University of Melbourne