

## Features of react.js

- JSX (JavaScript Syntax Extension)

JSX is a combination of HTML and JavaScript. You can embed JavaScript objects inside the HTML elements. JSX is not supported by the browsers, as a result Babel compiler transcompile the code into JavaScript code. JSX makes codes easy and understandable. It is easy to learn if you know HTML and JavaScript.

- Virtual DOM

DOM stands for Document Object Model. It is the most important part of the web as it divides into modules and executes the code. Usually, JavaScript Frameworks updates the whole DOM at once, which makes the web application slow. But react uses virtual DOM which is an exact copy of real DOM. Whenever there is a modification in the web application, the whole virtual DOM is updated first and finds the difference between real DOM and Virtual DOM. Once it finds the difference, then DOM updates only the part that has changed recently and everything remains the same.

- One-way data binding

One-way data binding, the name itself says that it is a one-direction flow. The data in react flows only in one direction i.e. the data is transferred from top to bottom i.e. from parent components to child components. The properties(props) in the child component cannot return the data to its parent component but it can have communication with the parent components to modify the states according to the provided inputs.

- Performance

DOM runs faster due to virtual DOM and due to its execution in memory.

- Extensions

Has many extensions that can help in making UI apps.

- Components

React is component based so it allows us to divide the page into several components with each component having its own design and logic

- Simplicity

The code is reusable which makes it simple to use.

## Node.js

Node.js is designed to build scalable network applications.

- can generate dynamic page content
- can create, open, read, write, delete, and close files on the server
- can collect form data
- can add, delete, modify data in your database

Node.js files contain tasks that will be executed on certain events

A typical event is someone trying to access a port on the server