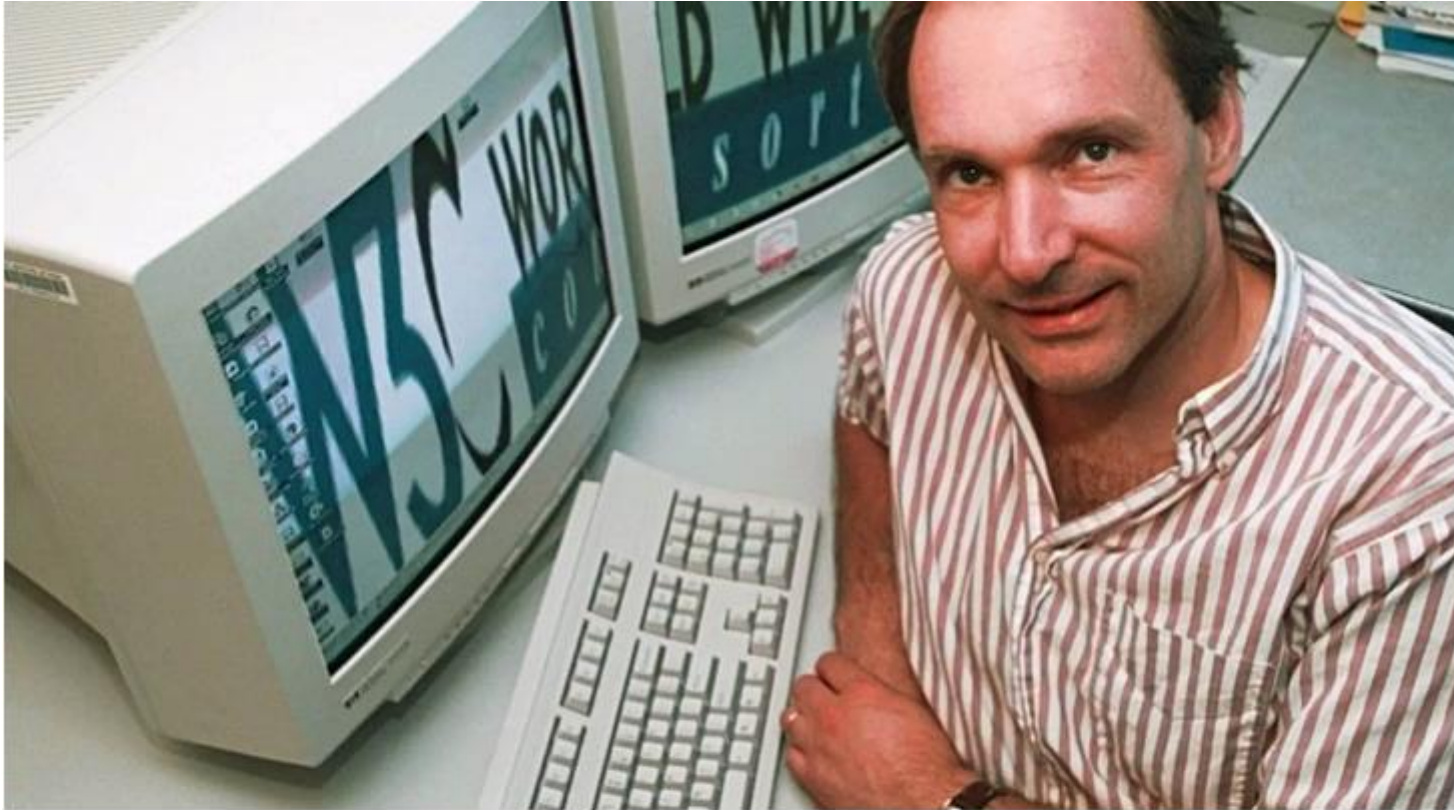


React

AJ



Tim Berners-Lee at CERN

The first HTML specification was [made public in late 1991](#) by [Tim Berners-Lee](#). It only supported text at the time and consisted of just 18 tags. Later, CSS was proposed by [Håkon Wium Lie](#) in [October 1994](#).

About 2 years later, HTML 4.0 was published which was the first specification to support CSS. Internet Explorer 3 became the first commercial browser to support CSS. This was before CSS level 1 had become a [World Wide Web Consortium](#) recommendation.

In 1995, a new browser scripting language called *Mocha* was created by [Brendan Eich](#) in just 10 days. It got renamed to *LiveScript*. A few months later it got renamed again to *JavaScript* as we now know it. [Ecma International](#) is currently responsible for developing JavaScript specifications. HTML and CSS specifications are under the [World Wide Web Consortium](#), also known as W3C.

History of front-end frameworks / Library

Have you ever tried building a frontend web interface using just plain HTML5, CSS3 and JavaScript? Well, it's actually not that hard these days. Provided the required features are not complex, you can finish a small project relatively easily. For medium to large projects, you'll need at least one framework to deal with complexities introduced by user requirements. Today, a beginner developer can build more complex frontend interfaces much faster than what was possible 20 years ago.

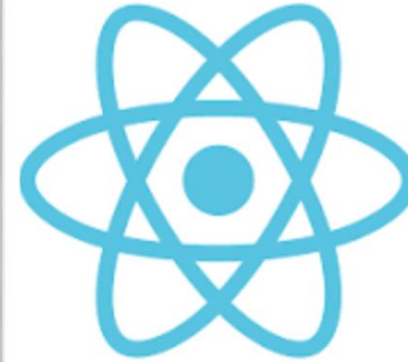


Future of Web Development



React

A JavaScript library for building user interfaces



React

Web framework



React is a JavaScript library for building user interfaces. It is maintained by Facebook and a community of individual developers and companies. React can be used as a base in the development of single-page or mobile applications, as it is optimal for fetching rapidly changing data that needs to be recorded. [Wikipedia](#)

Original author(s): Jordan Walke

Initial release: May 29, 2013; 6 years ago

Stable release: 16.12.0 / [November 14, 2019](#); 19 days ago

License: [MIT License](#)

Developer(s): [Facebook](#) and community

Platform: [Web platform](#)

What is React?

Open source library for building user interfaces

Not a framework

Focus on UI

Rich ecosystem

Why learn React?

Created and maintained by Facebook

More than 100k stars on Github

Huge community

In demand skillset



open source
initiative®

- React is a JavaScript library for building fast and interactive user interfaces for the web as well as mobile applications
- It is an open-source, reusable component-based front-end library

- In a model view controller architecture, React is the 'View' which is responsible for how the application looks and feels.



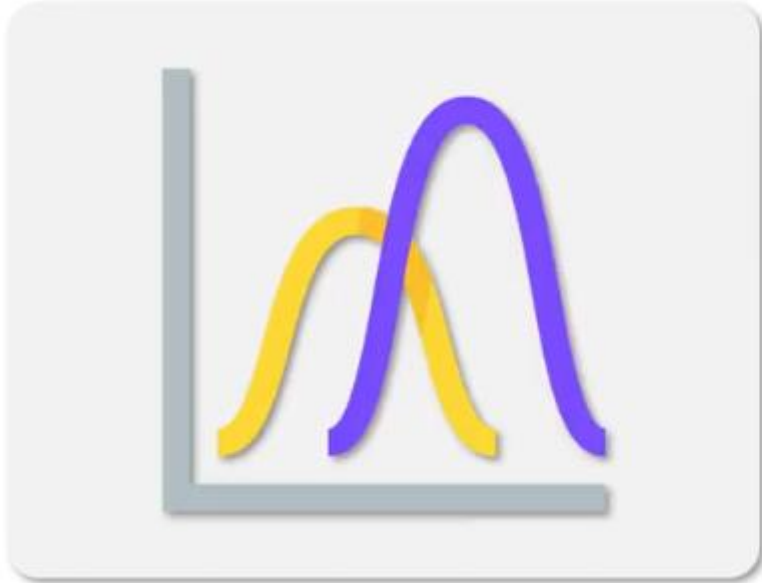
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- Easy creation of dynamic web applications
- Performance Enhancements
- Reusable Components
- Unidirectional data flow
- Small learning curve
- Can be used for Mobile apps
- Dedicated tools for easy debugging



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Features of React

Features of React



JS



- JSX is a syntax extension to JavaScript. It is used with React to describe what the User Interface should look like
- By using JSX, you can write HTML structures in the same file that contains JavaScript code
- JSX helps in making the code easier to understand and debug as it avoids usage of JS DOM structures which are rather complex

HTML



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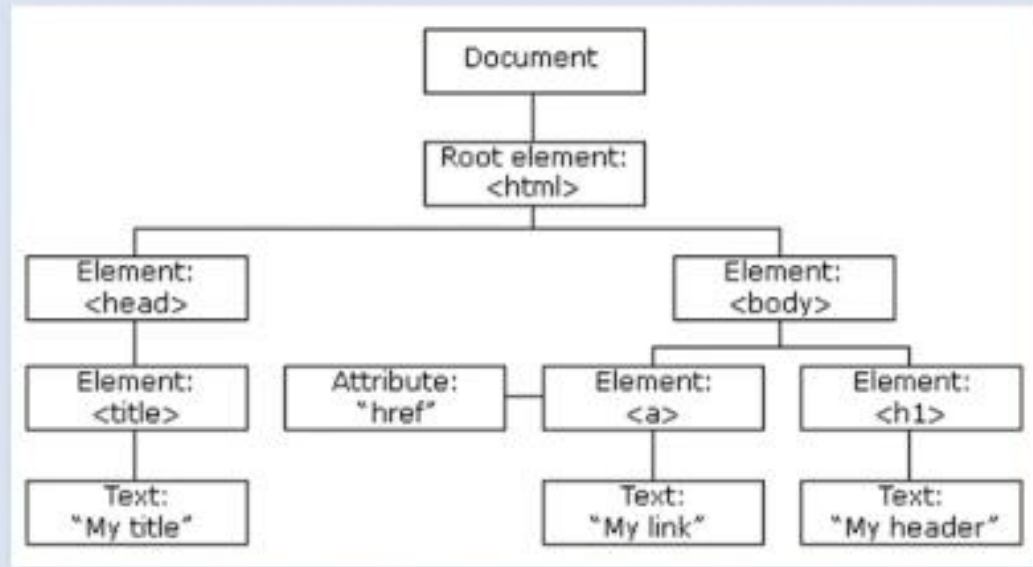


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Features of React

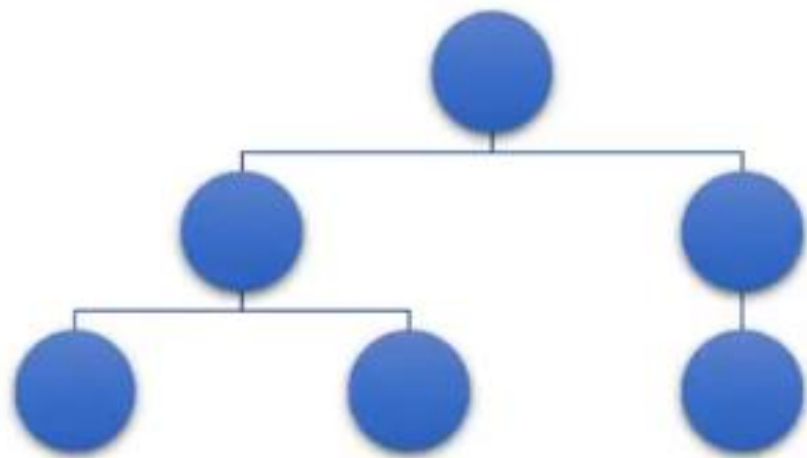




DOM (Document Object Model) treats an XML or HTML document as a tree structure in which each node is an object representing a part of the document.



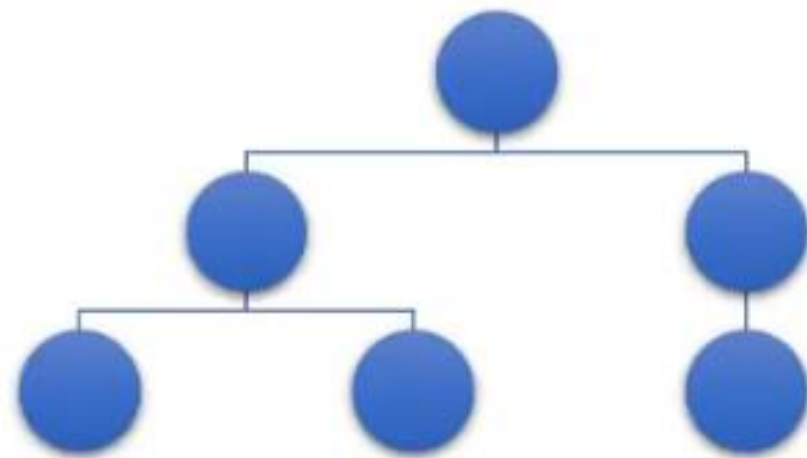
Virtual DOM



Notice that Virtual DOM is the exact copy of the real DOM



Real DOM

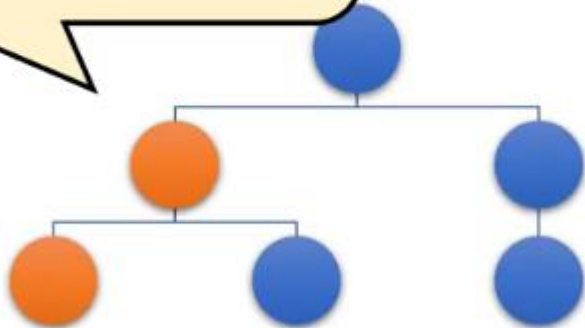




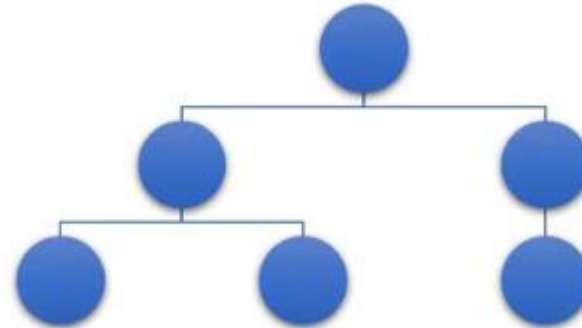
- React keeps a lightweight representation of the Real DOM in the memory, and that is known as the **Virtual DOM**
- Manipulating Real DOM is much slower than manipulating virtual DOM, because nothing gets drawn onscreen
- When the state of an object changes, Virtual DOM changes only that object in the real DOM instead of updating all the objects

Virtual DOM is compared to its previous state and then React gets to know which objects have changed

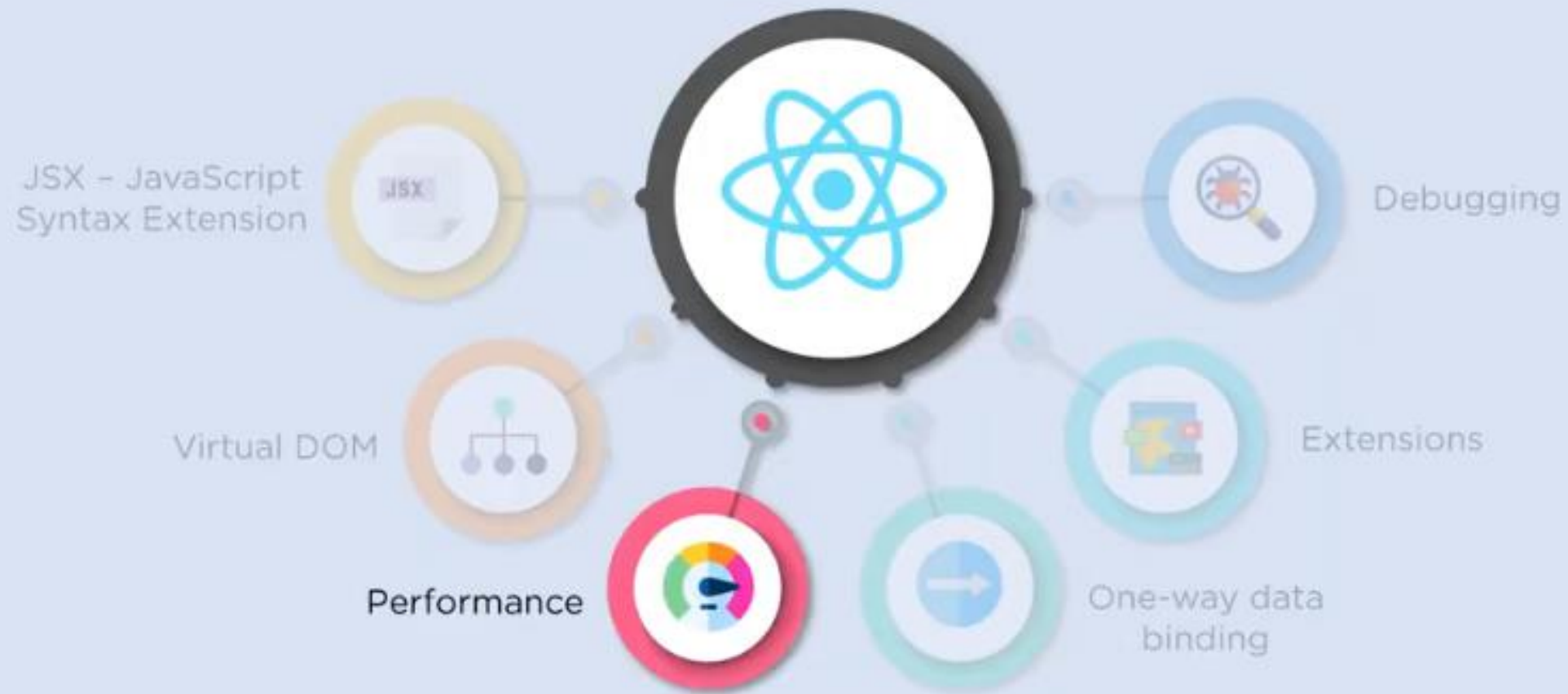
DOM



Real DOM



Features of React



Features of React





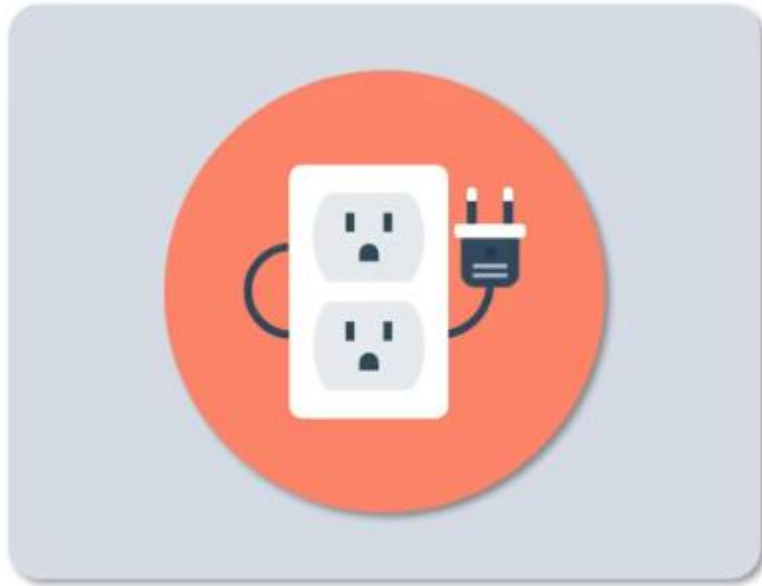
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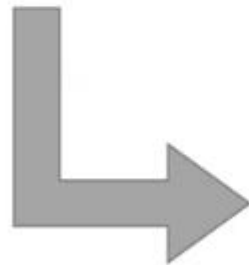
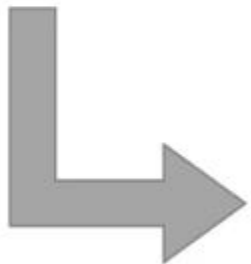




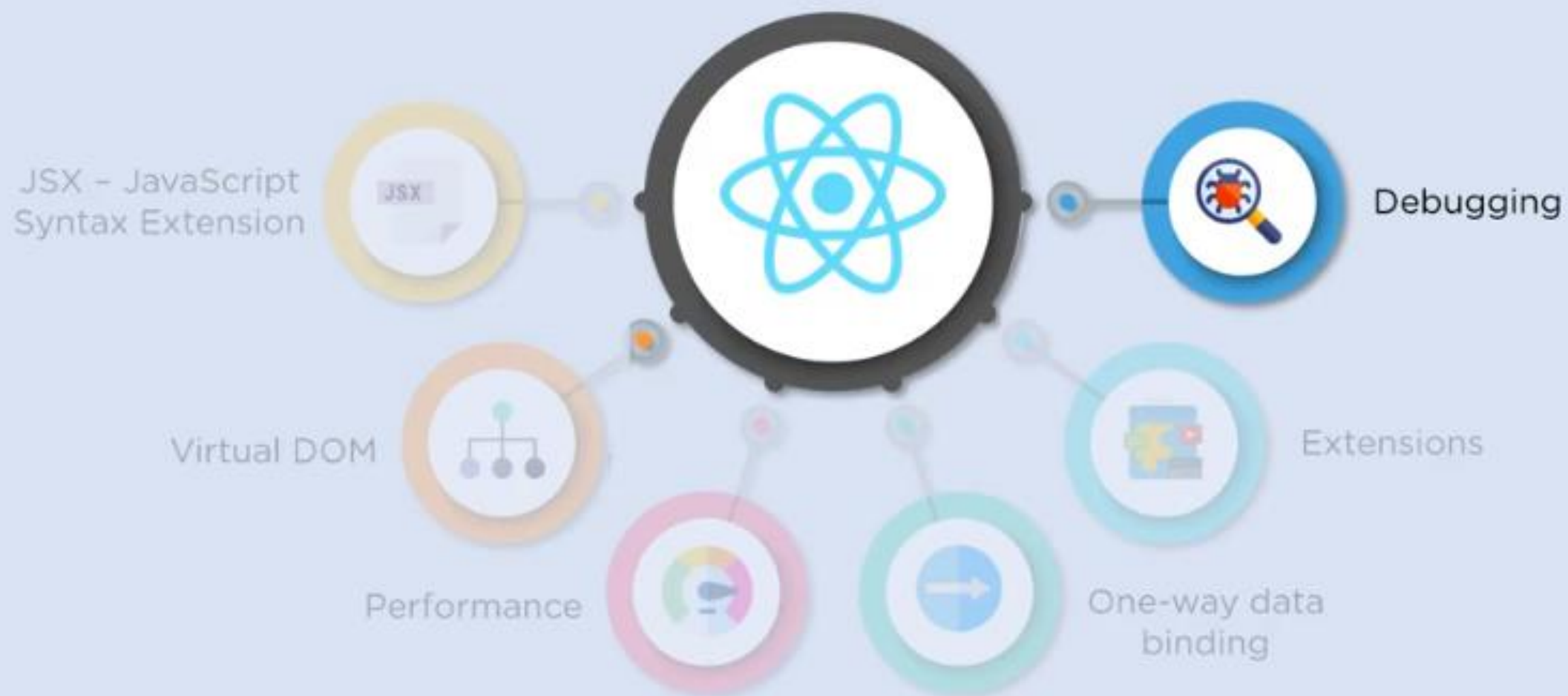
- React goes beyond simple UI and has many extensions for complete application architecture support
- It provides server-side rendering
- Supports mobile app development
- Extended with Flux and Redux, among others



React Native

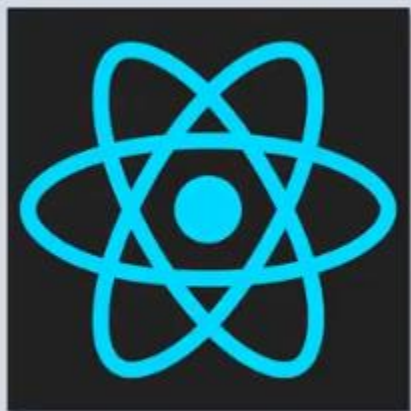


Features of React





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