



react.js



Summary of react.js

Recall

- What is React.js?
- What are some benefits of React?
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Overview

React is a Javascript library for building fast and interactive UI for the web as well as mobile applications

It is an open-source, reusable component-based front-end library

In a MVC architecture, React is the 'view' which is responsible for the app's look and feel.

React is popular for multiple reasons

- 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

All coding in React is done using `JSX`.

Features

JSX



JSX is a syntax extension to Javascript. It is used with React to describe what the UI should look like. 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.

```
const simple = <h1>Hello World</h1>;
```

Virtual DOM



DOM (Data Object Model) defines how documents are accessed and manipulated in a webpage. It treats XML or HTML documents as a tree structure in which each node is an object representing a part of the document.

Virtual DOM is the exact copy of the real DOM. React keeps this lightweight representation of the real DOM in the memory. 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 of the objects.

One-Way Data Binding

Information flows in only one direction, and is used when information is displayed and not updated. It keeps everything modular and fast.

A unidirectional data flow means that when designing a React app you often nest child components within parent ones.

Extensions

React has many extensions for complete application architecture support.

It provides server-side rendering.

It supports mobile app development.

Extended with Flux and Redux, etc.

- React Native is used to build mobile apps with Javascript
- Flux is an application architecture

Debugging

React applications are easy to debug and test due to a large developer community.

Pre-reqs

These are the foundation on which React is built.

Components - Implemented as a Javascript class having a `state` and a `render()` method.

- Components are the building blocks of any React application. A single app generally consists of multiple components
- They are essentially a piece of the UI. It is like a function that returns HTML elements.

- It splits the UI into independent, reusable pieces that can be processed separately.

States

- State of a component is an object that holds some data. This data influences the output of a component.

Props (properties)

- Allow the passing of arguments/data to components. They help make components more dynamic.
- They are passed to components in the way similar to that of HTML tag attributes.

```
import React from "react";

class Simple extends React.Component {
  state = {};
  render() {
    return (
      <div>
        <h1>Hello World</h1>
        <h1>{this.props.exampleProp}</h1>
      </div>
    );
  }
}
```

Industry trends

React developers have the opportunity to earn more than some other web developers. The average salary is 91k.

React has had a better growth scale than other frameworks like Angular and View, it is being adopted by many companies.