## 100 React js Interview Q&A







### What is React.js?

React.js is an open-source JavaScript library used for building user interfaces. It allows developers to create reusable UI components and efficiently update and render them as the application state changes.

#### What are the key features of React.js?

React.js has several key features, including:

- Virtual DOM: React uses a virtual representation of the DOM to efficiently update and render components.
- Component-based architecture: React follows a modular approach, where UIs are built using reusable components.
- Unidirectional data flow: React follows a one-way data binding, making it easier to track and debug data changes.
- JSX: React uses JSX, a syntax extension that allows developers to write HTML-like code within JavaScript.

#### What is JSX?

JSX is a syntax extension for JavaScript used in React.js. It allows developers to write HTML-like code directly within JavaScript, making it easier to create and manipulate React elements.

# Explain the difference between functional components and class components in React.

Functional components are stateless and are defined as JavaScript functions. They are simpler and easier to read, test, and maintain. Class components, on the other hand, are defined as ES6 classes and

have additional features like lifecycle methods and state management.

#### What is the significance of the "render" method in React?

The "render" method is a required method in every React component. It returns a description of what the component should render. The render method is responsible for rendering the component's JSX or other React components.

#### What is a React element?

A React element is a lightweight representation of a DOM element. It is a plain JavaScript object that describes what should be rendered on the screen. React elements are the building blocks of React applications.

#### What is a React component?

A React component is a reusable and self-contained module that represents a part of the user interface. It can be a function component or a class component. Components encapsulate logic and UI, making it easier to develop and maintain complex applications.

#### What is state in React?

State is an object that holds data that can change over time in a React component. It represents the mutable part of the component and can be accessed using this state. When the state changes, React re-renders the component to reflect the updated data.

### What is the difference between props and state in React?

Props (short for properties) and state are both used to manage data in React components, but they have some differences:

 Props are read-only and are passed from parent components to child components. They are used to pass data down the component tree. State is mutable and is managed internally within a component.
It is used to manage data that can change over time within a component.

## What is the significance of keys in React lists?

Keys are used to give a unique identity to each element in a list rendered by React. They help React identify which items have changed, been added, or been removed. Keys improve the efficiency of list rendering and help maintain component state correctly.

## **Explain the concept of the virtual DOM in React.**

The virtual DOM is a lightweight copy of the actual DOM maintained by React. It is a representation of the UI components and their structure. When there are changes in the application state, React compares the virtual DOM with the real DOM and efficiently updates only the necessary parts, resulting in better performance.

#### What are React hooks?

React hooks are functions that allow functional components to use state and other React features without writing a class. Hooks, such as useState and useEffect, provide a simpler way to manage component state and lifecycle.

## What is the purpose of the useEffect hook?

The useEffect hook is used to perform side effects in a React component. It allows you to perform actions like data fetching, subscriptions, or manually changing the DOM after the component has rendered.

#### What is the role of the useState hook?

The useState hook is used to add state to functional components. It returns an array with two elements: the current state value and a function to update that value. It enables functional components to have state similar to class components.

## What are controlled components in React?

Controlled components are React components that manage their state using the state property and update it using setState(). They receive their current value and change callbacks as props, and they notify parent components of state changes through these callbacks.

## What is the purpose of the useCallback hook?

The useCallback hook is used to memoize functions in React. It returns a memoized version of the callback function that only changes if one of the dependencies has changed. It helps optimize performance by avoiding unnecessary re-rendering of components.

## **Explain the concept of prop drilling in React.**

Prop drilling refers to the process of passing props through multiple layers of components in order to reach a deeply nested component that needs access to the data. It can make the code more complex and lead to less maintainable code. Context API or Redux can be used to avoid prop drilling.

#### What is the Context API in React?

The Context API is a built-in feature of React that provides a way to share data between components without explicitly passing it through props. It allows you to create a global state accessible to any component within a designated context.

## What is the significance of React Router?

React Router is a popular library used for implementing routing in React applications. It allows developers to handle navigation and rendering of different components based on the URL. React Router provides a declarative way to define routes and nested routes in the application.

#### What is Redux?

Redux is a predictable state container for JavaScript applications. It provides a centralized store to manage the state of an application and follows a unidirectional data flow. Redux is commonly used with React to manage the application's global state.