

React.js Notes

1. What is React?

React is a JavaScript library developed by Facebook for building user interfaces. It allows the creation of reusable UI components and is known for its Virtual DOM, making applications fast and scalable.

2. React vs JavaScript

- React: JavaScript library for building UI components.
- JavaScript: General-purpose programming language.
- React uses Virtual DOM, JavaScript uses real DOM.
- React promotes component-based architecture.

3. JSX vs JavaScript

JSX is a syntax extension of JavaScript that looks similar to HTML. It's used with React to describe UI elements. JSX needs to be transpiled (e.g., via Babel) to JavaScript.

4. Components in React

- Functional Components: Use functions and hooks like `useState/useEffect`.
- Class Components: Use ES6 classes and lifecycle methods.
- Components are reusable and modular.

5. Important React Concepts

- State: Internal data of a component.
- Props: External data passed to a component.
- Hooks: Special functions in functional components.
- Virtual DOM: Improves performance by minimizing real DOM updates.

6. Lifecycle Methods (Class Components)

- Mounting: `constructor`, `render`, `componentDidMount`
- Updating: `shouldComponentUpdate`, `render`, `componentDidUpdate`
- Unmounting: `componentWillUnmount`

7. Common React Hooks

- `useState()`: Manage local state
- `useEffect()`: Side effects like API calls
- `useContext()`: Global state management
- `useRef()`, `useMemo()`, `useCallback()`

8. React Interview Questions

- What is JSX?
- Difference between class and functional components?

React.js Notes

- Explain Virtual DOM.
- How does useEffect work?
- What is Context API?

9. Small Project Ideas

- Todo List App
- Weather App
- Movie Search App
- Job Portal with AI (your project)
- Virtual Event Ticketing System