



React Theoretical Resources

Difficulty Level: Easy, Medium & Hard Mixed

Topic 1 : Basic React

- ☆ What is React?
- ☆ What are the major features of React?
- ☆ What are the advantages of React?
- ☆ What are the limitations of React?
- ☆☆ What is the difference between HTML and React event handling?
- ☆☆ What is CRA and its benefits?
- ☆☆ How to bind methods or event handlers in JSX callbacks?
- ☆☆ How to pass a parameter to an event handler or callback?
- ☆☆ How do you pass arguments to an event handler?
- ☆☆☆ How events are different in React?
- ☆☆☆ What are synthetic events in React?
- ☆☆ What are inline conditional expressions?
- ☆☆ How to write comments in React?
- ☆☆ What would be the common mistake of function being called every time the component renders?
- ☆☆ Why React uses className over class attribute?
- ☆☆☆ What is strict mode in React?
- ☆☆ What are the common folder structures for React?
- ☆☆☆ Is it good to use arrow functions in render methods?

- ☆☆ What will happen if you use setState in constructor?
- ☆☆ How to define constants in React?
- ☆☆ Why do we use array destructuring (square brackets notation) in useState?
- ☆☆ What is react scripts?
- ☆☆ What are the features of create react app?
- ☆☆☆ How browser renders react?
- ☆☆ Difference between library & framework
- ☆☆ Difference between module & package
- ☆☆ setState() method is sync or async? Why so?
- ☆☆ How different is React's ES6 syntax when compared to ES5?
- ☆☆☆ How to share data across multiple component
- ☆☆ Angular vs React vs Vue

Topic 2 : DOM

- ☆☆ What is Virtual DOM?
- ☆☆☆ How Virtual DOM works?
- ☆☆ What is the difference between Shadow DOM and Virtual DOM?
- ☆☆ What is the difference between Real DOM and Virtual DOM?
- ☆☆ What is the use of react-dom package?
- ☆☆ What is the purpose of render method of react-dom?
- ☆☆ What is the difference between React and ReactDOM?
- ☆☆☆ Why ReactDOM is separated from React?

Topic 3 : JSX

- ☆☆ *What is JSX?*
- ☆☆ *How to loop inside JSX?*
- ☆☆ *Do browsers understand JSX code?*
- ☆☆☆ *Is it possible to use react without JSX?*

Topic 4 : State & Props

- ☆☆ *What is state in React?*
- ☆☆ *How to listen to state changes?*
- ☆☆ *What are props in React?*
- ☆☆ *What is the difference between state and props?*
- ☆☆☆ *What is children prop?*
- ☆☆☆ *What are default props?*

- ☆☆☆ *Why should we not update the state directly?*
- ☆☆☆ *What is the purpose of callback function as an argument of setState()?*
- ☆☆☆ *What is the purpose of using super constructor with props argument?*
- ☆☆☆☆ *How to apply validation on props in React?*
- ☆☆☆ *What will happen if you use props in initial state?*
- ☆☆ *Why we need to be careful when spreading props on DOM elements?*
- ☆☆ *Why we need to pass a function to setState()?*
- ☆☆☆ *What is the difference between super() and super(props) in React using ES6 classes?*
- ☆☆☆ *Why you can't update props in React?*
- ☆☆ *What are the possible ways of updating objects in state?*
- ☆☆☆ *Explain State Management using state & props*
- ☆☆ *Props are mutable or not?*

Topic 5 : Lifting state up

- ☆☆☆ *What is Lifting State Up in React?*

Topic 7 : Fragments

- ☆☆ *What are fragments?*
- ☆☆☆ *Why fragments are better than container divs?*

Topic 8 : Components

- ☆☆ *What is the difference between Element and Component?*
- ☆☆ *How to create components in React?*
- ☆☆ *What is the recommended way for naming components?*
- ☆☆ *What is the recommended ordering of methods in component class?*
- ☆☆ *Why should component names start with capital letter?*
- ☆☆ *When to use a Class Component over a Function Component?*
- ☆☆☆ *How do you conditionally render components?*
- ☆☆☆ *How to update a component every second?*
- ☆☆ *How to import and export components using react and ES6?*
- ☆☆ *What are the exceptions on React component naming?*
- ☆☆ *What is the required method to be defined for a class component?*
- ☆☆☆ *What are the possible return types of render method?*
- ☆☆ *What is the main purpose of constructor?*
- ☆☆ *Is it mandatory to define constructor for React component?*

☆☆☆ *Why is a component constructor called only once?*

☆☆☆ *Difference between mounting & rendering.*

Topic 9 : Pure Component

☆☆☆ *What are Pure Components?*

Topic 10 : Higher Order Component

☆☆☆ *What are Higher-Order components?*

☆☆☆ *How to create props proxy for HOC component?*

☆☆☆ *What are the limitations with HOCs?*

Topic 11 : Controlled vs Uncontrolled

☆☆☆ *What are controlled components?*

☆☆☆ *What are uncontrolled components?*

When to use uncontrolled components?

To write an uncontrolled component, instead of writing an event handler for every state update, you can use a ref to get form values from the DOM. Since an uncontrolled component keeps the source of truth in the DOM, it is sometimes easier to integrate React and non-React code when using uncontrolled components.

Topic 12 : Stateful vs Stateless

☆☆☆ *What are stateless components?*

☆☆☆ *What are stateful components?*

Topic 13 : key

☆☆ *What is "key" prop and what is the benefit of using it in arrays of elements?*

☆☆ *What is the impact of indexes as keys?*

Topic 14 : Error Boundaries

☆☆☆ *What are error boundaries in React v16*

☆☆☆ *How error boundaries handled in React v15?*

☆☆☆ *What is the difference between try catch block and error boundaries?*

☆☆☆ *In which scenarios error boundaries do not catch errors?*

☆☆☆ *What is the proper placement for error boundaries?*

Topic 15 : Mixins

☆☆☆☆ *What are React Mixins?*

Topic 16 : Lifecycle

☆☆ *What are the different phases of component lifecycle?*

☆☆ *What are the lifecycle methods of React?*

☆☆☆ *Is it good to use `setState()` in `componentWillMount()` method?*

☆☆☆ *Why should not call `setState` in `componentWillUnmount`?*

☆☆☆ *What is the lifecycle methods order in mounting?*

☆☆ *What are the lifecycle methods going to be deprecated in React v16?*

☆☆☆ *How to make AJAX call and In which component lifecycle methods should I make an AJAX call?*

☆☆☆ *What is the methods order when component re-rendered?*

☆☆☆ *`ComponentWillUnMount` is used for? Give a use case to elaborate the functionality?*

Topic 17 : Hooks

☆☆ Do Hooks replace render props and higher order components?

☆☆ Is Hooks cover all use cases for classes?

☆☆ Do I need to rewrite all my class components with hooks?

1. Ref & useRef

☆☆☆ What is the use of refs?

☆☆☆ How to create refs?

☆☆☆ How to programmatically trigger click event in React?

☆☆☆ When do you need to use refs?

☆☆☆ What is the use of use-ref?

☆☆☆ useRef access elements from virtual DOM or actual DOM?

2. useCallback & useMemo

☆☆☆ Explain useCallback & useMemo

☆☆☆ Difference between useCallback & useMemo.

3. useEffect

☆☆☆ How to fetch data with React Hooks?

☆☆☆ What is relevance of dependency array in useEffect hook?

4. useReducer

☆☆☆ Explain useReducer hook.

Topic 18 : Context & Context API

☆☆ What is context?

☆☆☆ Give an example on How to use context?

☆☆☆ What is a consumer?

☆☆☆ *What is the difference between React context and React Redux?*

☆☆☆ *Explain Context API*

☆☆☆ *What is props drilling?*

Topic 19 : Routers

☆☆ *What is React Router?*

What are the <Router> components of React Router v4?

☆☆☆ *How to get query parameters in React Router v4*

☆☆☆ *How React Router is different from history library?*

☆☆☆ *What is the purpose of push and replace methods of history?*

☆☆☆ *How do you programmatically navigate using React router v4?*

☆☆☆ *How to pass params to history.push method in React Router v4?*

☆☆☆ *How to implement default or NotFound page?*

☆☆☆ *How to get history on React Router v4?*

☆☆☆ *How to perform automatic redirect after login?*

Topic 20 : Portals

☆☆☆☆ *What is the typical use case of portals?*

Topic 21 : Redux

☆☆☆ *What is Flux?*

☆☆☆ *What is Redux?*

☆☆☆☆ *Can Redux only be used with React?*

☆☆☆☆ *What are the core principles of Redux?*

☆☆☆☆ *What are the downsides of Redux compared to Flux?*

☆☆☆☆ *What is the difference between mapStateToProps() and*

☆☆☆☆ *mapDispatchToProps()?*

☆☆☆☆ *Can I dispatch an action in reducer?*

☆☆☆☆ *How to access Redux store outside a component?*

☆☆☆☆ *How to use connect from React Redux?*

☆☆☆☆ *How to reset state in Redux?*

☆☆☆☆ *Whats the purpose of at symbol in the redux connect decorator?*

☆☆☆☆ *Why are Redux state functions called reducers?*

☆☆☆☆ *How to make AJAX request in Redux?*

☆☆☆☆ *Should I keep all component's state in Redux store?*

- ☆☆☆☆ What is the proper way to access Redux store?
- ☆☆☆☆ What is the difference between component and container in React Redux?
- ☆☆☆☆ How to structure Redux top level directories?
- ☆☆☆☆ What is Redux Thunk?
- ☆☆☆☆ How to add multiple middlewares to Redux?
- ☆☆☆☆ How to set initial state in Redux?
- ☆☆☆☆ What is an action in Redux?
- ☆☆☆☆ What are the differences between Flux and Redux?

Topic 22 : Reconciliation & Diffing

- ☆☆☆☆ What is reconciliation?
- ☆☆☆☆ What is diffing algorithm?

Topic 23 : Miscellaneous

- ☆☆☆☆ What is React Fiber?
- ☆☆☆☆ What is the main goal of React Fiber?
- ☆☆☆☆ What is code-splitting?
- ☆☆☆☆ What is the difference between createElement and cloneElement?
- ☆☆☆☆ How you implement Server-Side Rendering or SSR?
- ☆☆☆☆ How do you memoize a component?
- ☆☆☆☆ How to enable production mode in React?
- ☆☆☆☆ What is the purpose of getDerivedStateFromProps() lifecycle method?
- ☆☆☆☆ What is the purpose of getSnapshotBeforeUpdate() lifecycle method?
- ☆☆☆☆ Are custom DOM attributes supported in React v16?
- ☆☆☆☆ What is the difference between constructor and getInitialState?
- ☆☆☆☆ Can you force a component to re-render without calling setState?
- ☆☆☆☆ How do you access props in attribute quotes?
- ☆☆☆☆ How to conditionally apply class attributes?
- ☆☆☆☆ How to pretty print JSON with React?
- ☆☆☆☆ How to use https instead of http in create-react-app?
- ☆☆☆☆ What is React memo function?
- ☆☆☆☆ What is Jest?
- ☆☆☆☆ How to optimize rendering?

