**1) What is Single Page Application ?**

Single page applications work within a single browser session and allow users to jump between parts of the system without requiring the entire page to reload.

**2) Difference between npm & npx ?**

• Node package Manager is a tool: used to install, maintain, uninstall javascript modules (packages)

• NPX: (Node package Execution) If we want directly run a package for once.

• NPM is for management -vs- NPX is one time execution.

**3) What is babel & Web-pack?**

• Bable is a transpiler & also a compiler.

• It will take ES6 input & converts it to ES5 for our browsers to understand.

• It also converts JSX (JavaScript Extended) language to JS.

• Web-pack is basically bundling tool used by react:

• It will bundle all the CSS & html files & will add to Index.html file. (Using <link> tags)

**4) Explain Class based components vs functional components?**

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| --- | --- |
| **Functional Components** | **Class Components** |
| Functional components are written  as a JavaScript function. | Class components are written  as a JavaScript class. |
| Functional components do not have a state or lifecycle methods. | Class components have a state  and can implement lifecycle  methods like  componentDidMount  and componentDidUpdate. |
| Faster performance as they do  not have state and lifecycle,  react needs to do less work to  render these components. | Slower performance as they  have state and lifecycle, react  needs to do comparatively  more work to render  these components. |
| Functional components code tend  to be shorter and more concise. | Class components require  the boilerplate code, such as a constructor method and the use  of “this” to access props and state. |

**5) What is Hooks? What are different types of Hooks?**

Hooks are functions that let you “hook into” React state and lifecycle features from function components. Hooks don't work inside classes — they let you use React without classes.

Types of Hooks are:

• ‘useState’: It is the most commonly used React Hook. It allows functional components to have state variables. It takes an initial state value as the argument and returns an array with two elements — the current state value and a function to update that state.

• ‘useEffect’: It enables performing side effects, such as data fetching, subscriptions, or DOM manipulations after the component has been rendered.

• ‘useRef’: Provides a way to create mutable references to values or DOM elements that persist across renders. Often used for accessing or manipulating DOM elements.

**6) What is a state in React?**

State is an Object, and we use the state to store data, that will be used by our component.A component's state can change over time; whenever it changes, the component re-renders.