

Full Stack Developer (MERN Stack) - Internship Application

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* Required

Questionnaires

Simple questions to understand your skills in MERN stack. (try giving short answers within 100-200 words)

● Try not to copy anything from the INTERNET.

1. What are the differences between functional and class components ; in context * of handling props and state.

Components are reusable bit of code. these are the building blocks of our React. Functional component is a JavaScript Function, in which no render method is used. Whereas class components are made of multiple function, it creates a render function and return a react element. Class component include "extends React.Component" and they are known as state-full component. Functional components earlier were called as state-less component because they do not have state dedicated variable like class components. But After the update, React cover this gap in Functional component with the help of Hook. useState() is used now for working with state in functional components.



Why and how react uses virtual DOM ? *

DOM is a structured representation of the html document, they are represented as tree data structure. updating DOM is a slow process which is not good for site, every time we update DOM , the element and its children need to be updated and rendered which is making it a slow process. It is a redundant process, that's why we use virtual DOM in react. It is mostly the same as a real DOM object, but it does not change the things(layout) directly at the screen. Working of virtual DOM- whenever we change the state of any element, a new virtual DOM is created in the form of a tree then it compares with the pre-changed virtual DOM. After comparing it notes the changes, and these changes get rendered in the real DOM. This process is much faster. This is the reason why React is more used by the developers.

Explain different phases of component life cycle. Compare mounting and updating with React Hooks. *

Every React component has a life cycle, three stages of life cycle are

- 1) Mounting- inserting the elements into React DOM(rendering the JSX).
- 2) Updating- involves methods for updating components in the DOM.
- 3)Unmounting- final step of the component lifecycle, it involves removing a component from the DOM.

In the traditional class component we use `componentDidUpdate()`, `componentWillMount()` function for different phase of component life cycle. But in Functional class component , the `useEffect()` Hook will be invoked when the component mounts and updates.

What is threading in Node.js ? *

Node.js is said to be single-threaded, allowing for the execution of single command at a given time. Let's say, executing processor intensive server-side code may block the event loop which results in slowing the execution of other subsequent requests. For us to solve this problem, the worker threads module was introduced in Node.js . Node.js comes with the inbuilt `worker_threads` module. This module helps in running JavaScript codes in parallel. Worker threads are responsible for handling CPU-intensive tasks. The worker thread works by executing a piece of code specified by the main thread. Each worker executes in isolation



from other workers. However, these workers can pass a message back and forth as required via a message channel.

How Node.js handles concurrency ? *

As answered in above question, Node.js is a single threaded. But it is to be noted that entire Nodejs architecture is not single threaded. It handle multiple requests sent from client side by putting the request into event queue. It is also asynchronous which helps the Node.js handles the concurrency. It does not block incoming requests from clients when the operating system has one I/O intensive request. Instead, it passes this I/O request to the internal C++ threads and takes up the next job from the event queue.

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