

3. How is JSX utilized in React?

JSX stands for JavaScript syntax extension. It is a JavaScript extension that allows us to describe React's object tree using a syntax that resembles that of an HTML template. JSX allows us to write HTML elements in JavaScript and place them in the DOM without any `createElement()` and/or `appendChild()` methods. JSX converts HTML tags into react elements.

You are not required to use JSX, but JSX makes it easier to write React applications.

Because JSX is not valid JavaScript, browsers can't read it directly; they do not know what to do with it, so we need a transpiler to translate it to `React.createElement()` calls. We need transpilers (a compiler that translates one form of syntax into another) like Babel or TypeScript to compile JSX into a browser-compatible version.

This occurs during the build process, so the browser will never know JSX was present in the first place. The browser, in turn, receives a tree of objects that have been described using the React API.