

DWA_12 Knowledge Check

To complete this Knowledge Check, ensure you have worked through all the lessons in **Module 12: Declarative Abstractions**.

To prepare for your session with your coach, please answer the following questions. Then download this document as a PDF and include it in the repository with your code.

1. What are the benefits of direct DOM mutations over replacing HTML?

- Performance boost. Having to re-render the html every time can result in decreased performance and poor user experience, particularly in large applications.
 - Preservation of event handlers. When you replace HTML, you often need to reattach event handlers and reinitialize the state of the elements. If not, then your input elements will lose their focus each time something is typed, resulting in decreased user experience.
 - Improved user experience for reasons listed above.
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2. What low-level noise do JavaScript frameworks abstract away?

- Imperative updating of the DOM, keeping track of what elements need to change.
 - Event handling. frameworks simplify event handling, providing abstractions for attaching and managing event listeners.
 - State Management. Managing application state can be challenging, especially in large and complex applications. Many frameworks offer state management solutions, such as Redux for React, which helps keep things organised.
 - Data Binding. Frameworks often include two-way data binding or reactive data systems that automatically update the UI when the underlying data changes. This reduces the need for manual DOM updates.
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3. What essence do JavaScript frameworks elevate?

- The general processes taking place in the application. They allow developers to shift their focus from DOM/data interplay to the user-facing side/data input.
 - Developer Productivity. Frameworks abstract away many low-level complexities, reducing boilerplate code and repetitive tasks. This, in turn, increases developer productivity by allowing them to focus on application logic rather than managing technical details.
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4. Very broadly speaking, how do most JS frameworks achieve abstraction?

- They hide away the imperative DOM mutations
 - They promote Component-Based Architecture where the UI is broken down into reusable, self-contained components. This abstraction simplifies the structure of the application and encapsulates both the UI and its associated logic within components.
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5. What is the most important part of learning a JS framework?

Understanding the underlying principles of what the framework is actually doing. This helps developers to grasp various concepts within the framework and implement them more efficiently into their applications. It also helps debugging inevitable issues and collaborating with other developers.