# 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.

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

Performance boost

1. Performance Efficiency: This reduces reflows and repaints, leading to faster updates.
2. Reduced Flickering: This provides a smoother user experience without visible content refreshes.
3. Preservation of Event Listeners: This maintains the functionality of existing event listeners, simplifying code management.
4. Granular Control: This offers precise updates to attributes, styles, and content.
5. Better Memory Management: This minimizes the risk of memory leaks, enhancing overall performance.

Making direct changes to the DOM provides better performance compared to replacing entire HTML sections. This approach minimizes repaints and reflows, reduces memory usage, and allows faster updates. Additionally, it maintains the state of page elements, enhances the user experience, and provides more precise control over updates.

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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

JavaScript frameworks simplify web development by handling low-level tasks like DOM manipulation, event handling, state management, routing, and AJAX requests. This simplification enhances productivity, maintains consistency, and improves the performance of web applications. Understanding these abstractions allows beginners to build modern, efficient, and scalable applications using frameworks. Comprehending how frameworks manage these complexities enables more efficient and maintainable web development practices. To build modern, efficient, and scalable applications. JavaScript frameworks abstract away low-level noise such as imperative DOM manipulation and manual state management. This abstraction simplifies development by providing declarative syntax and efficient mechanisms for updating the UI based on application state changes. Understanding how frameworks handle these complexities allows for more efficient and maintainable web development practices.

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3. What essence do JavaScript frameworks elevate?

JavaScript frameworks enhance web development by advocating for declarative UI development, component-based architecture, efficient state management, support for single-page applications (SPAs), and nurturing active developer communities. Mastering these fundamental aspects enables beginners to create scalable, interactive, and maintainable applications using modern JavaScript frameworks.

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4. Very broadly speaking, how do most JS frameworks achieve abstraction?

They hide away the imperative DOM mutations

JavaScript frameworks achieve abstraction by using virtual DOM for efficient updates, promoting component-based architecture for reusability, emphasizing declarative programming to simplify UI development, and providing robust state management and data binding mechanisms. Understanding these abstraction techniques empowers beginners to build scalable and maintainable web applications using modern JavaScript frameworks.

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1. What is the most important part of learning a JS framework?

Mastering a JavaScript framework is crucial and involves understanding its core concepts through hands-on practice, utilizing documentation and community resources, building projects, and adopting best practices. These elements collectively enable beginners to effectively use the framework's capabilities, solve problems, and create robust, maintainable applications.