

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:** Making direct changes to the specific elements in the DOM can be faster and improves the responsiveness of the web pages rather than directly replacing the HTML.
- **Flexibility:** When you directly manipulate the DOM, you have the freedom to apply your own custom logic and make changes to the DOM elements. It gives you the flexibility to customize how elements behave and look on your webpage.
- **Efficient updates:** When your webpage has content that frequently changes, directly manipulating the DOM helps you only update the specific parts of the page that you want to be changed without affecting the rest of the page and it avoids unnecessary updates to other elements
- **Integration of external libraries:** When you use direct DOM mutations, it becomes easier to integrate these libraries into your code.

2. What low-level noise do JavaScript frameworks abstract away?

DOM manipulation: JavaScript frameworks simplify manipulating the DOM by hiding the complex details.

- **Event handling:** Frameworks simplify event handling by easily attaching event listeners to handle events without having to worry about compatibility issues across different browsers
 - **State management:** Frameworks abstract away the complexity of managing application state across components or modules.
 - **Routing:** Frameworks handle the complexities of managing different page URLs and make it easier for developers to create navigable web apps
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3. What essence do JavaScript frameworks elevate?

- Productivity
 - Organization
 - Abstraction
 - Performance
 - Maintainability
 - Reusability
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4. Very broadly speaking, how do most JS frameworks achieve abstraction?
They hide away the imperative DOM mutations

JS frameworks achieve abstraction by **simplifying tasks** and **hiding the implementation details using higher-level APIs, conventions and patterns**. They encourage modularization through **encapsulation** which allows developers to concentrate on component functionality without being concerned about internal workings.

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

- understanding its **core concepts** and **principles**.
- Understanding the **frameworks architecture** and design patterns.
- Understanding the **concepts of component-based development**.
- Learning about the different options for state management.
- Mastering routing and navigation within the framework.
- Engaging with the framework's community and utilizing documentation.