

Vision Bridge Software Developer Assignment

Overview

In this assignment, you will create a JavaScript application that dynamically modifies a webpage based on configurations provided in YAML files. This task will test your skills in JavaScript, YAML parsing, DOM manipulation, and handling configuration conflicts.

Objective

Create a JavaScript application that reads configurations from YAML files and applies them to a given HTML document. The application should support various actions such as remove, replace, insert, and alter, and handle conflicts by implementing a priority logic.

Core Requirements

1. YAML Configuration Parsing

- Develop functionality to read and parse YAML configuration files.
- The application should be able to handle multiple YAML files.

2. Action Types

Implement the following action types as specified in the YAML files:

- Remove: Remove all occurrences of a given DOM element. Selection criteria: tag, class, or id.
- Replace: Replace all occurrences of a given DOM element with another specified element.
- Insert: Insert a given DOM element into the HTML.
- Alter : Change specific text content within the DOM. Example: Alter "Machine Learning" to "AI" throughout the document.

Example Yaml:

actions:

- type: remove
selector: ".ad-banner"
- type: replace
selector: "#old-header"
newElement: "<header id='new-header'>New Header</header>"
- type: insert
position: "after"
target: "body"
element: "<footer>Footer Content</footer>"
- type: alter
oldValue: "Machine Learning"
newValue: "AI"

3. Multiple Configuration Handling

- Apply all provided YAML configurations.
- Implement a priority logic to resolve conflicts between configurations.
- Ensure consistency in applying configurations.

4. Action Structure

Each action in the YAML file should clearly specify:

- The type of action (remove, replace, insert, or alter)
- The target element(s)
- Any additional data required for the action (e.g., replacement content, insertion location)

5. Basic DOM Manipulation

- The application should use JavaScript to manipulate the DOM based on the actions defined in the YAML files.
- Support for manipulating attributes is not required for this assignment.

Bonus Point: Specific Configuration

- Create a YAML file that provides configuration for specific pages, URLs, or hosts.
- This file should specify which YAML configuration files to apply for each page, URL, or host.

Example YAML file:

```
datasource:
  pages:
    list: A.yaml
    details: B.yaml
    cart: [A.yaml, B.yaml]
  urls:
    /products: A.yaml
    /orders: B.yaml
  hosts:
    example.com: A.yaml
    another.com: B.yaml
```

Evaluation Criteria:

- Functionality (50%): Correct implementation and execution of all required actions and functionalities.
- Code Quality (25%): Readable, well-structured, and well-commented code.
- Scalability and Maintainability (15%): Ability to handle multiple configuration files and potential future enhancements.
- Bonus Feature (10%): Implementation of the dynamic configuration selection with an additional YAML file (optional).

Submission

- Submit the project as a Git repository with a clear README file explaining:
 - How to set up and run the application.
 - An overview of the code structure.
 - Any assumptions made or limitations of the current implementation.
- Keep Git history of project development with visible commits.
- Ensure that your code is well-documented and follows best practices.
- **Not Must But Good to Have:** Write a brief description of your solution, including any challenges you faced and how you overcame them.
- Repo can be private or public. In case of a private repo, invite omutas (<https://github.com/omutas>)

Notes

- You can use any JavaScript libraries or frameworks for DOM manipulation (e.g., vanilla JS, jQuery).
- You can implement modular code structure for better maintainability.
- You can include error handling for invalid YAML formats or unsupported actions.
- You can consider cross-browser compatibility.
- Feel free to ask any clarifying questions if the requirements are not clear.

Good luck, and happy coding!