MIME Type Fix Documentation

Overview

This document explains the MIME type fixes implemented in the CineFlux-AutoXML project through the custom Vite plugin (`vite-mime-plugin.js`). The plugin addresses common MIME type issues that can occur during development with Vite, particularly when serving JavaScript modules.

Problem Statement

When serving JavaScript modules in development mode, Vite may sometimes use incorrect MIME types:

1. Using `text/javascript` instead of `application/javascript` for JavaScript modules
2. Using `application/octet-stream` for some JavaScript files
3. Missing charset specification in the Content-Type header

These issues can cause problems in certain browsers that strictly enforce MIME type checking for ES modules, resulting in errors like:

```
Failed to load module script: The server responded with a non-JavaScript MIME type of "text/
Strict MIME type checking is enforced for module scripts per HTML spec.
```

Solution

The `vite-mime-plugin.js` implements a custom Vite plugin that:

1. Intercepts HTTP responses for JavaScript files
2. Ensures the correct MIME type (`application/javascript; charset=utf-8`) is set
3. Fixes both direct URL requests and internal header setting operations

Implementation Details

The plugin works in two ways:

1. Direct URL Interception

For direct requests to JavaScript files, the plugin checks the URL extension and sets the appropriate Content-Type header:

```
if (req.url) {
  const url = req.url.split('?')[0]; // Remove query parameters
  if (url.endsWith('.js') || url.endsWith('.mjs') ||
      url.endsWith('.ts') || url.endsWith('.tsx') ||
      url.endsWith('.jsx')) {
    res.setHeader('Content-Type', 'application/javascript; charset=utf-8');
```

```
  }
}
```

This ensures that files with the following extensions are served with the correct MIME type: - `.js` - JavaScript files - `.mjs` - JavaScript modules - `.ts` - TypeScript files - `.tsx` - TypeScript React files - `.jsx` - JavaScript React files

2. Header Interception

The plugin also intercepts calls to `setHeader` to ensure that even if another middleware tries to set an incorrect MIME type, it will be corrected:

```
const originalSetHeader = res.setHeader;
res.setHeader = function(name, value) {
  if (name === 'Content-Type' &&
     (value === 'text/javascript' || value === 'application/octet-stream')) {
    return originalSetHeader.call(this, name, 'application/javascript; charset=utf-8');
  }
  return originalSetHeader.call(this, name, value);
};
```

This specifically targets: - `text/javascript` - An older MIME type that some servers still use - `application/octet-stream` - A generic binary MIME type that's sometimes used as a fallback

Usage

The plugin is automatically applied to the Vite development server through the Vite configuration file. No additional setup is required for developers.

Browser Compatibility

This fix is particularly important for:

- Chrome 60+
- Firefox 60+
- Safari 10.1+
- Edge 79+

These browsers enforce strict MIME type checking for ES modules as specified in the HTML spec.

References

- HTML Specification - MIME Type Checking
- Vite Plugin API Documentation
- MDN Web Docs - JavaScript MIME Types