No inline JavaScript

Writing designs without inline script code: no script blocks with code, no on* handler attributes, no javascript: links; event delegation with data attributes, JSON configuration blocks, progressive enhancement, and the...

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This page is for designers and front-end developers. Templates of Exponential designs carry no script code: every line of JavaScript is in a file under `javascript/`, loaded through ezjscore. The page shows the patterns that replace inline code.

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What counts as inline

The same three kinds that the design tests count (`AdminContentSecurityPolicyTest`, `ExtensionInlineScriptsTest`):

- a `<script>` element with code inside (a `<script src="...">`, a JSON data block and a `<template>` are fine);
- an event handler attribute: `onclick=""`, `onchange=""`, `onload=""` ...;
- a `javascript:` URL.

All three are blocked by a policy with `script-src 'self'`.

Handlers: data attributes and delegation

Markup says *what*; the script file says *how*:

Template

```
<button type="button" class="js-toggle" data-target="site-nav" aria-expanded="false" aria-controls="site-nav">
    {'Menu'|i18n( 'design/mytheme' )}
</button>
<nav id="site-nav" hidden>...</nav>
```

JavaScript

```
/* design/mytheme/javascript/mytheme.js */
document.addEventListener('click', function (event) {
  var button = event.target.closest('.js-toggle');
  if (!button) return;
  var target = document.getElementById(button.dataset.target);
  var open = button.getAttribute('aria-expanded') === 'true';
  button.setAttribute('aria-expanded', String(!open));
  target.hidden = open;
});
```

One listener on the document handles every toggle, also ones added later by AJAX. The admin uses the same idea with `data-a4-*` actions (the CSP feature page lists them as the replacement for handlers).

Values for scripts: JSON blocks

Template

```
<script type="application/json" id="mytheme-map">{json_encode( hash(
    'lat', $node.data_map.location.content.latitude,
    'lng', $node.data_map.location.content.longitude,
    'label', $node.name ) )}</script>
```

JavaScript

```
var data = JSON.parse(document.getElementById('mytheme-map').textContent);
```

`json_encode` (ezjscore) escapes the values for JSON. A JSON block is data, not code, and is not blocked.

Progressive enhancement

Build pages that work without the script, then add behavior:

- a menu that is a plain list of links; the script turns it into a toggle;
- a form that submits normally; the script adds live validation or AJAX;
- `<details>` for disclosures, `<dialog>` for dialogs.

admin4's head script sets the class `a4-js` on `<html>` when scripts run, so stylesheets can draw the scripted state only then. Do the same in your design (set a class from your head script file).

Checking

Shell

```
grep -rn -E "on(click|change|load|submit|keyup|keydown|mouseover)=|javascript:|<script>" extensio
n/mytheme/design --include=*.tpl
```

and look at the browser console of every page type with the site's policy in report-only mode.

Related pages

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