



Adobe Experience Manager and single-page applications (SPAs): A technical brief

How an SPA editor in a hybrid content management system (CMS) increases content velocity and saves IT time

With Adobe Experience Manager Sites, IT can use familiar SPA front-end development tools while leveraging rich editing features that improve content scaling and therefore future SPA development effort. The Experience Manager Sites SPA Editor lets front-end developers and content authors make content and presentation changes to SPAs without coding, reducing time to market and the burden on IT.

Why use a hybrid CMS for SPAs

SPAs are gaining popularity as the performance and responsiveness of online experiences become critical. When brands roll out SPAs, they often initially use “headless” CMSs. However, this approach can limit agility, because layout or presentation changes typically require IT effort. Headless-only CMSs keep content authors trapped in interfaces that are dissociated from the resulting visitor experience, and require additional development cycles for visual changes, therefore increasing complexity. This complexity is magnified as brands integrate more SPAs into global digital experiences, while still maintaining traditional HTML web pages.

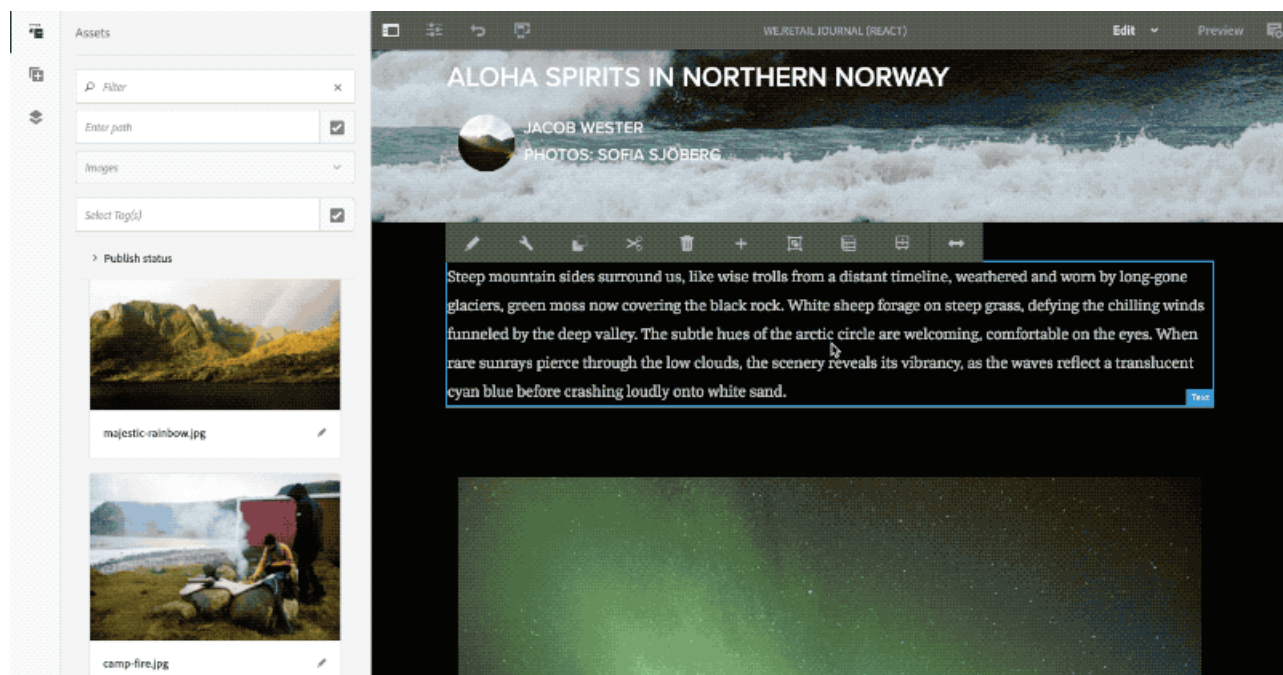
Experience Manager Sites is a hybrid CMS that delivers the best of both worlds. It combines the dynamic, omnichannel capabilities of a headless delivery environment with the efficiency and agility of channel-centric content authoring and publishing. Brands can unite SPAs and their traditional HTML web pages on a single platform, maximizing agility and minimizing IT development time.

Experience Manager Sites provides a JavaScript Software Development Kit (JS SDK). Using the SDK and familiar JavaScript development frameworks such as Angular or React, IT can build and compile SPAs that are loaded into Experience Manager Sites. Once SPAs are part of Experience Manager, content authors and front-end developers can use the SPA Editor to make content, layout, and presentation changes in-context, just as they would with traditional HTML web pages.

Experience Manager Sites SPA Editor: In-context editing

In contrast to the form-based UIs used by typical headless CMSs, the Experience Manager Sites SPA Editor is a visual WYSIWYG editor that allows content authors to make changes not only to SPA content, but also to layout and presentation. Front-end developers can control the overall structure of SPAs and optionally place limits on what content authors can edit. This approach allows front-end developers to:

- **Speed up content changes**—Make, test, and publish changes to SPAs in minutes without coding.
- **Reduce front-end development effort**—Empower content authors to make needed changes, rather than relying on a code deployment process that could take days or weeks.
- **Minimize surprises**—Preview what the SPA will look like on different systems and roll back changes if necessary.
- **Reduce training effort**—Use the same intuitive and visual editor for traditional web pages and SPAs.



Content Marketers can use Experience Manager Sites to edit site content that was built with React

How the SPA Editor works in Experience Manager

Front-end developers can quickly support SPAs in Experience Manager, while continuing to build sites using familiar frameworks and tools the way they are used to. Once an SPA is loaded into the SPA Editor, the JavaScript components of the SPA are mapped to Experience Manager editing dialogs, enabling content authors to make changes to the SPA using the editor. The SPA Editor communicates with the SPA using JSON. Advantages for front-end developers include:

- **Multiple frameworks supported out of the box**—Continue to build SPAs with familiar JavaScript frameworks such as ReactJS and AngularJS.
- **Independent development**—Choose the front-end tools of your choice—such as Webpack, NPM, Grunt, or Gulp—and import SPAs and components into Experience Manager with minimal effort.
- **Small footprint**—Create Experience Manager-friendly SPA components by simply inserting data attributes into the outer HTML element of existing components.

For more information, see: [Getting Started with SPAs in Experience Manager](#).

Other advantages of using Experience Manager Sites for SPAs

Experience Manager extends several important features to SPAs, giving front-end developers and content authors the ability to collaborate and rapidly meet the needs of changing markets and customer preferences. Front-end developers and content authors can take advantage of:

- **Content fragments**—Speed up authoring and help ensure consistency across channels by populating SPAs with Experience Manager content fragments, which can represent structured or unstructured content. Managed centrally, content fragments are always up-to-date.
- **Content Services**—Easily export any content to JSON for reuse in SPAs. If needed, content authors can edit the content in the SPA using the SPA Editor.
- **Translation integration**—Leverage the same translation workflows available for traditional web pages, ensuring SPAs reach new geographies quickly with accurate content.
- **Personalization**—Use Adobe Target to test and personalize SPAs as easily as traditional web pages.
- **Analytics**—Gain insight into how SPAs are performing and act on results in real time with Adobe Analytics.
- **Machine learning and automation**—Eliminate manual editing for multiple channels with features powered by Adobe Sensei, like Smart Crop for images and automatic text summarization for content fragments

For more information.

www.adobe.com/go/aem



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