Implementing forms, workflows, and e-signatures with Adobe Experience Manager Forms
A best practices guide
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TABLE OF CONTENTS

3 Transform enrollment with Adobe Experience Manager Forms
4 Design forms quickly for multiple channels and devices
7 Scale for multiple brands and regions
8 Produce a document of record to meet compliance objectives
9 Go paperless with e-signatures
10 Process submitted forms efficiently
12 Empower mobile workers on tablets or smartphones
13 Measure and optimize form experiences
15 Additional resources
Adobe Experience Manager Forms helps government agencies, financial organizations, and other regulated industries streamline application enrollment, process submissions efficiently, and enable dynamic, personalized correspondence for standout customer experiences across any device or channel. Experience Manager Forms works seamlessly with Adobe Marketing Cloud solutions to transform disjointed customer journeys into connected and consistent experiences across multiple channels.

In this guide, you will find useful tips on creating simple to complex forms across the enterprise for various devices and channels, meet compliance goals and efficiently connect form data to backend systems. You will also learn how to setup analytics for forms and optimize experience via A/B testing.

Adobe Experience Manager Forms was a major force in simplifying how we interact with customers. We can cut seven-step processes down to four steps with more control over each form. Additionally, we output completed forms to PDF, giving the customer a copy to help ensure accuracy and add a layer of hands-on service.

- LIZELLE VAUGHAN
  Program director for digital experience management, Nedbank

Read this customer story to find out how a South African financial institution cut unnecessary steps and increased form completion.
Design forms quickly for multiple channels and devices

Experience Manager Forms makes it easy for organizations to create forms once and reach users everywhere on multiple channels—web, mobile, apps, and even print—and devices—desktop, tablet, and smartphone. Read on to learn about key tools that can help you create consistent forms that display properly across screens and channels.

Jumpstart form authoring with a visual form editor

The form editor is a visual user interface that allows designers or business users to author responsive, adaptive forms without coding. Experience Manager Forms makes form assembly quick and easy by supplying a number of elements out-of-the-box—including sample forms, form templates that define the structure of forms, themes that define styling, and a library of standard components. You can use these elements as a base for adaptive forms or create your own.

With Experience Manager 6.3 Forms, you can create adaptive forms based on a form data model, which allows you to configure and connect one or more data sources to your form. These configurable data integrations allow you to prefill form data based on reading a data source, invoke services, and write data submitted in forms to a data source. For more details, see Connect form data to other systems.

To begin authoring a form, simply drag and drop standard form components—including text boxes, buttons, charts, images, drop-down lists, e-signature fields, and more—into the form from the form editor’s side panel. Next, configure detailed properties for every form component.

For example, to configure a form component for a text box that captures a user’s street address:

1. From the sidebar, drag a text box component into the form.
2. Add display text (Street Address).
3. Make the field required and compose an error message to display if the field is skipped.
4. Add in-context help text associated with the field (for example, “Please include unit number and street type. Post office boxes are not accepted.”).
5. Specify how Experience Manager will handle the data in the field when the form is submitted.

Learn more about best practices for working with adaptive forms

BEST PRACTICE TIP:
Always start the project with high volume but simple complexity form and use the form editor to build adaptive forms unless you must use an existing XFA form template. For simpler forms, consider leveraging the form templates available in the Experience Manager Forms add-on package. For complex forms, it is better to create your own custom form templates. If your form must connect to other sources of data, such as a user database, leverage a form data model (XDP, XSD, or JSON) to build your form.
Preview and review forms before publishing

Before you publish a form, you can use the form preview feature (available in the form editor) to see how it will look to end users—either blank (no data entered) or filled (data entered). You can also preview how forms will look on different devices, such as different versions of smartphones or tablets. If your form will require approval from several people or groups, you can set up a form review workflow from the forms management interface. Form templates are available in the Experience Manager Forms add-on package.

Learn more about previewing a form
Learn more about sending form assets for review
Learn about downloading and installing the add-on package

Insert dynamic behavior with a visual rule editor

Adding dynamic behavior based on user-provided information makes forms easier to complete quickly and accurately. For example, if a client filling out a mortgage application indicates there is no joint applicant by checking a box, there is no need for the form to display fields to capture a second person’s salary information.

The rule editor in Experience Manager Forms allows you to add logic to forms without coding. You can also use the rule editor to call a web service to complete form fields based on user input.

- To call a web service directly from a form, enter the URL in the rule editor.
- If several forms will use the same web service, configure the web service in CRX to invoke it from the rule editor by name.

Watch this video to see how to use the rule editor

BEST PRACTICE TIP:
Use the multi-device preview tool to ensure forms look and perform as expected—on all devices—before they are published.

BEST PRACTICE TIP:
The visual rule editor has comprehensive capabilities to add the most complex logic into your forms and can greatly reduce coding effort. Hence always start with the visual editor but if it doesn’t satisfy your need, a code editor can be accessed directly from the AEM Forms interface for advanced customization.
Maintain brand consistency with themes

Themes define the visual style of forms, such as colors, background, header and footer images, button styles, and more. A single theme can be applied to any number of forms to ensure a consistent look across collections.

Get forms to market quickly by leveraging reference themes included with Experience Manager Forms. You can modify a reference theme to meet your needs, or use the theme editor to build your own theme—no CSS knowledge required. Business users can design themes, and then use the theme editor to preview how they will look on a form.

Themes make it easy to accommodate style or branding changes across form collections. Updating a theme automatically updates all forms associated with it.

Learn more about how to build your own theme using the theme editor

Watch this video to see how to use the theme editor

**BEST PRACTICE TIP:**
Use a reference theme as a starting point to become familiar with the power of themes. Reference themes are available in an Experience Manager Forms add-on package.
**Scale for multiple brands and regions**

Many organizations manage several brands and operate in multiple regions. Experience Manager Forms provides tools to help you scale forms for multiple brands and languages.

**Ensure content consistency with form fragments**

Many forms have fields and sections in common, such as name, address, date of birth, and terms and conditions. Defining several form components as a form fragment is a convenient way to reuse sections across large form collections. After configuring a suite of form components or form page (called a panel) to your liking, define a group of fields—such as an address block—as a form fragment. Form fragments not only help keep forms consistent, but also up-to-date. For example, if terms and conditions change, you only need to update the terms and conditions fragment. Publishing the fragment automatically propagates the update to all forms that use it.

Learn more about [adaptive form fragments](#)

Learn more about [how to configure lazy loading](#)

**Manage forms across multiple brands**

With Experience Manager 6.3 Forms, you can associate different visual styles with the same form, speeding time to market for forms launched under different brands. You can now apply more than one theme to a form, changing the form’s visual styling and branding while maintaining the same form template and data model. This makes it much faster to launch a form under a different brand, ensures consistency, and eliminates the possibility of introducing new errors in authoring and data integration. Once a form is published with more than one theme associated with it, you specify which theme to apply in the form URL.

**Localize forms with translation services**

Experience Manager Forms leverages translation workflows available in Experience Manager to localize forms. Translation workflow helps manage complex translation projects and creates a framework for review. Choose from machine translation, such as Microsoft Translator, or human translation, depending on your project’s requirements.

Learn more about [localizing forms](#)

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**BEST PRACTICE TIP:**

Use form fragments to improve form performance and the user experience for large, complex forms. Forms with form fragments can take advantage of “lazy loading,” which only loads form fragments when they need to be visible on-screen.

**BEST PRACTICE TIP:**

Localize form fragments first before localizing a form containing fragments. Localizing fragments ensures consistency in translation across forms.
Produce a document of record to meet compliance objectives

Once users have filled out a form, they typically want a copy to save or print. Experience Manager Forms offers several ways to generate a print-friendly digital document of record (DoR) that includes the information a user enters—even a user’s signature.

- If a form uses an XML schema definition, you can use an associated XFA template for the DoR or have Experience Manager Forms generate one automatically.
- For forms that do not have an associated schema but use an XDP data model, use the XDP as the basis for the DoR.
- For adaptive forms without XFA form templates or XML schema definitions, Experience Manager Forms automatically generates a DoR.

Experience Manager Forms renders DoRs as static PDFs. To store DoRs, use a standard forms workflow step to convert the PDF into PDF/A, and then send it to a secure repository, such as an enterprise content management system or Adobe Experience Manager Assets.

Learn more about generating a document of record

**BEST PRACTICE TIP:**
Unless you’re basing a new form on an existing form with an associated XFA template, it’s easiest to have Experience Manager Forms automatically generate a DoR by merging entered data with a template. Experience Manager Forms provides reference DoR templates to jumpstart your development. You can easily customize a DoR reference template to meet your organization’s functional and branding needs without designing a template from scratch.
Experience Manager Forms offers two standard components—scribble signature and Adobe Sign—to capture electronic signatures from within a form on any device. To capture a signature, a form must be configured with a DoR. Users review information in the DoR before signing.

The scribble signature component introduces a signature box in a form, and optionally records geolocation information (latitude and longitude) and a timestamp. By default, capturing geolocation information is enabled.

Scribble allows signers to perform the following actions:

- Change the brush thickness with the brush icon.
- Sign with the mouse, or with a stylus or finger using a touch-enabled device.
- Erase their signatures with the erase icon.
- Save their signatures by clicking on the checkmark. Saving adds a timestamp and geolocation (if geolocation services are enabled).

Organizations around the world trust Adobe Sign to capture secure, legal e-signatures from clients, vendors, and employees. As part of its deeper integration with Experience Manager Forms, Adobe Sign supports complex workflows that invite multiple signers to sign forms, in sequence or in parallel, by either typing or drawing their signatures.

With Adobe Sign, applicants do not need to be logged in to sign securely. Anonymous signers can have their identity verified through their email or phone; web identity such as Google, Facebook, LinkedIn; or knowledge-based authentication. Adobe Sign records and preserves an audit trail at each step in the signing process, and can automatically email a copy of the signed form to all interested parties. Note that Adobe Sign requires a separate license.

Watch this video to see how to add an Adobe Sign signature to a form

**BEST PRACTICE TIP:**
Choose a signature solution that supports your legal and compliance needs. For example, Adobe Sign is ideal for client-facing forms and forms that require multiple signatures. Scribble signature is often well suited to internal forms.
Process submitted forms efficiently

Experience Manager Forms provides a number of tools to streamline and automate form processing.

Submit form data to different processes and repositories
The most efficient form processes start immediately after a user clicks the Submit button. Experience Manager Forms offers several configurable options for actions that are performed upon submission, or you can build your own submit actions depending on your business processes and repositories.

Options for submit actions include:
- Send form information to an internal or external server via REST
- Send form information in an email (either in PDF or a format you define)
- Kick off an Experience Manager forms workflow process
- Kick off a forms workflow process (using the JEE forms workflow server)
- Make submitted forms available in the forms portal
- Submit data as specified in the form data model

Learn more about configuring the submit action

Connect form data to other systems
With new tools in Experience Manager Forms, your IT team can speed integration with your back-end and third-party systems without custom coding. Experience Manager 6.3 includes a new data integration tool that works in conjunction with the form data model and allows you to configure and connect forms to various data sources. The data integration tool supports integration with:
- Popular relational databases (MySQL, SQL, and Oracle RDBMS)
- Experience Manager user profile
- SOAP-based web services
- RESTful web services

For more information on connecting data to other systems, watch these videos:
- Creating a data integration with user profile for form prefill
- Integrating a database with your adaptive forms
- Creating a form data model for database integrations
- Using a data connection to join database tables in a form data model
- Creating a service within a data integration, watch this video

BEST PRACTICE TIP:
If data captured in forms includes personally identifiable information (PII) or sensitive customer data, recommended practice is to store the data behind the company’s firewall. For Managed Services implementations customers may choose to store data on Adobe managed processing server (J2EE) or securely transmit via REST endpoints to a back-end database. For more information engage your Adobe Managed Services Representative.
Automate processing with the workflow editor and forms dashboard

While form workflow and processing used to require a separate JEE server, Experience Manager 6.3 Forms enables you to leverage and extend Experience Manager workflows for form processing. A visual workflow editor allows you to add and configure workflow steps, route processing based on user actions and/or form data, and import and export data.

Workflow actions include:

- Assign a task to a particular user or group of users, or assign dynamically
- Generate a DoR
- Send a DoR to Adobe Sign
- Set a priority and deadline
- Build custom workflow steps

Business processes for forms often involve several people reviewing information and making decisions. With the new forms workflow dashboard available in Experience Manager 6.3 Forms, your employees can manage and perform actions on submitted forms. Based on the Experience Manager inbox, users can see their assigned tasks, view task history, review forms, delegate tasks to other users or groups, add comments, and submit forms for further processing.

BEST PRACTICE TIP:
First create the form or forms you need, if only in draft form, and then develop the workflow process for the form assets. Having form assets (or draft placeholders) in place will make workflow development and visualization easier. You can replace draft forms with final forms at any point in the workflow design.
Empower mobile workers on tablets or smartphones

The days of paper and clipboards are over. The Adobe Experience Manager Forms mobile app allows mobile workers to work on assigned tasks and capture data in the field—even when not connected to the Internet. The app locally saves existing form data and all data captured in the field. Once reconnected to the network, it automatically synchronizes and submits the data. The app is available for Android and iOS tablets and smartphones, and for Microsoft Windows tablets.

Configure the app to either:

- Synchronize with the Forms workflow server (JEE) and submit data for further processing, or
- Submit data directly to an existing back-end repository or system

Use the Experience Manager Forms app to:

- Enroll customers in various services in an office or remote locations
- Conduct field inspections, for example, to check the condition of property, equipment, or food safety
- Share common data across a set of forms, such as a suite of health benefits forms
- Collect supporting data through rich media, such as video, images, or geolocation data
- Collect signatures
- Conduct form-related tasks and workflows while out of the office

It’s simple to customize the app to change styling and incorporate your organization’s branding.

Learn more about the Experience Manager Forms app

BEST PRACTICE TIP:

Strengthen data security by using a mobile device management (MDM) solution to distribute the app. The MDM solution can enforce a password for the device and delete any stored PII data if the device is reported lost or stolen.

Adobe Experience Manager Forms streamlines the back-end process so that our representatives can screen more patients, improve quality of patient engagement, and ultimately increase our revenue.

- ALEX CHOY
  Executive vice president
  R&D and CIO, Emdeon

Read this customer story to find out how a healthcare eligibility and enrollment leader automated data entry, eliminated paperwork redundancies, and provided patients with faster, smoother service.
Measure and optimize form experiences

Experience Manager Forms natively integrates with other Adobe Marketing Cloud solutions to measure and optimize form experiences, so you can increase conversions and improve client satisfaction.

Gain insight with Adobe Analytics

One of the key advantages of digital experiences is the ability to measure them. Experience Manager Forms integrates with Adobe Analytics, allowing you to capture and track form performance metrics using an intuitive visual interface. Experience Manager Forms generates an out-of-the-box report for every form, providing at-a-glance-metrics for the number of:

- Conversions
- Unique visitors
- Form renditions, submissions, saved drafts, and aborts

For every form panel, Adobe Analytics tracks the time users spend on it, where they abandon the process, and where they click for help. Adobe Analytics also collects information on the devices, languages, and operating systems your visitors employ to access the form, and you can filter the report on these parameters for more insight. You can also customize the report to add more parameters.

Using Adobe Analytics requires an Adobe Analytics account. Experience Manager Forms on-premises deployments require a separate Adobe Analytics license. Adobe Analytics and some essential Adobe Target functions are bundled into Experience Manager Forms Managed Services licenses.

Learn more about configuring Adobe Analytics

BEST PRACTICE TIP:
Use insights gained from Adobe Analytics data to run A/B tests in Adobe Target and evaluate the success of different form-filling experiences over time. An iterative approach—using Analytics to evaluate the effect of each change—is the best way to meet desired conversion rates.
Optimize form experiences with Adobe Target

With insight into how users experience your forms, you can make changes to improve the user experience. Use the A/B testing feature in Adobe Target to trial different form combinations in real time. Target eliminates coding and the setup hassles of A/B testing.

To set up an A/B test:

1. Associate your Target customer account with Experience Manager.
2. Select an audience to target for your test.
3. Create an A/B test by selecting two different variations of the same form.
4. Specify how you want the variations to be distributed (for example, 50/50 or 60/40).
5. Start the test.

Once a test has started, you can run a report at any time to see visitors’ responses to content variations. At any point you can pick a winner and instantly update the form to better meet client needs.

Using A/B testing in Experience Manager Forms requires a separate license for Target.

Learn more about setting up an A/B test for a form using Target

BEST PRACTICE TIP:
When using A/B testing, it’s best to make small changes to validate which ones improve users’ experiences, rather than multiple changes at one time.
Additional resources

This guide is designed to help form designers and business users create engaging forms that users can interact with successfully on multiple devices. If you would like to dive deeper, check out these resources:

- Adobe designing adaptive forms training course—An Adobe training course on creating and managing adaptive forms and documents.


- Adobe Professional Services—Adobe has experienced consultants who can help you make the most of your investment in Experience Manager Forms.

- Adobe Experience Manager Forms reference sites—Adobe provides two Experience Manager Forms reference sites (one for government and one for financial organizations) that demonstrate design best practices. Reference sites include themes and form templates that you can leverage to guide form development and speed creation of forms.