Adobe Experience Manager
CLASSROOM IN A BOOK®

Adobe Experience Manager (AEM) can help you deliver engaging, dynamic web experiences to your customers. This book shows you the fundamentals of how to use AEM, the unique ways AEM enables you to build a web experience, and how to optimize that web experience based on real customer data. The book also prepares you for the Adobe Experience Manager implementation process. After reading this book you’ll understand what’s available in AEM, why those features are important, and how to integrate AEM with the rest of your digital marketing platform.

“The Classroom in a Book series is by far the best training material on the market. Everything you need to master the software is included: clear explanations of each lesson, step-by-step instructions, and the project files for the students.”
Barbara Binder, Adobe Certified Instructor Rocky Mountain Training

The fastest, easiest, most comprehensive way to learn Adobe Experience Manager

Classroom in a Book®, the best-selling series of hands-on software training workbooks, offers what no other book or training program does—an official training series from Adobe Systems Incorporated, developed with the support of Adobe product experts.

Adobe Experience Manager Classroom in a Book contains 20 lessons that cover the basics, providing countless tips and insights to help you become more productive with the program. You can follow the book from start to finish or choose only those lessons that interest you.

What you need to use this book: Adobe Experience Manager software, for either Windows or Mac OS. (Software not included.)

Note: Classroom in a Book does not replace the documentation, support, updates, or any other benefits of being a registered owner of Adobe Experience Manager software.
Acknowledgments

I’d like to thank the following people for their love, support, and encouragement while I wrote this book:

• My wife, Lauren, who never let me get discouraged. Your unconditional support kept the wind in my sails through this entire project. I love you.

• My parents and family for their love and encouragement. You’ve never doubted me in my life, even when I’ve doubted myself.

• Peachpit Press for putting a lot of faith in an unproven writer. Working with everyone at your organization has been a pleasure and a privilege. I look forward to a long working relationship.

• My editors, Bob Lindstrom and Nancy Peterson, for keeping me out of a straight jacket. You guys made this project enjoyable, even on the days it was difficult.

• My copyeditors, Darren Meiss and Eric Schumacher-Rasmussen, for making me sound like a much better writer than I am.

• My tech editor and colleague, Robb Winkle, for having my back during this project. You were the last line of defense, keeping me from publishing something stupid.

• All of my colleagues at CITYTECH, Inc. who helped me with parts of this book. I had some of the smartest people I’ve ever worked with behind me for this undertaking.

• Matt and Janet Van Bergen for your genuine support of my career goals and of my involvement in this extracurricular endeavor.

• The MISST program faculty at Muskingum University for your enthusiasm about my graduate school learning experience and your encouragement to take on this project.

• Loni Stark, Cédric Hüslner, Vebeka Guess, Elliot Sedegah, and everyone else from Adobe who took time out of their schedules to help me with the development of this book.

There are many more people who had a part in creating this book. I’m truly grateful for everyone who made this a reality. Thank you so much!
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If you’re reading this book, you probably have a vested interest in Adobe Experience Manager (AEM). Maybe your organization just purchased it and you are preparing for your implementation. Maybe you started a new job where they are using AEM. Perhaps you are leading a team tasked with evaluating a purchase. Or maybe you’re already familiar with AEM and want to supplement your experience. Whatever your reason, you should be excited about the platform. I’m excited about the discoveries you’re about to make.

This book describes the value of Adobe Experience Manager for the marketing team—more specifically, the digital marketing team. It discusses technology-agnostic challenges that digital marketers face. Each chapter begins with why you should be concerned about a specific digital marketing challenge. Then the chapter explains how AEM helps you address that challenge.

If you’ve worked with Adobe technology, you’re probably familiar with their Classroom in a Book series. This book, however, is an atypical Classroom in a Book. You won’t find step-by-step directions that explain how to use each and every feature of Adobe Experience Manager. Instead, my goal is to help you understand the business value of AEM’s features so that you can evaluate if and how you want use them.

I structured the book this way because every AEM implementation is unique. AEM isn’t a typical software application that works the same way on every computer that runs it. It is an enterprise technology platform, and every implementation customizes it to suit the users. One marketer’s methods may be very different from another’s, but a customized AEM implementation can serve both. As a result, I chose to concentrate on the value of the AEM features and basic AEM patterns of use.

At the end of this book, you should be prepared for your role as a marketer overseeing an Adobe Experience Manager implementation. You should be able to assemble an actionable plan for using AEM to accomplish your digital marketing goals. You should be prepared for the technical conversations that you will have with an implementation partner. Lastly, you should be fired up about how Adobe Experience Manager will help to transform your marketing organization.
Who is this book for?

I wrote this book for the marketer. I’ll generally refer to you as a marketer throughout this book. That general term may include a Chief Marketing Officer, web writer, copy editor, digital marketing manager, information architect, or any number of different job titles.

I deliberately made the assumption that you are reading this book before working through your first AEM implementation or making your first AEM purchase. That doesn’t mean the book won’t have value for marketers who are experienced with the AEM platform. Working through an implementation is the best way to learn the platform, and I believe that explaining AEM through that implementation lens is the best way to teach it.

There’s also a growing, loyal community of technologists, programmers, and system administrators who are passionate about what AEM offers. Many of you may have picked up this book. If you are looking for tutorials on how to build components, how to code for Apache Sling, or how to set up JMX monitoring, you’re reading the wrong book. There will be very little code in this book, and that little bit will be absolutely fundamental. This is not a book for the techies. It’s a book for marketers.

That said, this book does hold value for technical folks who are interested in learning the platform. If you want to be great at technically implementing Adobe Experience Manager, you need to understand the marketing context of why you will do the things you will do. Why would you build that component? Why would you make that integration to SiteCatalyst? Why would you build a configuration page instead of a dialog? All the programming or administration tasks you might undertake are rooted in marketing needs. This book can help you to understand those needs.

CQ5 or AEM?

You may have noticed a bit of confusion about the name of the product you’ll be reading about, CQ5 or AEM. Even Adobe’s documentation and marketing material remains a little fuzzy about the name.

Until the most recent release of AEM (as of this writing), Adobe Experience Manager was called Adobe CQ5. The CQ5 brand dates back to Day Software, the Swiss company that created the platform. Adobe acquired Day in 2010, and Day CQ5 became Adobe CQ5. The platform also has been known by many aliases, including Day Communiqué, CQ5, Adobe Digital Enterprise Platform, and Adobe WEM. As of the version 5.6 release in 2013, the product is Adobe Experience Manager.

This book will refer to the platform as Adobe Experience Manager (AEM), although we’ll make occasional reference to CQ5. AEM remains much the same product under its many aliases; many of the concepts in this book apply backward to CQ5.5
and 5.4, as well as other incarnations of AEM. The book assumes you’re looking at or using AEM 5.6, but much of the content will still be applicable to earlier versions. (If you go back as far as Communiqué 4, however, this book becomes less relevant.)

As a general rule, when you see the terms CQ5 and AEM (in this book and elsewhere), you can consider them interchangeable. We’ll discuss the new naming convention and how it fits into Adobe’s broader digital marketing platform in the first part of this book.

The role of the solution partner

Throughout this book, I’ll frequently mention your solution partner, implementation partner, and other variations of those terms. The solution partner plays a critical role in your AEM implementation. It’s not the kind of software that you can buy, install, and start using. It’s a platform on which you implement the tools you need to build your website. Someone with a deep understanding of AEM must build those tools, called page templates and components. That deep understanding comes from your solution partner.

The solution partner will build your page templates and components, make necessary customizations to your AEM installation, integrate with other technology platforms, and provide guidance on how and how not to use AEM. Selecting a compatible partner and working with them to implement AEM is vital if you want to justify the ROI of purchasing the platform. Therefore, throughout the book I point out when you should lean on your partner for information or support.

My “day job” is as a solution partner consultant, so I know the role well. This book is what I would want every client to read before entering into an AEM implementation with me or any solution partner. So do your homework before you dive in!

What’s in the book?

This book is written to break down the digital marketing issues addressed by Adobe Experience Manager in a methodical way. It’s made up of four parts and twenty chapters.

Part 1: Understanding AEM

The first section of this book will give you the context to understand why Adobe Experience Manager is important. We look at the following general topics:

- What the Adobe Marketing Cloud is
- How Adobe Experience Manager fits into Adobe’s holistic digital marketing platform
• What kind of software Adobe Experience Manager is and the meaning of terms such as “web experience management”
• The basic value proposition of Adobe Experience Manager
• How you can decide if Adobe Experience Manager is right for you

If you know very little about the platform or about Adobe’s vision for digital marketing technology, this section is for you. The rest of the book builds on the concepts discussed in this section.

**Part 2: Executing with AEM**

In Part 2, we get down to the nuts and bolts of Adobe Experience Manager. We talk about the business value of all the basic features of the platform. The section addresses the following:

• How AEM enables you to perform basic web content management functions
• The functional advantages of AEM over other types of content management systems
• The basic AEM interfaces and operations you should know
• Why you would or wouldn’t want to use those interfaces or operations
• The basics of AEM’s architecture and administrative requirements
• How you can use AEM to address your marketing needs

This section describes the features of AEM but won’t give you step-by-step directions for using those features. After reading this section, you should understand all the basic AEM functionality and why it can be valuable to your marketing organization.

**Part 3: Optimizing AEM**

Part 3 looks at the Adobe Experience Manager functions that set it apart from its competition. We look at the features you can use to optimize your content to create incredible web experiences for customers. This part addresses the following issues:

• How to use dynamic content to create impressive web experiences
• How to measure the effectiveness of your content and how to optimize your content’s effectiveness
• How you can use Adobe Experience Manager to deal with the content concerns of your marketing campaigns
• How to integrate AEM with other digital marketing platforms

After reading this section, you’ll understand what sets AEM apart from other systems. You’ll also know how to build dynamic, effective web experiences that delight your customers.
Part 4: Implementing AEM

The book closes with a few chapters that prepare you to participate in or supervise an AEM implementation. They include discussions of the following:

- The basic technical knowledge you need before working with AEM
- Implementation team concerns and how you will help address them as a marketer
- The processes an AEM implementation will entail
- How you can define and communicate your AEM implementation needs
- Issues to expect when working through an implementation

Much of the content in Part 4 isn’t specifically about Adobe Experience Manager. But I promise to bring it back home so you will ultimately understand how this content will affect you.

About the screenshots

This book isn’t a “how to” guide, so it isn’t heavy with screenshots. However, I’ve included a few to provide some visual context for the text. If you’re looking at an existing AEM 5.6 implementation while reading this book, you may wonder why your screens don’t match those in the book. No, you didn’t buy the wrong book.

Starting with AEM 5.6, the platform has begun a transition to a new user interface, casually called the “touch UI.” This user interface is designed to be more compatible with touch-screen devices such as tablets. As of the 5.6 release, the touch UI is only partially implemented, so many AEM features still use the classic interface. In fact, you currently can toggle between the interfaces to use whichever one you prefer.

Adobe is gradually rolling out the new UI to test how the market receives it. They want to build a UI that delights their customers without making an abrupt change that would compromise everyone’s processes and training.

Because the UI is released as kind of a “beta” feature and because all earlier versions of CQ5 lack the new UI, I’ve chosen to include screenshots of only the classic user interface. Still, much of what I will show in the classic UI can also be done with the new touch UI. If you can’t do it yet, you’ll be able to do it soon. For now, if you are trying to follow along with the text, just make sure you are doing so in the classic AEM user interface.

About Geometrixx

Throughout this book, and in the Adobe documentation, you’ll see references to a company called Geometrixx. When you install Adobe Experience Manager, a few
demonstration websites are included that allow you to experiment with the features. Geometrixx is the fictional company that Adobe uses to brand those sites. They are fully implemented sites that showcase the functionality of the platform. These sites are intended to give you an idea of what it would be like to work in AEM before beginning an implementation.

About Classroom in a Book

*Adobe Experience Manager: Classroom in a Book* is part of the official training series for Adobe digital marketing software, developed with the support of Adobe product experts. The content is designed so you can learn at your own pace. If you're new to AEM, you'll learn the fundamental concepts and features you'll need to use the program. *Classroom in a Book* also teaches many advanced features, including tips and techniques for using the latest version of this application.

Prerequisites

Before using *Adobe Experience Manager: Classroom in a Book*, you should have a working knowledge of the technology of the web, like how websites are constructed. The book assumes basic understanding of HTML-based webpages, web analysis, basic information technology concepts, and a background in marketing. This book will cover some of the technical basics in Part 4. If you've worked with digital marketing for any significant period of time, you should be good to go!

Additional resources

*Adobe Experience Manager: Classroom in a Book* is not meant to replace documentation available online or to be a comprehensive reference for every feature. For comprehensive information about program features and tutorials, please refer to these resources:

**Official AEM documentation**

http://docs.day.com

The official AEM documentation contains detailed descriptions of almost every feature in the platform. It also includes information for a variety of roles, such as programmers, marketers, system administrators, and managers. This documentation site is frequently updated and does a nice job of separating information by AEM version.
Adobe CQ5 forum

http://forums.adobe.com/community/digital_marketing_suite/cq5

The CQ5 section of the official Adobe forums is a great place to ask questions or find out additional information about AEM. The forum is moderated by members of the Adobe Experience Manager technical team and they frequently participate in discussions. Several AEM community members (including myself) pop in now and then to help one another. This is the place to ask specific questions that aren't covered by the documentation.

Experience Delivers

http://experiencedelivers.adobe.com

This is the official web experience management blog authored by members of the Adobe product team. It contains content relevant to developers, marketers, and managers, so there’s a little something for everyone. Follow this blog to keep up on new features and the general direction Adobe will be taking the platform.

Daycare

http://daycare.day.com

This official support website for Adobe Experience Manager is a password-protected site, so you won't be able to access it until you’ve purchased an AEM license. This is the go-to portal for any issues that you or your solution partner cannot resolve.

The blogosphere

There is a ton of great AEM content on the web. The community of developers, marketers, and other professionals who are passionate about AEM is growing quickly. It seems that every day, new blogs and Twitter accounts are popping up. Sometimes simply Googling for the information you need is the best way to go. You may even find a few of my blog posts about AEM!
In this chapter, you’ll learn about AEM’s Digital Asset Management (DAM) system, including:

- The basics of digital asset management as a business domain
- How Adobe’s DAM system addresses that domain
- The kinds of digital assets that can be managed within the DAM
- How those assets are processed
- How to integrate the DAM with other Adobe tools such as Scene7

By the end of this chapter, you’ll understand why a DAM system is such a critical part of the Adobe Experience Manager platform, as well as how to use it to meet your needs.
Managing DAM assets with Adobe Experience Manager
Business domain of DAM

One of Adobe Experience Manager’s core features is its Digital Asset Management System, commonly referred to as “the DAM.” Digital asset management as a domain isn’t unique to AEM. Rather, Adobe has implemented an enterprise class DAM system that can actually serve as a stand-alone solution, apart from all the WCM features. However, what makes Adobe’s DAM solution particularly valuable is how deeply integrated it is with the rest of the AEM platform. The DAM is a key piece within AEM for integrating the creative concerns of designers and artists and the digital marketing concerns of content managers and web-driven revenue generation.

Before digging into the DAM’s capabilities within Adobe Experience Manager, I want to step back and discuss the general business concept of DAM.

What is digital asset management?

Your organization’s brand is embodied in a sea of media files. Some of them remain within the organization’s walls, such as graphics used as letterheads or design files for creating print advertisements. Some are made public and shared, such as video demonstrations and white papers.

Many of these media files actually toe the line between internal and external assets. Some may become public and go viral, even if they weren’t intended for that use. Others that were intended to be public simply waste away.

The thread tying them all together is the difficulty that virtually all organizations face attempting to keep track of these media files. Digital asset management is the domain of managing a variety of rich media files so that they can be effectively used to support the organization’s brand.

Digital asset management is not really the same thing as document management or records management, although they do have some similarities. Some organizations find that a document management solution is adequate for their digital asset management needs. Document management is really about cataloging mostly text-based content. You often see document management systems in place for managing forms, reports, structured content such as XML, and the many Microsoft Office document types. Document management is usually a key component of enterprise content management (see Chapter 1).

When trying to manage media files, however, you face some unique, complex challenges compared to simply managing documents:

- How do you catalog files of completely different formats?
- How do you search files that cannot be indexed textually?
- How do you deal with the huge amounts of data created by media files?
- How do you make it easy to adapt those media files to changing business needs?
You'll still face some of the same problems as with document management, including how to provide permission-appropriate access to files and how to distribute those files to the appropriate channels. But, I want to dig a little deeper into these issues to really hone in on the benefits of a dedicated DAM.

**Catalog diverse media**

Digital media files can be vastly different from one another, to a much greater extent than documents and records. The former tends to be less structured and richer, whereas the latter tends to be more structured and text-based. Media can include video files of different formats, image files of different formats, PDFs, or design assets like InDesign files. These formats are all so different that cataloging them in a common way becomes difficult. Imagine trying to sort a bunch of photographs, CDs, receipts, and videotapes (yeah, remember those?). There’s not a particularly good way to sort them...at least not obviously. Digital asset management uses software to address that very problem. It enables you to catalog diverse media in such a way that it becomes ubiquitous.

**Optimize searchability**

Search engines use indexing to determine how relevant a resource is to a search term you enter. The search engine “crawls” all the available resources making records (an index) of how it is categorized, what it contains, and other properties of those resources. The search engine internally organizes and optimizes that information to create a fast search experience. Then, when you enter a search term, the search engine can poll its index of resources and immediately return the resources relevant to your search terms.

Most enterprise platforms that manage data or content include search features, including document management and digital asset management systems. In a document management system, where most of the content is text-based, the crawling approach is fairly straightforward. It’s easy to understand how a machine can “read” the text in a document and make an index of keywords.

But how to interpret the content of videos, images, and other rich media files? Most of them don’t have text to “read.” Those that do contain text would probably require some kind of optical character recognition technology to read it. That’s why digital asset management systems enable those managing the resources to apply rich metadata describing the media assets. The system will also make sure that metadata taxonomy is similar enough that it can be indexed effectively, making for an efficient search experience that doesn’t care whether the media is a picture or a video.

**Manage file size**

Remember when Napster—the first mainstream platform for downloading music in MP3 format—became available? It took half an hour or more just to download a single song. God help me if my dad picked up the phone and kicked me off the...
modem-based connection, or I finally got the entire song and it downloaded incorrectly. It was frustrating because rich media files, like audio and video, are enormous compared to text-based files. Images are bigger than text. Audio is bigger than images. Video is bigger still.

As a result, a digital asset management system must manage huge amounts of data—for enterprise organizations, gigabytes (or terabytes) of content. The sheer scope of managing potentially vast amounts of digital media means the system has to maximize speed and performance. As cloud-based architectures continue to become the norm rather than the exception, a DAM must also consider how to optimize that design.

Adapt media

In case you haven't noticed, I'll break the news to you that requirements change fast. Customers will change their minds on a dime. Managers trying to stay ahead of customers will do the same. That means rapid change. It also means that inflexible systems will become a burden rather than a benefit.

Digital assets are often multiple file formats, sizes, variations of color, and so on. Without a system to manage these nearly identical versions of a media file, it can be cumbersome to keep track of all these variations. A digital asset management system does this. It allows those responsible for the media to retain the element that should remain consistent while also organizing each variation created for special uses. And while doing this, the system also maintains the fundamental relationship between these multiple media file variations.

What are your needs?

I find that many clients for whom I implement management solutions overlook the relevance of digital asset management in their overall digital strategy. Digital asset management is less generally understood than basic web content management, and it's not as easy to see how effective digital asset management contributes to revenue.

However, I can assure you that effective digital asset management processes and implementation are a key piece in the digital marketing puzzle. If implemented well, it will increase the value of your overall platform by simplifying the integration of rich media into your digital brand experience.

If you don't truly understand what you need from a digital asset management system, you could end up with a catch-all media repository. I see it time and time again. Content managers throw all their website images into a single folder, just so they can be added to a webpage. No one manages the metadata. No one organizes a logical taxonomy of media files. The repository gets bigger and bigger until it's no more organized than whatever system was previously in place.

I'm not going to insist that everyone's digital asset management needs are complex or dynamic. Some organizations’ needs are complicated and some are simple. I'm
only advocating that you go through the exercise of truly understanding your needs before you start using a DAM system like a storage closet.

To assess what you need in a digital asset management system, ask the following questions:

- What kinds of media assets do I need to manage?
- How do I plan to distribute them to the public?
- What is the volume of my media files as a whole?
- What are our key workflows when creating and managing digital assets?
- How are those workflows effective? How could they be improved?
- Where are the opportunities to automate parts of those workflows?
- What creative development tools do I use to edit digital assets?
- How are our media files organized? How do we want them to be organized?

Answering these questions won’t guarantee that you’ll have an effective digital asset management or content management implementation. But, if you can build consensus about the answers to these questions, you will be in a better position to execute your digital asset management strategy.

**Basic digital asset management**

Armed with the fundamental concepts of the digital asset management and being somewhat in tune with what you’ll need out of a DAM solution, you’re ready to dig into the Adobe Experience Manager DAM. Adobe’s digital asset management system is a top-of-the-line product on its own. Consider that it’s completely integrated within a full-stack digital marketing platform and you’ve got one heck of a solution. After reading the rest of this chapter, you’ll have a better idea of just what the AEM DAM is and how you can use it to meet your specific needs. In some ways, the rest of the chapter details the first part, focused specifically on the actual functionality of the DAM.

**Basic DAM functions**

The user experience for DAM administrators is similar to that of content authors. The DAM is presented in a similar way, and actually shares quite a few of the interface elements of the website administration interface. Often I find that the lines between the DAM administrators and content authors are quite blurry, so the similar user interfaces are definitely a plus. Let’s dive into some of the basic functions of the DAM at a business-value level.
Organizing assets

The DAM allows you to organize your digital assets in the same way you organize pages in the site admin interface. It uses the same hierarchical file structure approach, which allows DAM administrators to create an easy-to-understand taxonomy of assets. The DAM provides very nice features for searching assets, but DAM administrators should still take care to design and enforce a logical organizational structure. Your structure will also be very important if you choose to granularly define user permissions to different parts of your DAM (as you'll learn in Chapter 12).

Editing assets

One of the key parts of the DAM is the interface provided for editing assets. However, unlike editing text-based assets, you are actually editing the representation of a digital media file as it is stored in the DAM. You are not really editing the file itself, although you can perform some really basic tasks such as cropping or rotating images.

That said, we'll still get into some ways that the DAM and some peripheral technologies make editing media files within the DAM extremely easy. When editing an asset, you have control over most of the asset properties and enhancements, such as metadata, dynamic renditions, tags, and so on.

When editing an asset, the most useful tool is the set of metadata fields that remains almost completely consistent across all assets, regardless of file format. This metadata represents a common abstraction of media assets that makes them searchable, usable, and organizable on a consistent basis. Think about the previous example of organizing photographs, video cassettes, receipts, and CDs. Imagine how much easier the organizing process would be if each one were placed in the same size box, with the same kind of label. That’s the idea behind the “asset” abstraction of these media files.

Editing the asset also lets you view the renditions and versions of the asset. Renditions are a set of instances of the media file that are automatically generated by AEM as the asset is created or dramatically changed. For example, changing images will automatically generate renditions of different sizes that represent various thumbnails.
Editing videos will generate renditions that are actually image files representing the video itself. Renditions are preconfigured to generate via a workflow, but they can be customized.

Versions are stored snapshots in time of the changes made to a DAM asset. One really easy way to see how snapshots are used is by editing an image in the DAM and rotating it. This edit actually changes the underlying image and rebuilds all the renditions, but it also creates a new version to represent the significant change. Versions can be restored much like restoring page versions.

![Figure 4.2 Editing DAM metadata](image)

**Finding assets**

The DAM makes searching for assets stored within it extremely easy. If you have only 30 or 40 assets, the search function isn’t that useful. But, when you have 15,000 assets, manually drilling down through folders is not a realistic way to locate a specific file. A faceted search feature allows you to find assets based on metadata, general location, tags, and file type. The search also can be extended and customized, with help from your solution partner.

Also helpful is the ability to view an asset’s references. Remember that a page’s references are a list of other pages that link to it, and would be affected if that page were moved or deleted. The DAM applies the same approach to digital assets. It identifies every location within the platform where that asset is used. Therefore, as you edit or remove the asset, you can know every webpage you are potentially affecting.
Content finder

The content finder (the frame along the left edge of the screen) enables content authors to bring DAM assets into the webpage. The content finder is organized by file type, but also has a view in which the author can drill down into the DAM’s hierarchy to locate an asset. The content finder also accesses the DAM search to help authors find assets faster. As a content author, you will spend quite a bit of time with the content finder.
Other basic features

The DAM also provides DAM administrators some other basic features for managing websites. Assets can be activated and deactivated in the same way as pages. Consider an asset's references when deactivating, though, to ensure that you aren't removing images being used on a live site. In addition to the automatic rendition workflows, DAM administrators can also apply workflows to assets as desired, which is helpful for approvals and external integrations.

DAM metadata

The Adobe Experience Manager DAM uses the extensible metadata platform (XMP) standard for encoding metadata within digital media files, a standard originally spearheaded by Adobe. It provides a common way to define metadata regardless of file type, without restricting the metadata to any specific taxonomy, which means the metadata can be universally understood, but the properties of a particular file type needn't completely align with the properties of another. All Adobe products use the XMP standard when applying metadata to assets.

In practice, the DAM becomes a nice interface for configuring the metadata of digital media assets regardless of format. In fact, under the hood, when setting the metadata of a DAM asset, AEM actually changes the metadata of the original binary file that was used to create that DAM asset (remember, a DAM asset is just an abstraction of that file). So, when using the DAM as a tool for web content management, your assets are more searchable and more semantically cataloged. However, because the metadata applied is based on a standard, if the DAM is used to distribute assets for more than web content concerns, the metadata can be used by any system that consumes the asset.

When a DAM administrator edits an asset in the DAM, the Title, Description, Creator, and other fields are all used to set the metadata of that asset. Those fields are generally standardized for all types of DAM assets you can work with. XMP does support extending the metadata vocabulary for specific file types, but this is not something DAM administrators can just do at will. Maintaining a consistent, well-thought-out taxonomy is critical if the metadata is to provide any value. Therefore, the extensibility of DAM metadata is limited to a specific process that must be implemented by a developer. If you think you need additional metadata, work with your solution partner to understand whether you really need this capability and then determine the best way to implement it.

DAM components

Two DAM-related content components can be added to webpages: Asset Share and the Asset Editor. These components provide specific functionality for exposing the DAM to the public. Like many components in AEM, these are largely intended as a
starting points or examples, although they are fully functional and can be used on live sites.

It’s a use case for the DAM that is a little less common than web content management support, but the DAM can be used as a central repository for assets that are provided to external parties. Along with the explanation of both of these components, I provide a high-level example use case that describes why you might use it.

**Asset Share**

The Asset Share is a set of components used for authoring an easy-to-use faceted search for digital assets. Internally, AEM provides robust functionality for searching for DAM assets, but what if you want to expose that functionality to people who won’t have access to the AEM interface? The Asset Share consists of a few parts:

- Asset Share page component, which can be extended to create your own custom page component and template
- Query builder component, which allows users to create search queries for DAM assets
- A set of search facet components for filtering results by specific attributes
- A set of “lens” components for a content author to specify views that define the search results

The Asset Share also contains a set of components, called actions, that can be added to the page to define what an end user can do to interact with the DAM. The Adobe documentation describes how to configure the parts of an Asset Share. It also describes how content authors can define a complex search interface without any developer intervention (after the page component and styling are defined).

The Asset Share component exposes facets of the DAM to the public—for example, if you were building a portal in which your organization’s partners could access the creative assets that represent your brand.

As a large organization, you may work with dozens of marketing agencies, advertising partners, or media organizations. You could have a team responsible for working with those external stakeholders to organize and retrieve the media as necessary, but that would be expensive and labor intensive. You could give those people access to the AEM DAM, but with obvious security challenges.

Or, you could build a portal where those external stakeholders can independently search for and retrieve media assets. Permissions for that portal can define what outsiders can and cannot do, and enables you to build a fully branded user experience. The Asset Share would be at the core of such a solution.
Asset Editor

The Asset Editor, like the Asset Share, is a set of components that exposes the DAM asset editing functionality to public users. It enables site visitors to edit metadata, tag assets, customize thumbnails, and manipulate other aspects of digital assets. The Asset Editor can also be used to display a detailed, non-editable view of assets to provide more info to site visitors before they download assets. Once a page component is defined and styled, this experience is completely configurable by a content author. She can make changes that would otherwise require a programmer. The Asset Editor contains the following components:

- Asset Editor page component, which can be extended to create your own custom page component and template
- Metadata form components for viewing or editing the metadata of a DAM asset
- Components for viewing sub-assets and thumbnails of a DAM asset

Like the Asset Share, it also contains a set of Actions components that display no user interface element, but define which tasks can be performed by end users.

If your content team is relatively small, providing and managing their access to the DAM interface within AEM isn’t a big deal. But, what if you have hundreds of people who may be editing DAM assets? What if DAM asset manipulation is just one of many tasks those people perform that may not necessarily be part of logging into AEM?

You could use AEM to build a portal application that exposes DAM asset editing via the Asset Editor. It would enable your content team to author a web experience for interacting with the DAM without actually providing login access to the DAM. This is especially useful when you need to provide access to external stakeholders who may not have direct access to your internal AEM servers.

Beyond web content management

The Adobe Experience Manager DAM is most often used to support web content management by providing the foundation for managing digital media files to be used within the web experience. But the DAM was originally designed as a stand-alone digital asset management solution that can be used independently of the content management parts of the platform. It truly is a full-featured DAM that can be applied to a variety of use cases.

This book is primarily about AEM’s web experience management features, so I don’t dig into this any further. But, if you are using the DAM according to best practice to empower your web experience, you are already positioned to expose the DAM’s functionality for other uses. You can discuss those options with a solution implementation partner.
Advanced digital asset management

We’ve gone over the basics of why the Adobe Experience Manager DAM is valuable and how you can use it. That set of basic concepts is mostly universal to AEM implementations, but the DAM goes beyond the “happy path” use cases. AEM includes more advanced features designed to enable marketers and their associates to unlock very specific pieces of value. These features may not be relevant to you at present, but it’s helpful to know that they exist and why. You may need them someday.

Integration with Scene7

One of the most compelling features of Adobe’s DAM solution is the out-of-the-box integration with Scene7, a cloud-hosted solution for editing and publishing media files. With Scene7 you can make ordinary digital media files interactive and customized.

For example, Scene7 can generate on-the-fly images on landing pages, such as “Welcome from Ohio!” if the system detects that state as the user’s location. Scene7 is a full-featured solution for managing digital media files in the cloud.

Wait…doesn’t that sound a lot like the Adobe Experience Manager DAM?

Truthfully, AEM DAM and Scene7 have some functional overlap, because of the way both of those products came to Adobe. The AEM DAM was part of CQ5, acquired with Day Software in in 2010. Scene7 was acquired by Adobe in 2007. In the most recent releases of AEM, Adobe has begun to integrate these two asset management platforms to take advantage of each of their strong points. The eventual goal is to completely turn them into a single integrated solution. So, let’s explore how Scene7 integration can help take your digital asset management to a whole new level.

Simple integration

The first thing to point out with Adobe’s DAM–Scene7 integration is how easy it is to configure. Unlike with many enterprise software integrations, you do not need programmers to build integration. One of the most valuable aspects of Adobe’s Marketing Cloud is its seamless integration between products. Adobe continues to build upon those integrations, and this is a newer, but very powerful example.

Integrating an AEM instance with a Scene7 instance is all configuration-based, so you should be able to do it with an administrator or even a power user. If you have to involve a programmer, you are either doing something interesting (that I want to hear about) or something wrong. You’ll see this simple integration between Adobe products as a recurring theme throughout this book, and we’ll discuss cloud services configurations, like the Scene7 integration, in Chapter 16.
Asset synchronization

After you have your AEM instance configured to connect with your Scene7 account, you can set up asset synchronization between the two platforms. This synchronization is especially helpful if you’ve been using both products separately for some time and have different categories of digital assets in each. You can configure automatic synchronization or trigger it manually, but you should be aware of how much you are synchronizing. Within AEM, it’s all workflow-based processing, which can be pretty resource-intensive. If you have hundreds or thousands of DAM assets you want to synchronize in either direction, you should work with a solution partner to make sure you put together an appropriate plan for doing so.

Scene7 components

Scene7 integration includes some content components that allow you to add Scene7-specific functionality to your websites. Doing so can enable powerful ways to improve the user experience of your site, and stand as a great example of how Adobe is integrating Scene7 benefits into the rest of the AEM platform. The following components are included:

- Basic zoom—Allows you to add simple zoom in/out features to images
- Flyout zoom—Allows you to add “magnifying glass” zooming to images (such as on a clothing retailer’s site)
- Flash flyout zoom—A Flash-based flyout zoom, for sites that don’t support the DHTML code needed for the standard flyout zoom
- Flash template—A component for configuring dynamic content in Flash movies
- Image template—A component for configuring dynamic content in images
- Video—A universal video player that detects which video format is optimal for the site visitor

Templates are a core feature of Scene7 that allow you to dynamically change media files on the fly. They integrate into AEM nicely, because they open up your options when creating dynamic content or performing multivariate testing.

Content finder integration

The Scene7 integration is also seamless for content authors because it includes content finder integration. Basically it extends the content finder and interface into Scene7 so that a content author can utilize Scene7 assets without leaving the context of AEM. The author sees the same digital asset browsing experience, but can search and drill down through a tree of assets that are actually hosted in Scene7 and not within AEM DAM. This is very handy when you have a combination of DAM assets and Scene7 assets.
Long-term vision

Adobe Experience Manager’s integration with Scene7 is fairly new, but already extremely compelling. Adobe is obviously working toward a fully integrated platform that accommodates all aspects of the digital asset creation and delivery workflow. You’ll probably still find some holes in the form of things you want to do but cannot... yet. But, you can expect this integration to continue to improve. Adobe has made a commitment to the complete integration of AEM and Scene7, and you can already see how compelling that vision is.

Integration through Adobe Drive

While the AEM DAM and Scene7 provide certain aspects of digital asset manipulation from within the platform, it’s sometimes just not enough. The changes you can make to assets using Adobe Creative Suite products such as Photoshop or Illustrator far exceed what you can do with the DAM or Scene7. But, downloading and uploading DAM to those Creative Suite products is kind of a pain. Fortunately, Adobe built a solution to this problem called Adobe Drive.

Adobe Drive is a free software product that provides direct integration between local instances of Creative Suite products and a digital asset management platform. Obviously, the AEM DAM is one of the platforms with which Drive can integrate. Drive works with Photoshop, Illustrator, InDesign, and InCopy by exposing the DAM to those products just as if it were a local file store. It uses a protocol called WebDAV, which allows you to browse the data structure of Adobe Experience Manager as you would a file system. (There are other examples of how WebDAV is used in AEM, too.)

Adobe Drive doesn’t expose only the DAM to Creative Suite products. It also unlocks additional features that are otherwise not easy to utilize. You can manage check in/out of digital assets for editing, view and edit metadata in a more sophisticated interface, and view version history.

Furthermore, Drive is a desktop application, so it also allows offline editing, so you aren’t restricted to editing DAM assets only while connected to the DAM.

Ultimately, Adobe Drive just makes treating the DAM as a repository for creative assets a little simpler, even while your creative team continues to work on them. It’s not for everyone, and for some organizations, it’s overkill. But, if your creative team needs direct access to the DAM, it’s a great way to provide it.

Dynamic image servlet

The DAM allows you to create renditions of an image that include different sizes and versions of the same asset. You can use those renditions in the content of your website, and that can be helpful when you need to create thumbnails or smaller views of large, high-resolution images. When you are creating multi-device websites
where Internet bandwidth is a varying concern, this feature becomes even more important. After all, you want to minimize the size of any files a site visitor has to download to view your site. Making your site load faster improves your search engine optimization and the user experience.

Although not really a DAM function, you have another option in AEM for dynamically generating optimized images. The image servlet allows you to request images using a special URL that dynamically changes them on the fly. Out of the box, it doesn’t allow you to do much in terms of image manipulation, but with the help of a solution implementation partner, the image servlet’s functionality can be expanded. You can create image servlets that resize images, add dynamic text, or rotate and crop. If an available Java library lets you do what you want to your asset, anything is technically possible.

Implementing an image servlet is not something a content author or even an administrator can do. It requires foresight and implementation and programming. Much of what you can do with the image servlet can be accomplished using Scene7, so going through the process of implementation may not always be necessary. But, if you aren’t planning to use Scene7, have other reasons to keep this functionality within AEM, or just want to customize the heck out of it, the dynamic image servlet is a good option to consider.

**Video**

The trickiest type of digital asset to work with is video. The files are huge. The encoding requirements are complicated. The debates about best practices are rampant. In AEM, you have a number of options for managing and delivering video within your web experience. It’s a complicated topic that has filled entire books. I just touch on a few high-level points here, related to what AEM offers. If you are planning to implement websites with a lot of video, I highly recommend you work with the Adobe documentation, a solution partner, and additional video-specific resources to put together a detailed plan for managing your videos.

**DAM video**

You can host, encode, and deliver video in your websites directly from the Adobe Experience Manager DAM. Video files uploaded to the DAM can be transcoded into a number of formats, so that you can implement a fallback approach to delivering the optimized video format to a site visitor.

AEM then has a video component that allows you to choose videos to display from the content finder, just as any other digital asset. It typically requires some upfront configuration to make sure you are transcoding videos into the right formats and have the correct logic in place to choose which version to play. But once that is set up, it makes adding video to your web experiences pretty simple.
That said, be cautious when deciding to stream video from the AEM DAM. Video requires significant computing resources to deliver, much more than the images and text that make up the majority of your websites. Videos cannot be cached in the same regard, either. Therefore, delivering lots of high-quality videos out of the DAM is probably not the best solution because some significant hardware challenges may arise. You’ll need to beef up the servers on which your AEM instances run, and even still it’ll be difficult.

Organizations implementing video on AEM very commonly utilize external, cloud-hosted platforms as their video solution. Then all they have to do is implement that platform’s video player on their site and let someone else’s hardware manage their video.

Fortunately, Scene7 (a cloud-based solution) is one of those viable options for hosting video to be delivered via Adobe Experience Manager.

**Scene7 video**

Using Scene7 to host your video lets you take advantage of a cloud-hosted video platform option without sacrificing the content management integration you have with DAM video. Videos can be uploaded to the DAM, Scene7, or both. They can be transcoded as necessary. Conveniently, those video assets are available in the content finder for easy access when authoring content.

AEM’s Scene7 integration also includes a special video player that takes advantage of Scene7’s ability to dynamically decide which rendition of a video to play. It considers the device, the bandwidth available, and the screen size to optimize the user’s video experience. Scene7 video is a great option for cloud-hosting video, especially when you have a lot of videos to deliver through many different channels.

**Summary**

Digital asset management is a critical part of delivering high-quality web experiences that contribute to the achievement of business goals. It involves cataloging and managing digital media files, including images, video, audio, and certain kinds of documents. It’s a complicated domain on its own, for which there are a number of solutions on the market.

Adobe Experience Manager includes a digital asset management solution that unlocks these features within the context of a web experience management platform. Integrated with peripheral technologies such as Scene7 or Adobe Drive, the AEM DAM is designed to serve as the central repository for managing and delivering an organization’s digital media, and to reduce the complexity of managing that media.
Review questions

1. What are the four key functions of a digital asset management solution?
2. What are DAM renditions?
3. What standard does the AEM DAM use to manage the metadata of assets?
4. What content components are specifically designed to unlock DAM functionality to site visitors?
5. What is the main advantage to using Scene7 video over another cloud-hosted video solution?

Review answers

1. Managing multiple file formats in a single interface, finding assets effectively, handling high-quality media files that consume significant hardware resources, and allowing adaptation of digital media files
2. DAM renditions are automatically generated versions of DAM assets. They are generated by AEM upon asset upload.
3. Extensible metadata platform (XMP)
4. Asset Share and Asset Editor
5. Scene7 video enables a deep level of integration with the web content management functions of AEM, specifically with the content finder. In the long-term vision, the proprietary Scene7–AEM integration is likely to continue to become more robust and valuable.
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