



Adobe Experience Manager 6 Lead Developer

Adobe Certified Expert Exam Guide

Exam number: 9A0-396

About Adobe Certified Expert Exams

To be an Adobe Certified Expert is to demonstrate expertise in helping clients realize value in an Adobe solutions.

Adobe's Certification exams follow industry-accepted procedures to ensure validity and reliability. We work with industry experts to create our exams, which represent real-world requirements and objectives for the job roles we certify.

This guide is designed to provide the recommendations needed to prepare for your Adobe Certified Expert exam, and help you determine when you are ready to take the exam. It will outline the knowledge and skills required of a "minimally qualified candidate" for a specific job role, which will be evaluated in the exam.

Adobe exams include unscored items that allow for collection of performance data. These questions are not calculated in your final results. Unscored items are randomly placed in the exam with sufficient time calculated to complete the entire exam.

How is the Adobe Experience Manager 6 Lead Developer Exam Structured?

- Number of questions: 59
- Time limit: 90 minutes
- Passing score: All Adobe exams are reported on a scale of 300 to 700. The passing score for each exam is 550. For more information about scaled scoring, visit the [FAQs](#).

How Do I Register for the Exam?

Our exams are delivered worldwide by PSI.

- Exam name: Adobe Experience Manager 6 Lead Developer
- Exam number: 9A0-396
- Exam cost: \$180 (US Dollars)

To register for the exam at a PSI testing center:

1. Visit Adobe's [credential management system](#).
2. If you have logged in before, use your email address or login ID and password to access the system and go to step 6.

3. If you have never logged into CertMetrics before, click “Never logged in before” to create an account and follow step 4 or 5.
4. **If you have previously taken an Adobe exam**, select “Click here if you have already taken an Adobe exam.” You will be asked to enter the email address you last used to register for an exam. If you do not remember which email address you used, you may also enter information from an exam score report to verify your identity. You will receive an email with your login ID and a link to reset your password.
5. **If you have never taken an Adobe exam before**, provide the required information to establish an account. Once you submit the form, you will receive an email prompting you to set up a login ID and password.
6. When you are logged into CertMetrics, click “Schedule your exam at PSI.”
7. You will be directed to a new page within CertMetrics where you will click “Click here to log in to PSI.”
8. Scroll through the list of exams and press the “Schedule Exam” button for your exam.
9. Select your exam language and location to see test center options in your area.
10. Select an available date and start time.
11. Confirm schedule details to receive a booking confirmation.
12. Proceed to payment.
13. After payment is successful, you will receive an email confirmation your registration details and a receipt.

What topics are covered on the Adobe Experience Manager 6 Lead Developer exam?

The tasks measured on the exam are grouped into the following domains:

- Install and configure the AEM Environment
- Build and deploy AEM projects
- Build AEM components
- Create and configure OSGi services
- Setup content structure and taxonomy
- Create AEM security policies
- Set-up and configure deployment infrastructure
- Troubleshoot AEM projects

Within each domain, there are specific tasks that you should be able to perform as an Adobe Experience Manager Developer:

- **Install and Configure the AEM Environment**
You should be able to identify the default runmode of the AEM server and apply best practices for installing AEM 6 on different operating systems. You should be able to determine the valid run modes to operate AEM, and state the configurations required for the installation on application servers. You should also be able to identify the supported operating system for installing AEM on an application.
- **Build and deploy AEM projects**
You should be able to apply version control management best practices, and apply standard procedures to create multi-module Maven projects. You should also be able to apply standard procedures to develop and debug an application using an IDE.
- **Build AEM components**
Given a scenario, you should be able to analyze and evaluate the usage of forms, metadata, and other features. You should be able to apply best practices to create and use client libraries and also to create, customize, and configure AEM components and dialogs. In a given scenario, you should be able to determine workflow steps and processes. You should be able to apply standard procedures to create and extend AEM components, templates, and page components.
- **Create and configure OSGi services**
You should be able to apply standard processes to manage OSGi bundles, services, and dependencies. You should also be able to analyze and evaluate the logs to identify discrepancies. Given a scenario, you should be able to determine the OSGi configuration, and you should be able to apply a standard process to create OSGi components and services.
- **Setup content structure and taxonomy**
You should be able to apply best practices to manager user-generated content. Given a scenario, you should be able to analyze content structure and evaluate query efficiency. You should be able to

apply standard procedures to manage AEM tagging framework. Given a scenario, you should be able to analyze workflows to setup multilingual sites

- **Create AEM security policies**

You should be able to evaluate AEM users and group permissions, and apply standard processes to setup us CUGs. You should also be able to evaluate ACLs and permission level for users/groups.

- **Setup and configure deployment infrastructure**

You should be able to analyze and evaluate logs and other artifacts to manage garbage collection and TAR optimization. You should be able to apply standard procedures for backend data store configurations and also apply standard procedures to integrate AEM applications with Marketing Cloud and third-party tools. You should be able to apply standard procedures to integrate AEM applications with LDAP/SSO/OAUTH Providers/Third-Party login authentication mechanisms.

- **Troubleshooting AEM projects**

You should be able to troubleshoot issues related to performance, functional issues, and also issues related to scalability bottlenecks.

Distribution of content covered on the exam:

The questions on the exam are distributed as follows for each domain. (Note: each question carries the same weight and there is no partial credit for any question)

Domain	Percent of Exam
Install and Configure the AEM Environment	11%
Build and deploy AEM projects	10%
Build AEM components	15%
Create and configure OSGi services	15%
Setup content structure and taxonomy	15%
Create AEM security policies	10%
Set-up and configure deployment infrastructure	10%
Troubleshoot AEM projects	14%

The Adobe Experience Manager Lead Developer job role

This exam is designed for individuals who are currently performing or have previous work experience with the job responsibilities of an Adobe Experience Manager Developer.

The Minimally Qualified Candidate

To pass the exam, you must possess the minimum level of knowledge, skills, and abilities required of an Adobe Experience Manager Lead Developer, which are outlined below.

As an Adobe Experience Manager Lead Developer you should be able to perform the following tasks without any assistance:

- Translate customer requirements into a content model
- Use the JCR API to manipulate data and observe content changes
- Use Sling API to manage sites and users including healthchecks,resource-mergers etc..
- Use Apache lucene and solr indexing
- Set up functional ACLs to manage the user roles and permissions
- Setup a project using Maven archetypes and an IDE
- Apply knowledge of CSS 3.0 and HTML5 to ensure a responsive design.
- Write search queries using XPath and SQL
- Write code units tests
- Configure LDAP and Single Sign On (SSO) authentication.
- Configure the Web Dispatcher.
- Analyze and apply caching best practices.
- Create and customize the AEM components
- Create and use the OSGi service in the application
- Create and integrate an AEM widget.
- Create event listeners using Sling and JCR
- Create and customize an AEM workflow.
- Create workflow steps with dialogues
- Set up Replication and Reverse Replication
- Extend the UI using CoralUI
- Use MSM-Blueprint and Livecopy in applications
- Setup multilingual and multinational websites

What is the typical job experience for minimally qualified candidates taking this exam?

A minimally qualified Adobe Experience Manager Lead Developer typically has the following work experience:

- Minimum 2 - 3 years' experience with any CMS
- Minimum 2 years' experience with AEM
- 5+ years' as a Java programmer
- The AEM Lead Developer has completed at least two AEM projects and can manage a team of 2-3 "junior level" developers.

What training is available to help me prepare for the exam?

Is training required?

You are not required to complete training before taking the exam; however, training can significantly increase your knowledge of and skills with Adobe Experience Manager. It is important to note that training alone will not provide you with the knowledge and skills required to pass an exam. Successful, on-the-job experience is critical to providing you the knowledge needed to pass the exam.

Training for Adobe Partners

A variety of training and resources are available for Adobe Solution Partners. To access these resources, you will need to login to the [Solution Partner Portal](#) with your Adobe ID and visit the [Training landing page](#). From there you can select your solution of interest and access on-demand, instructor led, and onsite training options.

- **On-demand Training:** All Partners have access to on-demand training resources for sales, technical and delivery roles. This includes self-paced learning modules, eSeminar videos, quizzes, exams, and test outs to help measure comprehension - All at no cost!
- **Virtual Instructor Led Training:** Partners at the Business and above levels can access Virtual Instructor Led Training through the learning management system. These trainings are 100% subsidized.
- **In-person Instructor Led Training:** Partners also have access to training delivered through Adobe Digital Learning Services (ADLS). Adobe Digital Learning Services offers comprehensive, hands-on courses across all job roles. Learn from Adobe experts in a virtual classroom or live in-person at any Adobe training center globally. Courses come with a cost and Partners receive a discount (15-30%) based on their Partner level in the Solution Partner Program.
- **On-site Training:** Get your team up-to-speed quickly with on-site training where we can come to your location or you can bring your team to one of our training centers. Adobe Digital Learning Services offers flexible, convenient instructor-led training for teams virtually or in-person. Content can be customized to match your unique learning requirements.

Partners also have access to Certification Learner Journeys, Certification Paths, and free Certification Prep courses. Please visit the [Solution Partner Portal Certification page](#) to access these valuable resources.

Not registered for the Solution Partner Portal? Please follow [these instructions](#) to get registered.

Training Courses Available to the Public

The following includes courses are relevant to the Adobe Experience Manager Developer job role. Compare the course descriptions to your current knowledge and skill level to determine which courses are best for you. You can find a complete list of all Adobe AEM training here:

<http://training.adobe.com/training/courses.html#product=adobe-cq>

How do I know if I am ready to take the exam?

Nothing can guarantee that you will pass your test, however; the more practical work experience you have and the more training you complete, the better your chances are to pass the test. Use the self-assessment preparation worksheet (below) to evaluate your level of readiness.

On-the-Job Experience

Since Adobe exams measure knowledge and skills for a specific job role, one of the best ways to prepare for the exam is to ensure you have the minimum work experience, as described in this guide.

Self-Assessment Preparation Worksheet

Use the following worksheet to review the exam topics, and assess your own readiness. If you need to prepare more for a certain topic, determine if you need training, on the-job-experience, or both.

Topic	Yes	No
Install and Configure the AEM Environment		
I can identify the default runmode of the AEM server		
I can identify the default runmode of the AEM server		
I can apply best practices for installation of AEM 6.0 on different operating systems		
I can determine the valid run modes to operate AEM		
I can state the configurations required for the installation on application servers		
I can identify the supported operating system for installing AEM on an application		
Topic	Yes	No
Build and deploy AEM projects		
I can apply version control management best practices		
I can apply standard procedures to create multi-module Maven projects		
I can apply standard procedures to develop and debug application using IDE		
Topic	Yes	No
Build AEM Components		
Given a scenario, I can analyze and evaluate the usage of forms, metadata and other features		
I can apply best practices to create and use client libraries		
I can apply best practices to create, customize, and configure AEM components and dialogs		
Given a scenario, I can determine workflow steps and processes		
I can apply standard procedures to create and extend AEM components, templates, and page components		
Topic	Yes	No
Create and configure OSGI services		
I can apply standard processes to manage OSGI bundles, services and dependencies		
I can analyze and evaluate the logs to identify discrepancies		
Given a scenario, I can determine the OSGI configuration		
I can apply a standard process to create OSGI components and services		
Topic	Yes	No
Setup content structure and taxonomy		
I can apply best practices to manage user-generated content		

Given a scenario, I can analyze content structure and evaluate query efficiency		
I can apply standard procedures to manage AEM tagging framework		
Given a scenario, I can analyze workflows to setup multilingual sites		
Topic	Yes	No
Create AEM security policies		
I can evaluate AEM users and group permissions		
I can apply standard processes to set up CUGs		
I can evaluate ACLs and permission level for users/groups		
Topic	Yes	No
Set-up and configure deployment infrastructure		
I can analyze and evaluate logs and other artifacts to manage garbage collection and TAR optimization		
I can apply standard procedure for backend data store configuration		
I can apply standard procedures to integrate AEM applications with Marketing Cloud tools and third-party tools		
I can apply standard procedures to integrate AEM applications with LDAP/SSO/OAUTH Providers/Third-Party login authentication mechanisms		
Topic	Yes	No
Troubleshoot AEM projects		
I can troubleshoot issues related to performance		
I can troubleshoot functional issues		
I can identify issues related to scalability bottlenecks		

Sample questions

Try out these practice questions to get a feel for the types of questions on the exam. Please note that **your performance here does not indicate how you will do on the actual exam**. To fully prepare for the exam, closely review the topic areas and objectives in this Exam Guide. You will find the correct answers at the end of the exam guide.

1. **Two runmodes have been defined as 'author' and 'publish'. Both runmodes are specified during the AEM start up.**

What is the result?

- A. The runmode of the instance changes from 'author' to 'publish'
 - B. The runmode of the instance changes from 'publish' to 'author'
 - C. The runmodes specified is used.
 - D. AEM is installed with no runmodes.
2. **Which three configurations are required to install AEM on application servers? (Choose three.)**
- A. context root
 - B. run mode
 - C. jcr mode
 - D. sling.home
3. **A Lead Developer needs to define a POM Definition for a multi-module Maven project. The Developer needs to allow direct installation of the project bundles into AEM.**

Which plugin should be included to support this operation?

- A. maven-scr-plugin
 - B. maven-sling-plugin
 - C. maven-bundle-plugin
 - D. maven-javadoc-plugin
4. **You are defining a template for a custom Replication Agent to restrict the location to the same path as the default AEM agents.**

Which value should you use for the allowedPath property?

- A. /content/{yoursite}/replication/agent.*
- B. /apps/{yoursite}/replication/agent.*
- C. /etc/designs/{yoursite}/agent.*
- D. /etc/replication/agent.*

- 5. A Lead Developer needs to create a custom log file "custom.log" to debug a project. Which option is most appropriate?**
- A. create a new Apache Sling Logging Writer Configuration only
 - B. create a new Apache Sling Logging Logger Configuration only
 - C. create a new Apache Sling Logging Logger and Writer Configuration
 - D. create a new Apache Sling Logging Writer Configuration and a new Factory Sling Root Configuration
- 6. What should a Lead Developer do to have files within client libraries served individually rather than as a single unit?**
- A. set debug = true in the Adobe Granite HTML Library Manager configuration
 - B. set debug = true in css.txt and js.txt inside the client-library
 - C. debug the JavaScript at the client side using debugger tools
 - D. AEM does NOT allow debugging client-libs
- 7. How are the results returned in the QueryResult object after the Query.execute() method invocation?**
- A. As a Table and as an Array of Node objects.
 - B. As an Array and as a Set of Node objects.
 - C. As a Table and as an Iterator of Node objects.
 - D. As a List and as an Array of Node objects.
- 8. Which Dispatcher setting restricts the IP addresses that can issue invalidation requests?**
- A. /allowedClients
 - B. /virtualhosts
 - C. /filter
 - D. /renders
-

Answer key

Try out these practice questions to get a feel for the types of questions on the exam. Please note that **your performance here does not indicate how you will do on the actual exam**. To fully prepare for the exam, closely review the topic areas and objectives in this Exam Guide. You will find the correct answers at the end of the exam guide.

1. **Two runmodes have been defined as 'author' and 'publish'. Both runmodes are specified during the AEM start up.**

What is the result?

Correct Answer: C - The runmodes specified is used.

2. **Which three configurations are required to install AEM on application servers? (Choose three.)**

Correct Answer: A - context root

Correct Answer: B - run mode

Correct Answer: D - sling.home

3. **A Lead Developer needs to define a POM Definition for a multi-module Maven project. The Developer needs to allow direct installation of the project bundles into AEM.**

Which plugin should be included to support this operation?

Correct Answer: B - maven-sling-plugin

4. **You are defining a template for a custom Replication Agent to restrict the location to the same path as the default AEM agents.**

Which value should you use for the allowedPath property?

Correct Answer: D - /etc/replication/agent.*

5. **A Lead Developer needs to create a custom log file "custom.log" to debug a project. Which option is most appropriate?**

Correct Answer: C - create a new Apache Sling Logging Logger and Writer Configuration

6. **What should a Lead Developer do to have files within client libraries served individually rather than as a single unit?**

Correct Answer: A - set debug = true in the Adobe Granite HTML Library Manager configuration

7. **How are the results returned in the QueryResult object after the Query.execute() method invocation?**

Correct Answer: C - As a Table and as an Iterator of Node objects.

8. **Which Dispatcher setting restricts the IP addresses that can issue invalidation requests?**

Correct Answer: A - /allowedClients

Support

For information on certification visit the [Solution Partner Portal](#) website. To contact us, please send an email to [Certification Support](#).

