



CERTIFIED EXPERT

# Adobe® Flex™ 2 Developer Exam

## EXAM PREPARATION GUIDE



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# Adobe Flex™ 2 Developer Exam

This guide provides all the information you need to get started in preparing for Adobe Certified Expert (ACE) and recertification exams. Passing ACE and recertification exams demonstrates your proficiency with Adobe software products and allows you to promote your expertise with customers and employers. As an ACE, you can stand out from your competitors and be noticed.

### ACE Frequently Asked Questions

What is an ACE? What are the benefits of being certified? What are the exams like? Get all your ACE questions answered in a brief, to-the-point FAQ.

### Four-Step Check List

Learn about the process for getting certified.

Step 1: Choose your certification level.

Step 2: Register for your exam(s).

Step 3: Prepare for and take your exam(s).

Step 4: Read the ACE Agreement and join the Adobe Certified community.

### Exam Topic Areas and Objectives

Review the test content—topic areas and objectives—for each product exam. The topic lists will help direct your studies, so please review correctly.

### Practice Exams

Review sample questions to get an idea of the types of questions that will be on the exam. *Note: Though helpful, these practice exams are not necessarily representative of the difficulty of the questions that you will encounter on the actual exam.*



## CERTIFIED EXPERT

### FREQUENTLY ASKED QUESTIONS

**Q. What is an Adobe Certified Expert (ACE)?**

**A.** An Adobe Certified Expert (ACE) has earned a certification created specifically for graphic designers, Web designers, video professionals, system integrators, value-added resellers, developers, or business professionals seeking recognition for their expertise with Adobe products. By passing one or more ACE exams, you become eligible to promote yourself to prospective clients as a highly skilled, expert-level user of Adobe software.

**Q. What is the main benefit of passing ACE exams and becoming Adobe certified?**

**A.** Adobe certification is an industry standard in excellence that can be used to demonstrate your product knowledge and expertise, and also serves as a catalyst when finding a job or seeking a promotion. The Adobe Certified Expert (ACE) and Adobe Certified Instructor (ACI) logos and credentials have been created for self-promotional use by individuals who have met all requirements of the Adobe Certified Expert or Adobe Certified Instructor programs. Those who have passed the tests may place certification logos on business cards, resumés, Web sites, and other promotional materials.

**Q. What are ACE Specialist and ACE Master?**

**A.** There are three levels of Adobe certification.

1. Single product certification: Recognizes your proficiency in a single Adobe product. To qualify as an ACE, you must pass one product-specific exam. Example: ACE, Adobe InDesign CS2
2. Specialist certification: Recognizes your proficiency in a specific medium: Print, Web or Video. To become certified as a Specialist, you must pass the exams on the required products listed below. Example: ACE Print Specialist (with passing marks on the tests for Adobe InDesign, Adobe Acrobat, and either Adobe Photoshop or Adobe Illustrator)

Specialists must pass all required (R) exams and any one elective (E) within any given certification track:

	Print Specialist	Web Specialist	Video Specialist
<b>Adobe InDesign</b>	R	—	—
<b>Adobe GoLive</b>	—	R	—
<b>Adobe Acrobat*</b>	R	E	—
<b>Adobe Photoshop</b>	E	R	R
<b>Adobe Illustrator</b>	E	E	—
<b>Adobe Premiere</b>	—	—	R
<b>Adobe After Effects</b>	—	—	R

Note: Exam requirements are subject to change.

\*Adobe Acrobat 7.0 Professional Print Production exam only.

## FREQUENTLY ASKED QUESTIONS

3. Master certification: Recognizes your skills in terms of how they align with the Adobe product suites. To become certified as a Master, you must pass the exam for each of the products in the suite. Example: ACE, Creative Suite Master (with passing marks on the tests for Adobe Acrobat, Adobe GoLive, Adobe Illustrator, Adobe InDesign, and Adobe Photoshop)

### **Q. What is an Adobe Certified Instructor (ACI)?**

- A.** An Adobe Certified Instructor (ACI) is an ACE who provides instruction on Adobe products. ACIs must have an instructor qualification (a teaching credential, passed the CompTIA CTT+ (<http://www.comptia.org/certification/ctt/>) or equivalent), in addition to passing one or more ACE exams. For more information, visit the ACI home page, <http://www.adobe.com/support/certification/aci.html>

### **Q. How do I prepare for an ACE Exam?**

- A.** The keys to preparing for an ACE exam are experience with the product and studying this Exam Preparation Guide (<http://partners.adobe.com/public/ace/main.html>). To access online training, user guides, and many other study materials, visit Adobe's training resources page (<http://www.adobe.com/support/training.html>). The following resources may also help you prepare for your ACE exam:

- Adobe product user guides
- Adobe Press books
- Adobe Authorized Training Centers (find the AATC nearest you through the Adobe Partner Finder online at: [http://partners.adobe.com/asn/partnerfinder/search\\_training.jsp](http://partners.adobe.com/asn/partnerfinder/search_training.jsp))
- Adobe online training at [www.adobe.elementk.com](http://www.adobe.elementk.com)
- Tutorials and materials from Total Training, at [www.totaltraining.com](http://www.totaltraining.com)
- Other training resources online at [www.adobe.com/support/training.html](http://www.adobe.com/support/training.html)

### **Q. How do I get training?**

- A.** Once you know what product you want to get certified in, use the Adobe Partner Finder (<http://partners.adobe.com/asn/partnerfinder/trainingprovider/index.jsp>) database to locate an Adobe Certified Instructor or an Adobe Authorized Training Center in your area that teaches a class on the Adobe product you want to learn. Contact them directly for more information about their classes and registration details.

### **Q. What are the benefits to becoming an ACE?**

- A.** As an individual with an ACE, you can:
- Differentiate yourself from competitors
  - Get your resumé noticed
  - Attract and win new business
  - Gain recognition from your employer
  - Get the inside track on Adobe's latest offerings
  - Leverage the power of the Adobe brand and resources

If you are an employer, use ACE as a benchmark so you can:

- Find the right person for the job
- Quickly assess candidate skill level
- Invest in your most promising employees
- Increase productivity and efficiency

## FREQUENTLY ASKED QUESTIONS

### Q. What type of exam are the ACE exams?

A. Adobe ACE exams (which are administered by Pearson VUE and Thomson Prometric, independent third-party testing companies) are computer-delivered, closed-book tests consisting of 60 to 90 multiple-choice questions. Each exam takes approximately one to two hours to complete, and results are given to you at the testing center immediately after you complete the test.

### Q. What type of exam are the recertification exams?

A. Adobe recertification exams are Web administered exams that are available to current ACEs only. The exams are delivered to your desktop via the Web. The tests consist of 30-60 multiple choice questions focusing exclusively on new product features. Each exam takes approximately one half to one hour to complete. Results are revealed immediately after you finish.

### Q. How do I register for an ACE exam?

A. Contact Pearson VUE or Thomson Prometric by phone, on the Web, or in-person:

	Pearson VUE	Thomson Prometric
<b>Register online</b>	<a href="http://www.pearsonvue.com">www.pearsonvue.com</a>	<a href="http://www.2test.com">www.2test.com</a>
<b>Register in-person</b>	Find a location online at <a href="http://www.pearsonvue.com">www.pearsonvue.com</a>	Find a location online at <a href="http://www.2test.com">www.2test.com</a>

### Q. What is the fee for the ACE exam?

A. Each exam is US\$150 or local currency equivalent.

### Q. What is the fee for the recertification exam?

A. The fee for Web administered ACE recertification exams is US\$50 or local currency equivalent.

### Q. Soon after I passed an ACE exam, the exam was published for a new product version. Do I have to successfully complete the new exam within 90 days?

A. You may continue to use the ACE logo and materials in accordance with the Adobe Certified Program Guidelines for Logos and Credentials. When the ACE and recertification exams are published for the next version of the product, you must successfully complete that exam within 90 days to keep your ACE status current and continue using the ACE logo and materials.

### Q. What can I expect from Adobe if I pass the ACE exam?

A. As soon as you pass the exam, your name and exam results are given to us by Pearson VUE or Thomson Prometric, our worldwide test administrators. Your exam data is then entered into our database. You will then be sent an ACE Welcome Kit and access to the ACE logo. You are also placed on our certification mailing list to receive special Adobe announcements and information about promotions and events that take place throughout the year.

### Q. How long does it take to receive my Welcome Kit?

A. You can expect your Welcome Kit to arrive four to six weeks after we receive your exam results.



# CERTIFIED EXPERT

## FOUR-STEP CHECK LIST

### STEP 1: Choose your certification level

There are three levels of certification to become an Adobe® Certified Expert. Choose the one that's right for you.

- 1. Single product certification: Recognizes your proficiency in a single Adobe product. To qualify as an ACE, you must pass one product-specific exam.**

Example: ACE, Adobe InDesign CS

- 2. Specialist certification: Recognizes your proficiency in a specific medium: print, Web, or video. To become certified as a Specialist, you must pass the exams on the required products listed below.**

Example: ACE Print Specialist (with passing marks on the tests for Adobe InDesign, Adobe Acrobat, and either Adobe Photoshop or Adobe Illustrator)

- 3. Master certification: Recognizes your skills in terms of how they align with the Adobe product suites. To become certified as a Master, you must pass the exam for each of the products in the suite.**

Example: ACE, Creative Suite Master (with passing marks on the tests for Adobe Acrobat, Adobe GoLive, Adobe Illustrator, Adobe InDesign, and Adobe Photoshop)

Specialists must pass all required (R) exams and any one elective (E) within any given certification track:

	Print Specialist	Web Specialist	Video Specialist
<b>Adobe InDesign</b>	R	—	—
<b>Adobe GoLive</b>	—	R	—
<b>Adobe Acrobat*</b>	R	E	—
<b>Adobe Photoshop</b>	E	R	R
<b>Adobe Illustrator</b>	E	E	—
<b>Adobe Premiere</b>	—	—	R
<b>Adobe After Effects</b>	—	—	R

Note: Exam requirements are subject to change.

\*Adobe Acrobat 7.0 Professional Print Production exam only.

### STEP 2: Register for your exam(s)

Adobe ACE exams are administered by Pearson VUE and Thomson Prometric, independent third-party testing companies. The tests are offered at more than five thousand authorized testing centers in many countries.

To register for your ACE exam(s), contact Pearson VUE or Thomson Prometric by phone, on the Web, or in person. Please note, all recertification Web based exams are delivered through Thomson Prometric only.

	Pearson VUE	Thomson Prometric
<b>Register online</b>	www.pearsonvue.com	www.2test.com
<b>Register in-person</b>	Find a location online at www.pearsonvue.com	Find a location online at www.2test.com

The ACE exam fee is US\$150 worldwide. The recertification exam fee is US\$50.



## FOUR-STEP CHECK LIST

### STEP 3: Prepare for and take your exam(s)

The keys to preparing for an ACE exam are experience with the product and studying using the Exam Prep Guide. To access online training, user guides, and many other study materials, visit Adobe's training resources page.

The following resources may also help you prepare for your ACE exam:

- Adobe product user guides
- Adobe Press books
- Adobe Authorized Training Centers (find the AATC nearest you through the online Adobe Partner Finder)
- Adobe online training from Element K (<http://adobe.elementk.com>)
- Tutorials and materials from Total Training (<http://www.totaltraining.com>)
- Other online training resources

ACE exams are computer-delivered, closed-book tests consisting of 60 to 90 multiple-choice questions. Each exam takes one to two hours to complete, and results are given to you at the testing center immediately after you finish.

Adobe recertification exams are Web administered exams that are available to current ACEs only. The exams are delivered to your desktop via the Web. The tests consist of 30-60 multiple choice questions. Each exam takes approximately 30 to 60 minutes to complete. Results are revealed immediately online after you finish.

### STEP 4: Sign the ACE Agreement and join the Adobe Certified community

Review the ACE Agreement prior to taking the exam. You will be asked to agree to the ACE terms and conditions at the time of the exam.

Once you are ACE certified, visit the Adobe Certified community where you can:

- Verify exam results
- Get a copy of the ACE Agreement
- Download your Adobe Certified logo
- Find out about recertification
- Connect with other Adobe certificants
- Update your profile

*Note: Information about the Adobe Certified Community is also printed on your score report.*

### Recertify when necessary

Once obtained, your ACE certification is valid until 90 days after the exam version of your certification is retired. Adobe will e-mail you a reminder when your certification is due for renewal and will let you know when you need to take the recertification exam.

# Adobe Flex™ 2

## ACE EXAM TOPIC AREAS AND OBJECTIVES

### ACE Exam Content: Topic Areas and Objectives

Following is a detailed outline of the information covered on the ACE Exam.

#### 1. Flex Application User Interface (UI) Creation

- Identify and describe the basic UI controls used in a Flex application.
- Identify the purpose of UI containers and when to use them.
- Identify how to change the look and feel of a design by using API styles and style sheets.
- Recognize how to customize changes, control-related presentation layouts and navigation in an application by using view states, and using transitions and effects.

#### 2. Flex System Architecture and Design

- Recognize how UML and Use Cases are used in object-oriented design.
- Identify the relationship of design patterns with respect to system architecture.
- Recognize and describe event-based programming model in events.
- Identify how to build loosely-coupled components.
- Recognize how Inheritance, Encapsulation, and Polymorphism works.
- Recognize the structure of a J2EE architecture.

#### 3. Flex Application Programming Fundamentals

- Identify the properties and relationships between classes and objects and how they work in Flex.
- Identify how to display data in Flex.
- Identify how to manipulate data in Flex.
- Recognize how to validate data by using built-in and custom validator classes.
- Recognize how to create and use ActionScript classes.
- Identify the purpose and uses of handling events in Flex.
- Recognize how to use XML data in Flex.
- Recognize how to create and use custom components in Flex.
- Recognize how to display data using different chart types, formats, and legends.

#### 4. Interacting with Remote Data and Flex Applications

- Recognize how to use Remote Procedure Call (RPC) services.
- Recognize how to manage data using Flex Data Services (FDS).

# Adobe Flex™ 2

## PRACTICE EXAM

Try out these helpful practice questions to get a feel for the types of questions on the ACE exam, but please note that your performance here does not indicate how you'll do on the actual exam. To fully prepare for the exam, closely review the topic areas and objectives in this guide.

**1. Identify the purpose of UI containers and when to use them.**

Which two UI containers support absolute layout positioning? (Choose two.)

- A. Tile
- B. Grid
- C. VBox
- D. Canvas
- E. Application

Correct Answer: D, E

**2. Identify how to change the look and feel of a design by using API styles and style sheets.**

Your application includes the following declaration:

```
<mx:Style>.largeFont { fontSize: 15 }</mx:Style>
```

You want to assign a visual control to be a member of the myFontStyle class.

Which syntax should you use?

- A. class="myFontStyle"
- B. class=".myFontStyle"
- C. styleName="myFontStyle"
- D. styleName=".myFontStyle"

Correct Answer: C

**3. Identify how to change the look and feel of a design by using API styles and style sheets.**

Which statement about Cascading Style Sheet properties in Flex is true?

- A. Spaces are allowed in property names
- B. All CSS properties are available in Flex
- C. Components CANNOT be styled using CSS
- D. Class selectors can be applied to a component using the styleName property

Correct Answer: D

**4. Recognize how to customize changes, control-related presentation layouts and navigation in an application by using view states, and using transitions and effects.**

Which kind of data should be passed to the targets property of an effect?

- A. Array
- B. Object
- C. Control
- D. Container

## PRACTICE EXAM

Correct Answer: A

**5. Identify how to build loosely-coupled components.**

Which statement about loosely-coupled components is true?

- A. They decrease reusability
- B. An event model CANNOT be used
- C. Data can be sent by binding variables to component attributes
- D. They have direct knowledge of the properties and methods of other components

Correct Answer: C

**6. Recognize how Inheritance, Encapsulation, and Polymorphism works**

You have a custom ActionScript class named MyClass that implements an interface named MyInterface. You want to create an instance of the class, and be able to pass it to a method that accepts any class that implements the interface.

Which syntax should you use?

- A. `var obj:MyClass = new MyInterface();`
- B. `var obj:MyInterface = new MyClass();`
- C. `var obj:MyClass = new MyClass() as MyInterface;`
- D. `var obj:MyInterface = new MyInterface(new MyClass());`

Correct Answer: B

**7. Recognize how to create and use ActionScript classes.**

You have created a custom ActionScript class called MyClass. You want to be able to pass in an optional argument that is typed as an Object.

Which is the correct signature of the constructor method?

- A. `public function MyClass(item:Object)`
- B. `public function MyClass(item:Object = null)`
- C. `public function MyClass(item:Object):MyClass`
- D. `public function MyClass(item:Object) as MyClass`

Correct Answer: B

**8. Recognize how to display data using different chart types, formats, and legends.**

Which type of variable should be passed to the series property of a charting component?

- A. Data Transfer Object
- B. A single Series object
- C. Array of Series objects
- D. ArrayCollection of Data Transfer Objects

Correct Answer: C

**9. Recognize how to use Remote Procedure Call (RPC) services.**

You are accessing multiple remote methods from a WebService object. You need to define different result events for each method call.

## PRACTICE EXAM

Which tag nested inside the WebService tag block should you use?

- A. <mx:result>
- B. <mx:method>
- C. <mx:operation>
- D. <mx:remoteMethod>

Correct Answer: C

**10. Recognize how to manage data using Flex Data Services (FDS)**

Your application uses the Data Management Service to manage distributed data.

You have returned an instance of the AsyncToken class upon calling the

DataService commit() method, using this syntax:

```
token = myService.commit();token.action="saved";
```

You have defined a result handler method that is called upon the result event of

the DataService. The method signature is:

```
resultHandler(event:ResultEvent):void
```

Which expression within the handler method will return the value of the token

object action property?

- A. event.action
- B. event.token.action
- C. event.token.result.action
- D. event.result.token.action

Correct Answer: B

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