



Magento 2 Certified Associate Developer

Exam Study Guide



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Introduction

This exam is for a Magento developer who has learned the Magento framework at the basic level covered by the Magento 2 Development Essentials training. Candidates should have experience with PHP, MySQL, Apache/Nginx, and Linux. Those who pass this exam will earn the Magento 2 Associate Developer credential.

This exam will validate the skills and knowledge required for supervised contribution to Magento 2 implementation and customization projects. Specifically, this exam covers UI modifications, database changes, admin modifications, checkout process customizations, order management integrations and customizations, and catalog structure and functionality changes.

The test is built for 2.2.x version of Magento Open Source.

This exam consists primarily of scenario-based questions in a multiple-choice format.

Sample questions are provided at the end of this guide.

Test time: 90 minutes. Passing score: 68% or above, 61 questions. Available to take remotely or at a test center.

Exam topics and the percentage covered in the test:

- | | |
|---|-----|
| • Magento Architecture & Customization Techniques | 33% |
| • Request Flow Processing | 7% |
| • Customizing the Magento UI | 15% |
| • Working with Databases in Magento | 18% |
| • Developing with Adminhtml | 11% |
| • Customizing Magento Business Logic | 16% |

Topics and Objectives

1 Magento Architecture and Customization Techniques

1.1 Describe the Magento module-based architecture

Describe module architecture. What are the significant steps to add a new module? What are the different Composer package types? When would you place a module in the app/code folder versus another location?

1.2 Describe the Magento directory structure

Describe the Magento directory structure. What are the naming conventions, and how are namespaces established? How can you identify the files responsible for some functionality?

1.3 Utilize configuration and configuration variables scope

Determine how to use configuration files in Magento. Which configuration files are important in the development cycle?

Describe development in the context of website and store scopes. How do you identify the configuration scope for a given variable? How do native Magento scopes (for example, price or inventory) affect development and decision-making processes?

Demonstrate an ability to add different values for different scopes. How can you fetch a system configuration value programmatically? How can you override system configuration values for a given store using XML configuration?

1.4 Demonstrate how to use dependency injection (DI)

Demonstrate the ability to use the dependency injection concept in Magento development. How are objects realized in code? Why is it important to have a centralized object creation process?

Identify how to use DI configuration files for customizing Magento. How can you override a native class, inject your class into another object, and use other techniques available in `di.xml` (for example, `virtualTypes`)?

Given a scenario, determine how to obtain an object using the ObjectManager object. How would you obtain a class instance from different places in the code?

1.5 Demonstrate ability to use plugins

Demonstrate an understanding of plugins. How are plugins used in core code? How can they be used for customizations?

1.6 Configure event observers and scheduled jobs

Demonstrate how to create a customization using an event observer. How are observers registered? How are they scoped for frontend or backend? How are automatic events created, and how should they be used? How are scheduled jobs configured?

1.7 Utilize the CLI

Describe the usage of `bin/magento` commands in the development cycle. Which commands are available? How are commands used in the development cycle?

1.8 Describe how extensions are installed and configured

How would you install and verify an extension by a customer's request?

2 Request Flow Processing

2.1 Describe how to use Magento modes

Understand the pros and cons of using developer mode or production mode. How do you enable/disable maintenance mode?

2.2 Demonstrate the ability to create a frontend controller with different response types (HTML/JSON/redirect)

How do you identify which module/controller corresponds to a given URL? What would you do to create a given URL?

2.3 Demonstrate how to use URL rewrites for a catalog product view to a different URL

How is the user-friendly URL of a product or category defined? How can you change it? How do you determine which page corresponds to a given user-friendly URL?

3 Customizing the Magento UI

3.1 Demonstrate the ability to customize the Magento UI using themes

Demonstrate the ability to customize the Magento UI using themes. When would you create a new theme? How do you define theme hierarchy for a project?

3.2 Demonstrate an ability to create UI customizations using a combination of a block and template

How do you assign a template to a block? How do you assign a different template to a native block?

3.3 Identify the uses of different types of blocks

When would you use non-template block types?

3.4 Describe the elements of the Magento layout XML schema, including the major XML directives

How do you use layout XML directives in your customizations? How do you register a new layout file?

3.5 Create and add code and markup to a given page

How do you add new content to existing pages using layout XML?

4 Working with Databases in Magento

4.1 Describe the basic concepts of models, resource models, and collections

What are the responsibilities of each of the ORM object types? How do they relate to one another?

4.2 Describe how entity load and save occurs

How do you use the native Magento save/load process in the development process?

4.3 Describe how to filter, sort, and specify the selected values for collections and repositories

How do you select a subset of records from the database?

4.4 Write install and upgrade scripts

What types of functionality belong in each type of setup script? Under what conditions are install scripts run? How is module version information tracked in the system?

4.5 Identify how to use the DDL class in setup scripts

How would you create a new table or alter an existing table?

5 Developing with Adminhtml

5.1 Create a controller for an admin router

How would you create an admin controller? How do you ensure the right level of security for a new controller?

5.2 Define basic terms and elements of system configuration, including scopes, website/store/store view

How would you add a new system configuration option? What is the difference in this process for different option types (secret, file)?

5.3 Define/identify basic terms and elements of ACL

How would you add a new ACL resource to a new entity? How do you manage the existing ACL hierarchy?

5.4 Set up a menu item

How do you add a new menu item to a given tab? How do you add a new tab to the Admin menu?

5.5 Create appropriate permissions for users

How are menu items related to ACL permissions? How do you add a new user with given set of permissions?

6 Customizing Magento Business Logic

6.1 Identify/describe standard product types (simple, configurable, bundled, etc.)

How would you obtain a product of a specific type, and what tools (in general) does a product type model provide?

6.2 Describe category properties in Magento

How do you create and manage categories?

6.3 Define how products are related to the category

How do you assign and unassign products to categories?

6.4 Describe the difference in behavior of different product types in the cart

How are configurable and bundle products rendered? How can you create a custom shopping cart renderer?

6.5 Describe native shipment functionality in Magento

How do you customize the shipment step of order management?

6.6 Describe and customize operations available in the customer account area

How would you add another tab in the “My Account” section? How do you customize the order history page?

6.7 Add or modify customer attributes

How do you add or modify customer attributes in a setup script?

6.8 Customize the customer address

How do you add another field to the customer address entity using a setup script?

Magento 2 Certified Associate Developer Exam Example Questions

See the Answer Key following the questions for answers.

Question 1

You are building an extension that will be sold on the Magento Marketplace. This extension depends on `Magento_Catalog`.

How is a Magento database upgrade performed?

- A. Automatically when a new module version is detected
- B. Manually on the CLI
- C. Manually in the Admin UI
- D. When the cache is cleared and the module change is present

Question 2

You're tasked with investigating a custom page layout declared in `MyCompany/MyModule` that isn't loading. You've determined that this is the result of your XML configuration.

Which 2 files do you investigate to locate the issue?

- A. `MyCompany/MyModule/view/frontend/layouts.xml`
- B. `MyCompany/MyModule/view/frontend/layout/page.xml`
- C. `MyCompany/MyModule/view/page_layout/custom.xml`
- D. `MyCompany/MyModule/view/frontend/page_layout/custom.xml`

Question 3

A merchant would like to manually specify the order of products per category.

How is this done?

- A. This requires a customization.
- B. There is a position field on the category management page which allows you to define the order of a product in the category.
- C. There is a position field on the product management page which defines a position of the product in all categories.
- D. Custom ordering is disabled by default, but can be enabled in System Configuration.

Question 4

What happens when a customer adds two of the same simple products with different custom options to the cart?

- A. They will be shown as one line item which lists both variations alongside their quantities.
- B. An exception will be thrown because multiple variations of custom options for a simple product cannot be added to the cart.
- C. They will be shown as two separate line items.
- D. Magento will replace the first variation with the second one.

Answer Key

Question 1

Answer: B

Question 2

Answers: A and D

Question 3

Answer: B

Question 4

Answer: C