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The Definitive Mage

The Definitive Guide to Magento

A Comprehensive Look at Magento



Adam McCombs
Robert Banh

Apress®

The Definitive Guide to Magento: A Comprehensive Look at Magento

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To my wife and brother, Esther and Mark

—Adam McCombs

To my mother and sister, Jenny and Annie

—Robert Banh

Contents at a Glance

About the Authors.....	xvi
About the Technical Reviewers	xvii
Acknowledgments	xviii
Introduction	xix
PART 1: GETTING STARTED WITH MAGENTO	1
■ Chapter 1: Introduction to Magento.....	3
■ Chapter 2: Installing Magento	7
■ Chapter 3: The Public Interface Walk-through	15
■ Chapter 4: The Administration Interface Walk-through.....	39
■ Chapter 5: Working with Products	77
■ Chapter 6: Working with Customers.....	89
PART 2: ADVANCED MAGENTO DEVELOPMENT	103
■ Chapter 7: Working with Orders	105
■ Chapter 8: Configuring Magento.....	117
■ Chapter 9: Customizing Magento's Appearance.....	133
■ Chapter 10: Magento Extensions	155

■ **Chapter 11: API.....179**

■ **Chapter 12: Tips and Tricks.....191**

■ **Appendix: API References.....213**

Index.....295

Contents

- About the Authors..... xvi
- About the Technical Reviewers xvii
- Acknowledgments xviii
- Introduction xix

- PART 1: GETTING STARTED WITH MAGENTO 1
 - Chapter 1: Introduction to Magento.....3
 - What Is Magento? 3
 - What Is Open Source Software? 3
 - Magento Versions and License 4
 - The History Behind Magento..... 4
 - Zend: Magento’s Workhorse 4
 - Who Should Use Magento? 4
 - Why Magento? 5
 - Beyond This Guide 6
 - Chapter 2: Installing Magento7
 - System Requirements..... 7
 - Automatic Install 8
 - Getting Started..... 8
 - Installation Step 1: What and Where to Download? 8

Installation Step 2: Uploading Magento for Installation	9
Installation Step 3: Setting Correct File Permissions.....	9
Installation Step 4: Setting up a Magento Database.....	11
Installation Step 5: Installing Magento	12
What's Next?	15
Chapter 3: The Public Interface Walk-through	15
Through the Looking Glass	15
Page Header	16
Categories and Category Views	17
Product Page	21
Compare Products	23
CMS Pages and Static Blocks	25
The Checkout Process	26
Step 1: Checkout Method	27
Step 2: Billing Information	27
Step 3: Shipping Information	28
Step 4: Shipping Method	29
Step 5: Payment Method	30
Step 6: Order Review	31
Ship to Multiple Addresses	32
Step 1: Select Addresses.....	33
Step 2: Shipping Information.....	33
Step 3: Billing Information	34
Step 4: Place Order.....	35
Step 5: Order Success	36
What's Next?	37

Chapter 4: The Administration Interface Walk-through.....	39
The Administration Interface: The Dashboard	39
The Administration Interface: Sales	41
The Administration Interface: Sales—Orders Grid	41
The Administration Interface: Sales—Invoices Grid.....	44
The Administration Interface: Sales—Shipments Grid.....	46
The Administration Interface: Sales—Credit Memos	47
The Administration Interface: Sales—Terms and Conditions	49
The Administration Interface: Sales—Tax.....	51
The Administration Interface: Catalog	51
The Administration Interface: Catalog—Manage Products	51
The Administration Interface: Catalog—Manage Categories	53
The Administration Interface: Catalog—Attributes	54
The Administration Interface: Catalog—URL Rewrite Management	56
The Administration Interface: Catalog—Search.....	56
The Administration Interface: Catalog—Reviews and Ratings.....	57
The Administration Interface: Catalog—Tags	57
The Administration Interface: Catalog—Google Base	58
The Administration Interface: Catalog—Google Sitemap.....	59
The Administration Interface: Customers	60
The Administration Interface: Customers—Manage Customers.....	60
The Administration Interface: Customers—Customer Groups	61
The Administration Interface: Customers—Online Customers.....	61
The Administration Interface: Promotions	62
The Administration Interface: Promotions—Catalog Price Rules.....	62
The Administration Interface: Promotions—Shopping Cart Price Rules	63
The Administration Interface: Newsletter.....	64
The Administration Interface: Newsletter—Newsletter Templates.....	64
The Administration Interface: Newsletter—Newsletter Queue	65

The Administration Interface: Newsletter—Newsletter Subscribers	65
The Administration Interface: Newsletter—Newsletter Problem Reports.....	66
The Administration Interface: CMS.....	66
The Administration Interface: CMS—Manage Pages	66
The Administration Interface: CMS—Static Blocks.....	66
The Administration Interface: CMS—Poll Manager.....	68
The Administration Interface: Reports	70
The Administration Interface: System.....	70
The Administration Interface: System—My Account	70
The Administration Interface: System—Notifications	71
The Administration Interface: System— Tools.....	71
The Administration Interface: System—Web Services	72
The Administration Interface: System—Design	72
The Administration Interface: System—Import/Export	72
The Administration Interface: System—Transactional Emails.....	73
The Administration Interface: System—Permissions.....	73
The Administration Interface: System—Magento Connect	73
The Administration Interface: System—Cache Management	73
The Administration Interface: System—Manage Stores	74
The Administration Interface: System—Configuration.....	75
What’s Next?	76
■ Chapter 5: Working with Products	77
Getting Started with Categories.....	77
Product Categories: General Settings.....	78
Product Categories: Display Settings	78
Product Categories: Custom Design	79
Product Categories: Category Products.....	79

Product Attributes	80
Product Attributes: Individual Product Attributes	80
Product Attributes: Product Attribute Sets	80
Creating a Simple Product	80
Product Information: General.....	81
Product Information: Prices	81
Product Information: Meta Information	82
Product Information: Images	83
Product Information: Description.....	83
Product Information: Design.....	84
Product Information: Inventory	84
Product Information: Web Sites.....	85
Product Information: Categories.....	85
Product Information: Related Products, Up-sells and Cross-sells.....	86
Product Information: Custom Options.....	86
Different Types of Products	87
Product Reviews	88
Product tags.....	88
What's Next?	88
■ Chapter 6: Working with Customers.....	89
Getting Started with Customers.....	89
Guest Checkout Customers.....	89
Creating New Customers	91
Importing Customer Information	92
Detailed Customer Information	92
Detailed Customer Information: Customer View.....	93
Detailed Customer Information: Account Information	94

Detailed Customer Information: Addresses	95
Detailed Customer Information: Orders	96
Detailed Customer Information: Shopping Cart	97
Detailed Customer Information: Wishlist	97
Detailed Customer Information: Newsletter	97
Detailed Customer Information: Product Reviews	98
Detailed Customer Information: Product Tags.....	98
Customer Groups	99
Customer Groups: Group Product Pricing (Tier Pricing).....	100
Online Customers	101
Contacting Customers.....	101
What's Next?	102
PART 2: ADVANCED MAGENTO DEVELOPMENT	103
■ Chapter 7: Working with Orders	105
Getting Started with Orders	105
The Life Cycle of Orders.....	107
Complete List of Order Status.....	107
Status Conflicts and Exceptions	108
Contacting Customers	108
Creating an Invoice for an Order	109
Creating a Shipment Order	111
Canceling an Order	113
Placing an Order on Hold	114
Credit Memos.....	114
Deleting Orders	116
What's Next?	116

Chapter 8: Configuring Magento.....	117
Why Do I Need to Configure Magento?	117
Store Information, Emails, and Meta Data	117
Default Home Page.....	117
Page Titles, Meta Keywords, and Meta Descriptions	119
Store Emails	120
Welcome Message and Page Footer.....	120
Setting Up Transactional Emails	121
Setting Up a Shipping Method	123
Setting Up a Payment Method	125
Deleting Sample Categories	127
Deleting Sample Products	127
Deleting Test Customers.....	128
Deleting Test Orders	128
What's Next?	131
Chapter 9: Customizing Magento's Appearance.....	133
A Quick Overview.....	133
Why This Structure Is Good.....	134
Potential Problems with This Type of Structure	134
Beyond This Chapter.....	134
Understanding a Magento Theme.....	135
Important Theme Areas to Keep in Mind	135
Default and NonDefault Magento Themes	135

The Default Magento Theme.....	135
Default Theme Layouts.....	136
Magento File Structure	140
Inside the App Directory	141
Inside the Skin Directory	143
Performing Some Simple Modifications	144
Turn on Developer Hints	144
Modifying a XML Layout File.....	145
Modifying a PHTML Template File	148
Modifying a CSS file	149
The Blank Theme for Magento.....	150
Download the Blank Theme.....	151
Assigning the Blank Theme to Your Store	152
What's Next?	154
■ Chapter 10: Magento Extensions	155
Overview	155
Magento Connect Manager.....	156
Finding an Extension.....	157
Installing an Extension.....	157
Uninstalling an Extension.....	159
Building a Module	159
Rules.....	160
Directory Structure	160
Simple Hello World Module.....	162
Files for Hello World Module.....	162
Verify that the Module Is Registered	164
Displaying Hello World in Blocks	164
Random Products Module	165

Files for Random Products Module.....	165
Displaying Random Products in Blocks	170
Displaying Random Products in Template files	171
Turning a Module into an Extension	171
Package Info	172
Release Info	173
Maintainers.....	173
Dependencies	174
Contents	175
Extension Completed	177
Load Local Package.....	177
Summary	178
What's Next?.....	178
■ Chapter 11: API.....	179
XML-RPC.....	179
SOAP	180
PHP with XML-RPC or SOAP?.....	180
Setting Up Magento for Web Services	181
Roles.....	181
Users	182
API Coding.....	183
Using XML-RPC (PEAR Client)	184
Using XML-RPC (Zend Library).....	185
Using SOAP (PHP Standard Library).....	186
Code Comparison	187
Slice and Dice with or without the Operators.....	189
Summary	190
What's Next?.....	190

Chapter 12: Tips and Tricks	191
Importing Products	191
Importing Products Through a CSV File	192
Importing Products through Scripts	195
Export Orders and Build QuickBooks Invoices	198
Localhost Install for Windows	205
Debug Tricks: Turning on Template Path	206
Modifying Core Files	207
Modifying Template Files	208
Clearing the Database of Test Orders	208
Special Thanks to Branko Ajzele and the Inchoo Team	210
Searching the BugTracker	211
Summary	211
What's Next?	211
Appendix: API References	213
API Operators	213
API Faults	214
Magento APIs	214
Customer API	214
Directory API	228
Catalog API	230
Sales API	267
Inventory API	292
Index	295

About the Authors



■ **Adam McCombs** is a trained musician who accidentally stumbled into the fun-filled world of web design and development. His journey began several years ago while attending Texas State University as a music education major. Adam decided to build a simple site to display his photography work, so he taught himself the basic fundamentals of good graphic and web site design. One site led to another, then to a couple of clients; the next thing he knew, he was more interested in typography than Bach (although he still enjoys a good fugue every now and then).

Adam is currently a full-time designer and developer who specializes in adapting open source frameworks such as Magento, Wordpress, Joomla!, and Drupal into functional custom web site solutions for clients of small and medium-sized businesses. He loves helping clients fulfill their visions and bring their ideas to life. Adam has also donated his work and time to nonprofit organizations, charities, and many broke musicians.

When he can bring himself to part with his computer, Adam enjoys photography and running after his two rambunctious Labradors with his wife.



■ **Robert Banh** is an accomplished developer, working in code since the existence of Pluto. He often hacks core systems and deploys web sites during his down time. Robert specializes in building custom PHP/MySQL web applications, using technologies such as Zend framework and CodeIgniter. Depending on the project, he's known to jump from the content management system of Wordpress, Drupal, and Expression Engine to the eCommerce solutions of Magento and Shopify. When Robert is not coding, he plays with Adobe Photoshop and aligns hand-drawn boxes into a 960 grid. He also dreams in hex colors.

Robert's passion lives on the Web, designing and building custom solutions for clients stemming from IBM, HP, Unisys, and KLRU to small mom-and-pop shops and nonprofit organizations. He is currently employed at the University of Texas at Austin, where they let him run free to code in multiple frameworks and experiment taking over the world with unofodox designs for the Web.

Robert has a computer science degree from the University of Texas at Austin. If he's not mentoring or tweeting, you can find him attending Refresh Austin each month.

About the Technical Reviewers



■ **Gordon Forsythe** has been developing web applications with PHP since 2000. He has worked on many open source applications and has developed programs for various fields including education, health care, real estate, and telecommunications. Gordon currently resides in Phoenix with his wife, three cats, two dogs, and five fish.

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Robert Banh

Introduction

The Definitive Guide to Magento takes a comprehensive look at Magento, a robust and flexible e-commerce platform built on the Zend framework. With more than 750,000 downloads, Magento is the fastest-growing open source e-commerce solution. This book walks you through all the steps of building a fully functional Magento-based web site. It also includes information on managing products, customers, and orders.

This book is meant to be a desktop reference when working with Magento. Not only does it take a look into some of the finer points of Magento (including walkthroughs of the public and administrative interfaces, and modifying the default Magento theme) but we also included a comprehensive API reference for developers looking to extend Magento beyond its basic functionality.

Who This Book Is For

This book has two primary audiences. The first includes website designers and developers looking for an eCommerce solution for clients. Magento can not only be manipulated in terms of design but it can meet some of the most complex development requirements.

The second audience includes small to medium-sized business owners who are looking to establish an online eCommerce presence. For most business, Magento is ready to perform right after installation. You can easily configure Magento with very little knowledge of PHP or HTML. Magento also allows you to install themes to modify your store's appearance.

Magento is the ideal eCommerce solution for anyone looking to easily install, customize, and run an online store.

How This Book Is Structured

This book is divided into two major sections. Part One: Getting Started with Magento provides a brief history of Magento; walkthroughs of the public and administrative interfaces; and in-depth looks at customers, products, and orders. Part Two: Advanced Magento Development dives deeper into Magento and how to manipulate Magento's appearance, install and build Magento extensions, and how to utilize Magento's built-in API as well as some Magento tips and tricks.

Prerequisites

There are no prerequisites to using Magento. Magento can be installed and configured with a basic understanding of how to upload and download files and the use of a file transfer protocol (FTP) application.

For designers and developers looking to extend Magento beyond its basic functionality and design, Magento can be customized with a basic understanding of HTML, CSS, and XML. Although we recommend having a beginning understanding of PHP and MySQL, it is not required for basic store operations and use.

Contacting the Authors

We always welcome your questions and feedback regarding the contents of this book. You can reach Adam McCombs at adamjmcombs@gmail.com and visit his web site at <http://www.mcombs.me/>. You can reach Robert Banh at robertbanh@gmail.com and visit his site at <http://www.htmltree.com>.

Getting Started with Magento

In chapters 1-6, we will walk you through how to install Magento and the public and administrative interfaces, how to work with products, customers, and orders as well as configuring Magento for use.

CHAPTER 1



Introduction to Magento

What Is Magento?

Magento is a full-fledged, open source eCommerce platform aimed at web site designers, developers, and business owners who are looking for a complete eCommerce web site solution. Magento's open source architecture enables the user to maintain complete control over the structure and functionality of a web site.

Varien, the company responsible for building Magento, has set a new standard for open source applications. One of the most impressive aspects of Magento is the use of the Zend Framework. This allows for separation of the Model-View-Controller (MVC) which separates its core operations from functionality and appearance. Magento offers a stable eCommerce environment and gives you the flexibility to completely customize the web site to suit your business needs.

What Is Open Source Software?

Open Source Software (OSS) is a unique approach to the development and distribution of software. Open Source Software must not only offer access to the source code, but also be distributed as open source software. This allows users the rights to use, modify, and redistribute the software in either a modified or unmodified format.

In 1983, Richard Matthew Stallman launched the GNU Project to create a free UNIX-type operating system. The GNU Project led to the creation of free software such as gcc, the GNU C Compiler, and other free software instrumental in the birth of Linux. The GNU Project is also responsible for the GPL, or GNU General Public License, setting the stage for the creation of other free software licenses.

As more people started to realize that there was money to be made with free software, the free software approach took a more commercial turn in 1998 with the founding of the Open Source Initiative (OSI) by Eric S. Raymond and Bruce Perens. OSI is responsible for creating the Open Source Definition (OSD), and it reviews licenses to determine if they fit the OSD. The OSD-compliant list currently includes over 60 licenses, including GPLv2 and GPLv3.

Linux is probably the most famous software developed under the free software/open source ideology. Originally written in 1991 by Linus Torvalds, Linux is now one of widely distributed software, powering five out of ten of the world's webhosting and server type environments. Much of Linux success can be attributed to its open source approach.

For more information about open source visit: <http://www.opensource.org>.

Magento Versions and License

There are currently two versions of Magento: the Magento Community Edition and the Magento Enterprise Edition.

The Magento Community Edition is licensed under the Open Software License (OSL) v3.0. The Magento Enterprise Edition is available under a commercial license and requires an annual fee. Both editions share the same underlying framework. The Enterprise Edition includes several additional features that are not included with the Community Edition, including gift certificates, customer store credits, and strong data encryption.

Full details about Magento licensing can be found at: <http://www.magentocommerce.com/license>.

The History Behind Magento

Varien began developing Magento in January of 2007. It was their vision to establish an eCommerce platform unlike anything else on the market. Varien originally planned on building an eCommerce platform based on a fork of osCommerce, but decided to write their own system using the Zend Framework instead. During Varien's six month beta period, they had over 225,000 downloads of Magento. The first public release of Magento, version 1.0, was released on March 31, 2008.

Shortly after, Magento 1.1 was released. Magento 1.1 fixed many bugs found in version 1.0, but also included a faster and more informative administrative user interface. Magento 1.2 was released on December 29, 2008. This version included several upgraded Zend Framework libraries and a new feature: downloadable products.

The current version of Magento 1.3 was released on March 30, 2009. This version increased Magento's speed in both public and administrative views. The Magento Enterprise Edition version 1.3 Enterprise was released on April 15, 2009. This version requires a service agreement with Varien and costs \$8,900 USD per year and it includes technical support which is not available with the Community Edition.

Zend: Magento's Workhorse

The Zend Framework, the platform Magento is built upon, is an open source, object-oriented application framework that uses PHP 5. Zend was released in 2005 under the Open Source Initiative (OSI)-approved New BSD License. The Zend Framework, often referred to as ZF, is built to be a lightweight yet flexible platform. ZF tries to follow the best programming practices and has been adopted for use by several major corporations including IBM, Adobe, and Oracle.

The Zend Framework provides Magento with an open source architecture and framework. ZF is really the engine that makes an application like Magento possible. Using the Zend Framework made it possible for Varien to develop Magento in a relatively short amount of time.

Who Should Use Magento?

Magento has two primary audiences: web site developers and businesses looking to expand in the online eCommerce marketplace. Regardless of your level of expertise, Magento has been designed in a way that is easily approachable. Magento is built to work straight out of the box with very little customization. It is easy to update your web site by adding new products and managing orders. While Magento has the

flexibility to be applied to advanced eCommerce situations, basic operations of the site can be handled with little training.

Magento can be customized with a basic understanding of HTML, CSS, and XML. While it's recommended to have a beginning understanding of PHP and MySQL, it is not required for basic store operations and use. PHP for Absolute Beginners is a great starting point for anyone just getting started with learning php. Developers who are looking to apply Magento to more custom eCommerce web sites should have an advanced knowledge of PHP and a working knowledge of the Zend Framework.

Why Magento?

In addition to a solid architecture and framework, there are several unique reasons why Magento makes a great choice for an eCommerce solution.

- One of the most amazing features about Magento is that you can design and develop multiple web sites and they store and share one administrative interface. This extremely flexible feature allows you to modify and control multiple web sites. All of your products inventory and pricing can be controlled from one central location. There is no longer a need to login to multiple locations to handle multiple web sites. Magento has the ability to control them all.
- Magento supports over sixty languages, multiple currencies, and tax rates. This gives you the ability to easily expand in the global market.
- Layered navigation gives users customized browsing options when viewing products by categories. You can now sort products by price, size, color, and other customizable attributes.
- Magento also has built-in web services. This flexibility allows external applications to access magento's data without changing the underlying core code. Currently, SOAP and XML-RPC protocols are available out of the box.
- Magento has Search Engine Optimization (SEO) built in from the start. It has the ability to handle friendly URL rewrites which make it easy for search engines to index your store and products.
- Not only does Magento offer real-time carrier rates and quotes, users can ship products from one order to multiple shipping address. This makes gift shopping especially easy.
- Magento also has several reporting features built in. These allows for easy view of sales reports, best-selling products, and customer reporting. They can even be exported in a CSV format to integrate with excel and other database programs.
- Magento has designed its file structure to three major sections: core, functionality, and design. This allows for easy updating of images and CSS styling without affecting the functionality of the site. Store functionality can also be easily customized without affecting the Magento's core. As a result, you can modify Magento without having to worry about upgrading to newer versions in the future.

- Magento has a huge community backing. In addition to a public forum and bug tracking, Magento also has its own public repository of extensions called Magento Connect. These extensions can be found at <http://www.magentocommerce.com/magento-connect>. Magento Connect features both free and commercial extensions to enhance the functionality of your web site.
- Since Magento is released under the Open Software License (OSL), the Magento Community Edition is available at no cost. In turn, this allows web site developers and eCommerce web site owners to cut down on software costs.

Beyond This Guide

This guide is only a starting point for using a platform like Magento. We highly recommend building a test environment to get comfortable and play around with Magento. It can be very overwhelming at first, but getting your hands dirty in a test environment is a great way to learn about Magento's features and flexibility.

Another great resource is Magento's main web site: <http://www.magentocommerce.com>. Aside from a huge community forum which is supported by the staff at Varien, there is an ever expanding Wiki Knowledge Base, screencasts, and other technical documentation.

CHAPTER 2



Installing Magento

The community version of Magento is designed to run under the power of your own web server. In this chapter, you will be reviewing the standard installation process for version 1.3.2.3. Magento can also be installed on local host environments for testing and development. A local host installation follows a similar process that we've outlined in this chapter as well. For additional information about installation on a local host system, you can visit <http://www.magentocommerce.com>.

System Requirements

Before you begin the installation process, it is important that your server meets the requirements to install and run Magento:

- Linux x86, x86-64.
- Apache Web Server (1.x or 2.x).
- PHP 5.2.0 or newer, (PHP4 with limited support).
- Certain PHP extensions are required. Check Magento's web site for a full list of required PHP extensions.
- Magento requires safe mode to be turned off to run Magento.
- MySQL 4.1.20 or newer.

Additional details regarding system requirements can be found at: <http://www.magentocommerce.com/system-requirements>.

If you are not sure whether your hosting server meets these requirements, a simple script is available for download to determine your server's abilities. Visit <http://www.magentocommerce.com/knowledge-base/entry/how-do-i-know-if-my-server-is-compatible-with-magento> for more information.

■ **Note** While not a requirement, Magento is SSL ready and is recommended for sites performing transactions involving credit card purchases.

Automatic Install

Many webhosts provide automatic installations. This allows you to install Magento with a few simple clicks. While it is important to understand the installation process, an automatic installation can save time. Contact your web site host to find out if they support automatic installations. If they do not, Magento must be installed manually.

■ **Tip** Be aware that automatic installations can sometimes erase entire directories during the installation process. It is recommended that you back up all files before you begin a new installation process, regardless of whether it is automatic or manual.

Getting Started

If your web server has met the system requirements, you are ready to install Magento by following these six steps:

1. What and where to download
2. Uploading Magento for installation
3. Setting correct file permissions
4. Setting up a Magento database
5. Installing Magento
6. Configuring Magento

The following steps outline standard installation. If you have SSH access and are more comfortable using SSH instead of a web-based installation than you can visit the following link for more information: http://www.magentocommerce.com/wiki/groups/227/installing_magento_via_shell_ssh.

Installation Step 1: What and Where to Download?

To get started visit: <http://www.magentocommerce.com/download>. As shown in Figure 2-1, Magento offers three different files you can download. Each file is offered in either zip, tar.gz, or tar.bz2 formats.

- *Downloader*: The downloader is a small file that installs the full release.
- *Full release*: This file is a full release of Magento. It contains all necessary files needed to install and run Magento. The full release is considered an alternative to the downloader file. No additional files are needed if you choose to use this option.

- *Sample Data:* This file is optional and is only required if you want to install sample data to your initial installation of Magento. Sample data is not included with either the downloader or full release. If you have never worked with Magento before, it is highly recommended that you install sample data.

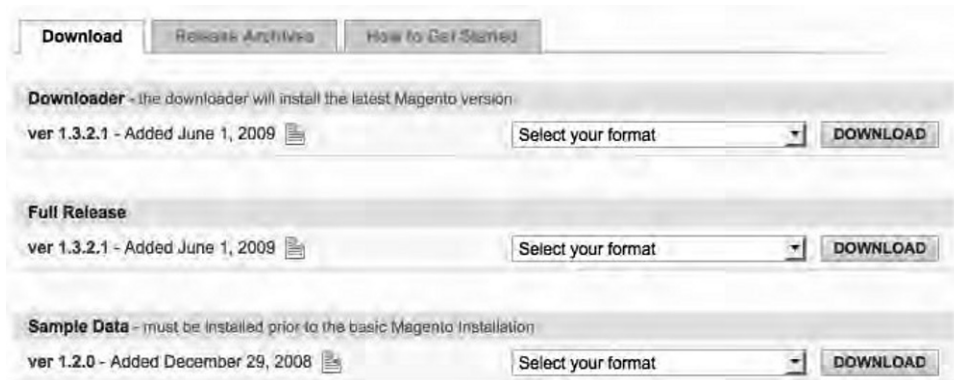


Figure 2-1. A quick look at the download page. Magento offers three files to download: Downloader, Full Release, and Sample Data.

This guide will follow the steps using the downloader file, but if you choose to download the full release file, the process will be relatively similar.

Installation Step 2: Uploading Magento for Installation

Once you have downloaded the downloader file and/or the sample data file, you will need to transfer the files to your server.

You should have downloaded a file name similar to: `magento-downloader-1.3.2.3.zip`. Unzip these files and upload them to your server under the directory path of your choice. If you are using FTP to upload, you will need to place the files inside of your web directory (examples). Alternatively, you can upload these files to a nonroot directory path such as `www.domainname.com/magento` or `www.domainname.com/store`.

If you have chosen to install the sample data, the file you downloaded should look similar to: `magento-sample-data-x.x.x.zip`. Unzip this file and you will notice that it contains two files, `magento_sample_data_for_1.2.0.sql`, which will be used later, and a folder called media. Upload the media folder to the same directory that the downloaded files were uploaded to. Again, this step is optional, but is recommended if you have previously never installed or worked with Magento.

Installation Step 3: Setting Correct File Permissions

For the installation process to work properly, Magento requires certain permissions be given to the top-level directory (where you uploaded the Magento files) and all Magento directories underneath it.

■ **Note** Each server is different and may not require changes to be made. You can quickly test your folders permissions by visiting your Magento directory. If the page loads without errors, you can skip this step and move on to section “Installation Step 4: Setting Up a Magento database.”

Using an FTP client, navigate to your Magento directory. Use the Change Permissions or Change Mode function built into your FTP client. Note that with previous command line installation often times you can click on the folder and change the permissions this way.

Permissions are usually set in one of two ways, either by a number or organized by groups. If your FTP uses numbers, set the number to 777 or 0777. If your FTP client organizes permissions by groups, make sure that every group has access under Reading Writing and Execute, often times abbreviated as RWX.

■ **Note** If your server has suPHP or suEXEC enabled, you will need to use permission 755 instead of 777.

Figure 2-2 is an example of permissions set to 777 or 0777.



Figure 2-2. An informational view of a folder. This allows you to easily adjust permission.

If you are not using an FTP program, file permissions can also be set using a file browser from within your webhost cpanel or another administrative interface. Simply navigate to your Magento folder and adjust the permissions using the previous process detailed.