




# Migrating to Magento 2



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# Migrating to Magento 2

*A real-word guide for Magento merchants*



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## INTRODUCTION

If you're a Magento 1 merchant, you have probably heard of the new features and benefits of Magento 2.x. However, it's difficult to determine when the right time is to move, what that entails, and how to accomplish migrating smoothly. This guide is based on the real world experience of myself and my team at Creatuity. We completed one of the first Magento 2.0 migrations, and are happy to share what we've learned along the way.

As a Magento Certified Developer, as well as a Magento Certified Solution Specialist, I have written this document to cover both business and technical aspects.

Throughout this document, we'll refer to Magento 2.x as M2 for brevity. We'll also refer to Community Edition as "CE" and Enterprise Edition as "EE". Your Magento Admin Panel will clarify which edition you are using.

## TIMING

Is now the right time for your move to M2? This answer is unique for every business. Magento has announced support for M1 until 2018. So while there is not a rush at the time of this publication, there are distinct reasons to migrate now:

1. Cost of development/support of your current site: You may have some new features and improvements that are planned for development soon. If you implement those now on M1, and then later again on M2, you have essentially paid for development twice. Additionally, in our experience, M2 custom development takes approximately 80% of the time that M1 development does thanks to the design and architecture of M2.
2. Features of M2: If you need/want the features in M2 now, it may make more sense to migrate than to implement them on M1. Also keep in mind that Magento is now only developing new features for M2. M1 will receive no further new features from Magento.
3. Planning, implementing, testing and deploying a migration to M2 can take a substantial amount of time. Beginning the process to move to M2 now gives you time to move slowly and get everything right - by the end of 2017, we expect to see people rushing to migrate to M2 before the end of support and security

patches for Magento 1 in 2018, and those merchants won't have the same luxury of time that's available for merchants making the transition today.

## CAVEATS TO CONSIDER

While for most merchants migrating to M2 is a smooth process, please keep in mind the following factors that could prevent or slow down your specific migration:

1. **Extensions:** There are many M2 extensions in the Marketplace now. Even if the exact one that you currently use isn't available, another similar one is probably available. You should do a search for any mission-critical functionality. You can absolutely develop the features via a custom extension if needed, however.
2. **Integrations:** If you currently integrate with another 3rd party system (like an ERP, accounting system, etc.) please be sure to research if they have a connector available for M2. Again, it's possible to build custom integrations if needed.
3. **Budget:** We discuss budgeting later in this document, but it's mentioned now since it can be a limiting factor for some merchants. There are only a select number of Magento Partners that are officially M2 Trained, therefore demand is high for these companies. However, do not let budget alone scare you - most Magento Partners have reduced rates for slower times of year and other promotions. Additionally, even as more Magento Partners are officially M2 Trained, demand for M2 work is only increasing as we move closer to the end of support for M1.
4. **Training:** The new Admin Panel is very user friendly. Since its a little different though, please keep in mind that your staff will need to be trained accordingly.

## IN-HOUSE, FREELANCER, OR MAGENTO PARTNER?

In my experience, hiring a Magento Certified Developer is critical for the success of any Magento project. In particular, M2 is entirely different, and requires a whole new training and certification process. Essentially there are three options: In-house, freelancer or Magento Partner. There are pro's and con's to each approach, so this is a business preference.

### In-House

If you are a merchant that is planning to do this project in-house, I'd recommend that

you allow your M1 developer(s) several months of M2 training before attempting this project. [Magento U](#) has exceptional training courses both in-person and online. Alternatively, some experts (such as myself) can be hired to come on-site to train your development team. This is a more expensive option but definitely the most hands-on and personalized way to learn. It's important that you do not expect your in-house M1 team to "learn on the job" or "learn by doing" on your M2 migration. Attempting to learn M2 by just trying to migrate an existing site from M1 to M2 is one of the main causes of both failed M2 migrations and developer burnout that I've seen.

### **Freelancer**

It is possible to hire freelancers that are trained on M2, just be sure to ask for their qualifications and experience with M2 specifically. As with any project, when you are hiring a freelancer, you'll need to be prepared to fully manage the project, communicate frequently, and set firm expectations for success. You can verify if someone is Magento Certified in the [Certification Directory](#), which also can be sorted by location. It's rare, but I do occasionally run across false claims of certification, so please do verify. At this time, there's not a certification exam for M2, so you must have the technical knowledge necessary to know how to qualify this person as being an expert on M2 specifically. There have been freelancers claiming M2 experience when they have none, so ask for and check references of other projects where they completed M2 work, and ask which part of the project specifically they completed.

### **Magento Partner**

Hiring a Partner can be the simplest method for many companies, as all aspects are covered for you, including project management and training. If you are looking to hire a Magento Partner, be sure they are a [M2 Trained Partner](#), which is Magento's official certification that the Partner was trained on M2. Ask about their experience with M2, and ask to see a live site they migrated (and ideally talk with that merchant yourself). Also, I caution merchants to verify the company is indeed a Magento Partner, as there are a few disreputable companies that falsify this information. Their company information, as well as the M2 Trained badge, must appear in the Magento Partner Directory (you can sort by M2 Trained partners when searching). The highest quality Partners utilize in-house development resources only (i.e. they do not then subcontract to another freelancer) and require their developers to be Magento Certified. When selecting a partner, I recommend using the Magento [Certification Directory](#) to verify that their developers are truly in-house. For instance, many companies claim to be based in Texas and to have an in-house team. But as of the time of this publication, if

you search the Certification Directory for Magento Certified Solution Specialists in Texas, you'll find only 12 individuals - 2 of which are Magento Inc employees, and a handful of which work for an extension developer. By doing similar research on the certified developers in the area of the partner's office you can quickly get a sense for if the agency is truly utilizing in-house, local developers or not.

### **Bonus Option: Magento Partner & In-house**

One additional option that I consider a "secret to success" is hiring a Magento Partner for consulting on the implementation planning of your migration. You can get the expertise of the Partner's Magento Certified Developer and Magento Certified Solution Specialist team in this critical phase, and still use your same in-house developers that know your site/product well. Not every partner offers this, so be sure to inquire directly. Keep in mind that you still have to allow your in-house team the training necessary.

## **OVERVIEW OF THE PROCESS**

If you have completed a Magento upgrade before, you could be thinking the process is similar. While in some ways it's similar, in others it's very different. We always recommend starting with careful planning, which is called implementation planning. This process includes gathering your business needs, preparing a budget and timeline, and planning resources. These steps are important to a successful project, so do not rush.

After implementation planning, the development team will begin on a development copy of the new site. After each requirement is implemented, final quality assurance should be done. I've included a checklist to help ensure you have everything covered before going live.

## **GATHERING BUSINESS REQUIREMENTS**

When you built your Magento site initially, you should have made a list of all the requirements. Over time, your business has evolved and technology has changed. Now is a good time to update the list of all the things you need your website to do. While it might seem easier to make a list of what the current site does, I don't recommend approaching it this way. Some things the site does may not be working well, or may not be critical to your business. Instead, start from scratch, as if you were writing this list

for the first time.

### **What to include**

Write this list in the form of business needs first. There's no need to map needs to features or extensions. For example, you might write: "Customers need to be able to type their engraving instructions for the personalized products." Don't worry yet about how to implement it from a technical standpoint. For each new item you add to this list, ask yourself - what is the value of this requirement? How does it create more revenue or lower costs for my business? What would I lose if this requirement wasn't in place? This will help you determine which requirements are the most critical and the return on investment of each requirement.

### **Who should be involved**

All key stakeholders should be involved in listing the requirements. For example, your CMO may have very different needs than your CFO. For logistical items, talk with the employees that physically ship your orders or perform customer service. You should incorporate their feedback on what is and isn't working about your current site to ensure maximum ROI.

### **Magento Certified Solution Specialist**

If you are hiring a Magento Partner, everything else in this document will be handled by your partner, including implementation planning by a Magento Certified Solution Specialist. This is a key advantage of working with a Partner. Sometimes a MCSS can be hired on a consulting basis only, though there are unfortunately very few in the US at this time. Please do read on to ensure that you know how the process will work.

### **Next Steps**

Once you've prepared your full list, you (or the Partner) will start planning the actual features and user stories. This will typically require the expertise of a Magento Certified Developer and Magento Certified Solution Specialist. Some features are included in M2 already, so you don't want to duplicate effort. Others may be available in an extension. Your last option would be custom development. Most of the time, a combination of the three is best. This is where the expertise of a MCD and MCSS is absolutely critical.

### **Phases**



I recommend breaking the implementation into phases. This yields the best results for our clients. The first phase should be features and must-have items, such as things that are already on your live site. The 2nd phase (and all future phases) would be new features. Wherever possible, it's important to plan for those future phases now if possible, to reduce total effort/cost. For example, if you know you are changing ERP's next year, then there's no need to spend a lot of time fine-tuning the current ERP integration.

## UPGRADING TO EE AND/OR CLOUD EDITION

If you currently use CE, at this point, stop to consider if CE or EE is right for your business. It's possible you've outgrown CE. Or perhaps you have ambitious goals for the next 1-3 years, and don't want another upgrade to slow you down. Now is the perfect time to upgrade editions. In our tests, it does not take any more development time to migrate to EE than to CE. In fact, one of our clients saw astronomical improvements in their site's performance on M2 EE in this [Case Study on the Magento website](#).

Since you've now made a list of requirements, you can easily see which EE features could be utilized without custom development needed. Magento has recently release a large number of Enterprise Edition exclusive features, which has increased the value of EE significantly. Some of the most common features that I see people want that are in EE are:

- Elasticsearch
- Visual Merchandising
- Request a Quote
- Customer Segmentation & Personalization
- Content Staging
- Varnish integration for significantly better site performance & scalability

In addition, there are a few overlooked benefits of EE that CE merchants might not realize:

- **Magento support:** Not only does Magento have dedicated support reps to answer your questions and assist with issues, they also prioritize resolving known issues for EE users.
- **Indemnification:** This added reassurance can help protect you in 'patent troll'

situations. Please discuss with your attorney.

- Scalability: While both editions are very powerful, the proven scalability of EE is utilized by top merchants worldwide. Through Enterprise-only integrations with technologies like Varnish and RabbitMQ, Magento has built an incredible foundation for growth and scalability in Magento 2 Enterprise Edition.
- B2B Emphasis: Magento has made a clear focus on improving B2B functionality in EE. More new EE features relating to B2B are in development to be released soon, as well.

While we're on the subject of EE, I hope you'll also consider the newly released Cloud Edition. It's one of the most exciting things that Magento has released in recent years. Cloud Edition is based on Enterprise Edition only. A few reasons you may want to consider Cloud Edition:

- Easily scale up when the need arises, such as a marketing release or peak season
- Combines your Magento Enterprise license purchase, hosting expense and subscription to quite a few useful tools such as a CDN, performance testing tools and other items into one monthly payment instead of the current annual pricing model for Enterprise Edition.
- Cloud Edition includes an incredible developer workflow system, allowing new features to be developed and tested much more quickly and efficiently.
- Cloud Edition offers a substantial cost savings over purchasing each of the included items separately
- Removes the need to hire an engineer or partner to handle infrastructure support and maintenance

**If you are possibly considering about EE and/or Cloud Edition, I would be happy to personally discuss these options with you.** I work intensively with both CE & EE, and thus I can give you my objective input with no “sales pitch” involved. You can tweet @joshuaswarren to chat informally. If you want me to set aside some dedicated time to chat with you, just [fill out this form](#).

## BUDGET & TIMELINE

Budgeting for this upgrade will not only be necessary to get started, but also a critical component to the ROI of the project. I advise against being “penny-wise, pound foolish.” This is an investment in the success of your eCommerce division, and company as a whole.

If you are working with a Partner or Freelancer, they will review your Requirements to give you a ballpark budget once they determine the level of effort. **Since every upgrade is unique, there is no way for anyone to give you an estimate without reviewing your unique site requirements.** However, you should prepare a budget so that you can clearly communicate to the Partner or Freelancer the budget you have approved for this critical project. Keep in mind that demand for the best Partners is very high, so it's important to show that you are professional, serious, and looking for exceptional work (and willing to pay accordingly).

Some charge on a fixed-price, but most will charge hourly ("time and materials"). These are the general factors that will affect the level-of-effort needed for your project:

- Extent of customizations needed
- Amount of graphic design and frontend customization needed
- Clarity of requirements, wavering decisions & scope creep
- Number of extensions needed
- Quality of the data in your current Magento installation
- Version of Magento that you are currently on (it can be more complex to upgrade from an older version)

For a higher-complexity Magento implementation, a minimum of 500 hours may be required. A similar migration we completed was around 800 development hours. Certainly there are simpler and more complex projects. If someone is quoting you less, it's possible they do not have enough experience to understand the complexity of your project, or that they are intentionally underbidding the project.

Recently I've seen reputable Magento Partners charging anywhere from \$125/hr to \$250/hr+. Sometimes the hourly rate is blended so that its the same for all team members. Other times it will vary based on expertise or role. While some Partners do not call out Project Management expenses specifically, be aware that this is always passed through to you in some manner - either directly or indirectly.

If you are completing the project in-house, allow your team ample time to learn M2, and then determine the level-of-effort before setting the budget.

For timeline planning, this is a very rough guide:

<b>Step in the process</b>	<b>Simple project</b>	<b>More complex project</b>
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Discovery	1 week	2-4 weeks
Implementation Planning	2 weeks	2-4 weeks
Development	Plan for about 35 hours per week (per developer)*	Plan for about 35 hours per week (per developer)*
Quality Assurance	1 week	1-2 weeks

\*When adding more developers, you will need to increase the Project Management time accordingly.

## TECHNICAL RESOURCES

1. [DevDocs](#): This is the official Magento documentation, and is open to contribution by the community. As a result, it's an amazing resource. If there's something you don't see, request it!
2. [Magento U's Magento 2 training courses](#) are offered both online and in-person and are a great way to get up to speed about Magento 2.
3. The [Magento2 Tag on Magento Stack Exchange](#) is a great way to keep up with the challenges other developers are having with their Magento 2 projects and to seek help for any unexpected challenges you run into.

## SAFETY FIRST!

It's better to be safe, so be sure to:

- Backup the current live site and database
- Create a separate new development environment
- Read, understand and follow the [Magento 2 Migration Best Practices](#) in the Magento DevDocs
- While targeted at Magento Extension developers, follow the [Programming Best Practices](#) from the Magento DevDocs for any custom code you write for the M2 migration. Now is the perfect time to clean up any poor decisions that might've been made while developing customizations on your M1 site.

## PROCEDURES FOR MIGRATION

Migrating from Magento 1 to Magento 2 is a new process, different from the process for upgrading from Magento 1 to Magento 2. When you complete the process, your site will be running on a new database and new code than it was under Magento 1. Because of this, we recommend that you perform the migration utilizing a new, separate development copy of your site separate from your live site or any other development environments.

## Data

We start each migration by running Magento's [Data Migration Tool](#). The Magento DevDocs list [how to run the data migration tool in detail](#), however, the approach that Magento outlines is based on the concept of performing the migration live - i.e., without running the migration first in a development environment. What we recommend is that you perform the migration in a development environment, so instead of connecting the data migration tool to your live Magento 1 site, I recommend connecting the data migration tool to your Magento 1 development site.

By connecting to your new development copy of your site, you're able to re-run and experiment with the data migration without impacting your live site. This is important because while the data migration tool is a great starting point, in every migration we've completed we've found that it does not successfully migrate all of the data that a merchant needs. For instance, while Magento created a system to allow extension authors to tie into the data migration tool, very few took advantage of it. This means that you have to either write a custom extension of the data migration tool to migrate critical extension data or you have to migrate that data manually. Additionally, this step is where you'll discover any database inconsistencies that old extensions, previous imports or other migrations may have caused.

I recommend starting with this step because not only does it allow you to complete the additional steps with your real data present in your Magento 2 development site, it's often the most time consuming part of the project if you have a highly complex Magento 1 site that's been live for a lengthy period of time.

## Extensions

Once you've finished the data migration, it's time to install any extensions you're planning on using. One thing it's important to remember is that you don't have to and shouldn't install every extension you might think you need. Start with the extensions that you know are absolutely necessary for the launch of your site. You can always easily add additional extensions later. The more extensions you add now, the larger you make your Magento 2 migration project and the longer it will take.

## Customizations

You have your data present, you've installed the extensions you need to launch your Magento 2 site - now it's time to complete any customizations that you need to make. Go through the list of customizations you made while planning your migration and start implementing them, referring back to [DevDocs](#) to ensure that you're following Magento 2 best practices and giving your site a solid foundation with your new customizations. Once you're done with your customizations, review the site to ensure that your new code and the extensions you previously installed are all cooperating and working well with your data.

## Theme

Finally, the last step - your theme. I strongly recommend basing your design on Magento's Luma theme that's included with Magento 2. Not only is this a well designed, well-implemented theme, it also provides the most seamless approach for future upgrades. Throughout the process of implementing your site's theme, you should follow the [Magento 2 Frontend Developer Guide](#).

Most importantly, before making any theme changes, you should create a new theme for your store. This new theme should be set to [inherit](#) from the Luma theme. Then, the only files you should add to your new theme are the files that you are changing from Luma. In this manner, you reduce the complexity and effort required to maintain your theme in the future. Basically, as the Magento core team updates the Luma theme as new features are added, you will only have to update your theme if you have overridden one of the functions that have been updated. This simplifies future updates and upgrades, and also generally makes it easier to use new extensions, which tend to be developed with Luma in mind. For most projects, this approach will lead to a significantly lower total cost of ownership than purchasing a premade theme that doesn't inherit from the Luma theme.

## GO-LIVE CHECKLIST

Before you launch the new site, be sure you have covered each of these items:

1. Training your staff on the new Admin Panel and any other differences they need to be aware of.
2. "Reality check" the entire process, from a customer finding your site, through fulfilling the order. Is every step covered?
3. Compare your M1 site to the new M2 site - have any URLs changed? If so, make sure the appropriate 301 redirects are in place from the old URLs to the new

URLs as soon as you go live on M2.

4. Have there been any major changes in page content on CMS, category or product pages? If so, have you reviewed those to ensure any SEO impact they have is positive and not negative?
5. Test the performance of the M2 version of your site. If it's not better than the performance of your M1 site, you might have a simple issue to resolve (such as accidentally forgetting to turn CSS combination on) or a deeper problem (such as improperly written custom code).
6. Practice the deployment of your M2 site to a staging or test site and ensure everything runs smoothly.
7. Coordinate with your in-house marketing team and/or marketing agency to ensure that no major marketing campaigns are scheduled for the day you plan to migrate, and that any paid search campaigns are paused while your site is being migrated so that you don't drive traffic to the site while it's in maintenance mode.

## POST-LAUNCH

After your site launches, make sure to check in with your analytics data, Google Search Console and other resources to ensure there are no unexpected issues and everything is working as expected. Then, it's time to start planning your next new feature to add to your Magento 2 site, utilizing the advanced technical foundation that M2 provides for customizations and new features.

## MERCHANT PERSPECTIVE

If you'd like to hear from a merchant's perspective, we highly recommend [this video](#).

## CONTACTING CREATUITY

[Creatuity](#) is a Magento Partner based in Dallas, Texas. As Founder & CEO, I focus my team on quality, security, and innovation. We work with fast-growing merchants worldwide, choosing our projects carefully to ensure a close partnership for mutual success.

If you'd like to learn more about how Creatuity can help migrate your site to Magento 2, please email [contact@creativity.com](mailto:contact@creativity.com), or call our Dallas office at 214-810-5005 (M-F

9am-5pm Central). We look forward to hearing from you!





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