Whitepaper

PHP framework migration: from legacy to Symfony

How to migrate safely from a PHP legacy application or an unmaintained PHP Framework app to Symfony?

SensioLabs
Créateur de *sf* Symfony

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INTRODUCTION

Today, every business is partly or fully online. Web platforms play a key role for companies to create deeper and more profitable relations with their customers. To remain competitive in their markets, companies set ever-increasing web development deadline targets and quality requirements. A faster time to market is critical to business success.

However, with the accelerated technological progress witnessed in recent years, the arrival of new tools and methods, the challenges of developing a quality web application and to deliver it on time have never been so complex.

The roadmap to online success

PHP is essential to IT innovation and web development today. From ERP, digital and e-commerce platforms, business applications to embedded technologies and IoT. With customer experience and customer-centricity leading the way to success, you will need to think outside-in rather than inside-out.

Your customers are not interested in the issues you have with infrastructure or outdated PHP systems, they want digital products and services that work 24/7 exactly to their needs. A slow website, security breaches or stranded development will drive your customers away.

The safe migration to Symfony framework

This whitepaper introduces the Symfony framework as the best choice for companies stuck with PHP versions that cannot be updated. It is both open-source and well supported by SensioLabs, the leading player in the open-source community and creator of the Symfony PHP framework. Best of all, Symfony makes a Backward Compatibility Promise, offers you a Continuous Upgrade Path and maintains your business flexibility.

In addition, we will also highlight the various ways in which SensioLabs can make your migration go as smoothly as possible. As an accessible introduction, this whitepaper will point you to all the in-depth how-to's and documentation needed to safely migrate to Symfony.

Ready to start your migration?

The SensioLabs team
A SMILE group company

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1. The PHP landscape

A brief introduction to PHP and frameworks

PHP is one of the most versatile and cost-effective web development languages in the world. With its array of functionalities and range of add-ons, its open-source nature and vast online community makes it an essential tool for developers of all skill levels.

Originally intended to be a scripting tool by its creator, Rasmus Lerdorf in 1994, PHP soon evolved into a full-fledged programming language to facilitate better interaction with databases and servers. Today, PHP can be used in all major operating systems, including Windows, Mac OS, UNIX, Linux, and platform powerhouses such as WordPress, Facebook, Amazon, Google and PayPal.

Frameworks, work

When considering frameworks, two main questions stand out:

- **Why use frameworks?** Providing the basic structure to build web apps, PHP frameworks help save time by structuring code and re-using standard modules. Through the provision of pre-packaged, interoperable modules that can be used repeatedly, businesses can leverage Rapid Application Development with more flexibility, fewer errors and greater productivity.

- **Who are frameworks for?** Frameworks are for businesses or individuals that require the integration of functional software components, both with each other and into existing ecosystems. They are invaluable for developers of all skill levels to minimize repetitive coding, speed up web development processes, and ensure error-free coding.

Open-source for freedom

As an open-source web language, PHP is completely free, which comes with several significant advantages:

- With no cost involved with expensive licenses, PHP works efficiently with many different databases and keeps development costs minimal.

- A passionate and widespread community, such as the one at Symfony, actively collaborates to improve web experiences and functionality.

- No licenses or commercial obligations increase transparency, flexibility and security.

- Dedicated developers and online communities can quickly solve bugs, errors and inefficiencies.

Support still matters

Although PHP frameworks are a progressive and efficient way of working, they do still need a degree of support behind them. By working closely with active developers who support their frameworks, businesses can benefit from:

- **Increased project stability** with on-demand consultancy, training and issuing of certificates.

- **Faster growth and expansion** through better understanding and innovation.

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The development of PHP frameworks

The success of PHP is only exceeded by the speed of its evolution. After its release in 1995, it was already entering the mainstream by 1997 – and, together with the Apache server framework (which was growing in parallel), the two formed a symbiosis that now sits at the center of many modern platforms.

So, how do people choose a framework? Selecting a framework depends on individual business requirements. Each comes with its respective pros and cons, and picking between them depends on project needs, scalability potential and technical prowess of those charged with implementation.

Legacies are not 'golden oldies'

The ease of PHP development can become a double-edged sword. Due to its forgiving nature as a technical language, developers can create applications without much programming experience. Although this increases accessibility, it does leave the door open for poor coding, hard-to-understand approaches and limited scalability. As such, businesses can be hesitant to uproot their legacy systems.

These are some of the most common concerns:

- **Fear of the unknown –** *"Things seem to be running ok, so why change them?"*
- **Retraining of staff –** *"We don't have the time to show everyone how to use the new systems."*
- **Cost of migration –** *"Moving everything across will take time and money that we don't want to spend."*
- **Operational risks –** *"What if things go wrong. Do we pause working while we migrate?"*
- **Tangled code –** *"The backend is really messy. If we change something, everything might break."*

While at a glance these may appear to be valid reasons for sticking to outdated PHP, in truth it may mean your business could stay stagnant and be at risk of missing key innovations.

Where PHP is heading – 5 key trends

Since 2005, PHP and its associated frameworks have changed alongside consumer needs and the ongoing digital transformation of the world we live in. The following trends are leading today in meeting those ever-changing consumer needs:

1. **Cloud integration –** With the global cloud infrastructure services market increasing by 37% in Q3 2019 to a value of $27.5 billion, businesses are discovering the power of PHP and cloud-based solutions.

2. **UI matters –** As devices increase in numbers and complexity, and customers expect slicker, faster interactions, PHP frameworks are being used to create better online experiences. From social networks and e-commerce through to government websites, online platforms must seamlessly connect and deliver from the backend in the fastest and most aesthetically pleasing way.

3. **IoT –** IoT is no longer a thing of the future. Statista forecasts that the worldwide spending on the IoT market will pass the $ 1 trillion mark 2022. While PHP tools are a virtual structure of combined software technologies, IoT takes things further by adding hardware into the mix.

4. **Cybersecurity** – Cybersecurity is one of the highest priorities for business owners and consumers. With PHP development to support tool creation, these safeguards can remain robust and adaptive for major platforms such as Google Wallet, Amazon Pay, Revolut, PayPal, and many more.

5. **Chatbots and customer service –** As machine learning and AI continue to enhance customer experiences, chatbots leverage PHP's open-sourced nature to deliver a better interaction. By accessing open-source language APIs and libraries, chatbots are evolving into 'conversation agents', resulting in more meaningful exchanges with website visitors.

PHP frameworks in 2021

PHP has come a long way. Now, in version 8 (as of December 2020) , the consistent release cycle has made sure that it remains relevant in today's digital world. With 78.9% of all websites with a server-side programming language using PHP, it seems that it is here to stay.

2020 has been far from a typical year. The COVID-19 pandemic has changed the world as we know it, affecting more than 190 countries and their respective economies. While the negative effects of the pandemic are clear from many perspectives, the impact on the technological world has been substantial in surprising ways.

The acceleration of digital

With reduced access to physical stores and service providers, people have turned to digital solutions to fulfil their needs – pushing organizations to restructure and evolve their approach. Research by McKinsey and Twilio show a remarkable shift in priorities as a result of the pandemic:

- COVID-19 accelerated the **company digital communications strategy** by a global average of 6 years. (Twilio)
- **Digital adoption** in Europe jumped from 81% to 95%. (McKinsey Digital)
- 96% of UK enterprise decision-makers believe the pandemic sped up their company's **digital transformation**. (Twilio)
- Almost all global companies (95%) are seeking **new ways of engaging customers** as a result of COVID-19. (Twilio)
- 92% of UK businesses say their organization is very or somewhat likely to **expand digital communication channels** as the world reopens. (Twilio)
- Almost four in five (77%) of UK respondents say that COVID-19 increased their **budget for digital transformation**. (Twilio)
- Over 70% of respondents said they expected to continue using **digital services** with the same frequency as they do now, or even more often. (McKinsey Digital)

Meeting demand with PHP

With so many companies speeding up their digital transformation, remaining competitive has never been more important for businesses. However, for those without huge budgets or technical knowledge, upgrading such capabilities may seem daunting.

PHP offers many pre-built elements that can be reused, tweaked and scaled, so there is no need for custom software solutions and long lead times. Through the use of PHP frameworks and the associated benefits of an open community and active support network, even those without ample funds have a good chance to survive and thrive. For companies using legacy PHP the migration to new frameworks is essential now.

Migrating from legacy to modern frameworks

Legacy systems are typically one of the biggest blockers when it comes to digital transformation. The PHP of yesterday may have been powerful at the time, but modern demands outweigh what older versions can deliver. By migrating to new frameworks such as those developed by Symfony, you can future-proof your systems with scalability, better security, more reliability and time-saving efficiency.

It is all about the end-users – the 5 customer commandments

Experiences that may have seemed incredible in the past are now part of the norm. End-users are now familiar with the bells and whistles of the digital age, and it takes a more nuanced and multi-faceted approach to satisfy their needs. With the power of PHP frameworks, these needs can be satisfied as long as the following consumer trends are considered as a key part of the web development process:

1. Better experiences are worth more

According to Gladly's 2020 Customer Expectations Report, 84% of consumers are willing to spend more money on better experiences, and 79% say that personalized service is more important than personalized marketing. With so many new entrants and market disruptors around every corner, end-users never as much choice as they have today, and companies have never had more to prove.

2. Business is personal

Nobody wants to feel like a support ticket or a *'dear x'* in an email. By demonstrating a genuine understanding of their end-users through PHP frameworks and scripts, businesses can retain and grow their market share. What is more, 77% of people are more likely to recommend a brand to family and friends following a positive, personalized experience.

3. Customers never forget

Good customer service is important to more than 90% of customers, as reported by Microsoft in its Global State of Customer Service Report. A polite greeting at the end of the phone isn't enough: today's consumers want issues resolved swiftly through the channel of their choice, and without the need to repeat themselves. Just one bad experience could tarnish perceptions forever.

4. 'Omnichannel' is no longer a buzzword

In its Retailing 2020 Report, PWC found that the number of companies investing in omnichannel experiences has increased from 20% to more than 80%. To take full advantage of the potential benefits, technology needs to keep pace. Fortunately, with the correct application of PHP-based solutions, end-users can expect fast and seamless experience, where credentials and associated account data can be accessed and actioned 24/7, no matter where they are or what the access point is.

5. UX must be exceptional

The best UX goes unseen – users only notice when something goes wrong. A laggy website or poor mobile experience can quickly turn advocates into detractors. For instance, 57% of users won't recommend a business with poor mobile implementation, and 87% think that mobile experiences should match or exceed that of what is available on desktop. By employing purpose-built PHP frameworks, UX expectations can be met without the need to create solutions from scratch. And, with passionate communities behind their creation, these frameworks are more likely to be stable, responsive and efficient.

2. The need to change your PHP legacy now

It is likely that an overwhelming proportion of the world's software runs on legacy code that has been passed from developer to developer. Dealing with legacy code is an everyday reality for many, but there comes a point where quick fixes and digital Band-Aids can only get you so far.

Together with limited functionality, the problem with legacy code is that it gets increasingly difficult to predict outcomes when something is changed. Even the smallest tweaks can cause an unforeseen domino effect, turning a minor problem into a much larger one.

10 Signs that your code is rot

If your business is experiencing any of the following issues, it may be time to explore new PHP framework possibilities.

1. **Things don't improve.** Developing new features or fixing bugs is not cost-effective. Instead, you and your end-users will just have to live with how things are.

2. **There is no innovation.** Instead of fixing current bugs, innovating and planning new functionality, your developers' time is spent on maintaining the uptime of existing code.

3. **Your product or service stays behind.** Increasing the scope of your offering is made difficult or impossible due to the current solution.

4. **Help is not coming.** Your existing setup is too old, cross-wired or obscure to get help from the PHP community when you need it.

5. **There is no guide anymore.** Documentation for the implementation, use and troubleshooting of your current code or framework can no longer be found internally or externally.

6. **New plugins don't work.** Most, if not all new plugins are not compatible with your PHP version and either cause problems, or don't install at all.

7. **Productivity suffers.** Working around annoying bugs and issues is affecting productivity and making simple tasks unnecessarily laborious.

8. **No support.** Your software version is no longer supported by the original developers, meaning that when you have issues, you're on your own.

9. **So. Slow.** Performance is laggy or unresponsive, causing frustration and bad experiences for both end-users and developers.

10. **No trust in the system**. You simply can't depend on your system and are constantly worried about crashes and freezes.

If any of these signs look familiar, you may be in dire straits and migrating to a modern framework should be on top of your digital agenda right now. Fortunately, there are several frameworks you can successfully migrate to, one of which being Symfony.

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Choosing your next framework

Changing frameworks is the best way to stay modern and functional, but it is no small task. Making the choice to move from a legacy system comes with financial and time-based considerations that are worth exploring before making the jump.

1. **Name and fame –** The more well-known your chosen framework is, the more likely it is that it will continue receiving updates, plugins and innovations from a passionate community. Going for an obscure or niche framework may come with its advantages, but if you're looking for simplicity, it is best to stay within the mainstream.

2. **Philosophy –** Any good framework has a philosophy at its heart. Not only will this ensure that the people behind it are passionate about what they're doing, but you can align your own business needs and viewpoint to it as well.

3. **Sustainability –** Is your chosen framework there for the long-haul? Will it be able to keep up with your business needs in the longer term? Are updates easily installed?

4. **Support –** It should be easy to find answers to any questions you have about your framework, or help with bugs and issues. By choosing a prolific framework you will find it easier to get in touch with publishers, developers or community fans.

5. **Technique –** To avoid being trapped in a labyrinth of difficult or overcomplicated operation it is always best to choose an interoperable solution that respects best practices in web development. That way, your framework can still work in recognizable ways, making support and updates easier.

6. **Security –** Any application is potentially vulnerable. By selecting a mainstream framework you're more likely to have better security measures in place. Always look for solutions that have security functions such as XSS management and other recognized protection measures.

7. **Documentation –** A well-documented framework or tool is often likely to be of higher quality. As well as indicating care from the developers, it can help you in all aspects of setup, implementation, operation and updating.

8. **Licensing –** Licenses are crucial because they can have a significant impact on your applications. For example, an application developed using a GPL-licensed framework will necessarily be subject to GPL. On the other hand, this is not the case for MIT-licensed frameworks.

9. **Availability of developers and skilled users –** Ensure that your staff, both current and desired, are familiar with the framework and able to work within its parameters. Due to their popularity, mainstream frameworks will have a bigger pool of skilled users and developers available.

10. **Ease of testing –** As well as reading online reviews and articles, also test the framework out for yourself. If it is free, you have nothing to lose and you can gain a good understanding of its suitability for your needs.

The Symfony framework

The PHP community is highly active and passionate about improving experiences and functionality across the board. This has led to the development of many frameworks from different developers, all with their own vision and set of features. One of the most used and popular frameworks today is Symfony.

What is Symfony?

Symfony is an open-source PHP framework that speeds up the creation and maintenance of web applications by eliminating repetitive coding tasks. It is used to build robust applications for enterprises and individuals, giving developers full control over the configuration. With over 9 million daily downloads, it is one of the most widely-used frameworks in the world.

Why do people use Symfony?

Symfony offers a stable work environment that is lauded for its flexibility, power, user-friendliness and active community of over 600,000 developers in 120 countries. Completely free and open-source, Symfony allows users of all skill ranges to create web applications based on pre-made frameworks that save time and provide quality. Symfony also positions itself as a philosophy that promotes professionalism, best practice, standardization and interoperability of applications.

Where did Symfony come from?

The first version of Symfony version was created and released by Fabien Potencier in 2005. Once opened up to the community, the second version was released in 2011 with annual versions following suit. Today, it is a stable and internationally recognized product with billions of downloads.

Who uses Symfony?

Symfony is currently being used by some of the biggest brands and platforms in the world, including Spotify, DailyMotion, Vogue, Facebook Ads, Drupal and many more. It is also employed by thousands of SMEs and startups around the globe in the development of their own web applications, thanks to its easygoing and highly supported usage.

Quick facts about Symfony

- Symfony is designed as a large collection of reusable PHP components, each enabling developers to complete a specific task.
- The first version was released in 2005, and the second in 2011.
- Symfony is independently created, free and open-source.
- Beyond the tools, Symfony is also a philosophy and a community.
- A passionate group of over 600,000 developers from more than 120 countries.
- There are more than 155 packages with 9 million daily downloads, totalling 5.7 billion in total (and counting).
- Symfony is used by leading CMS platforms including Drupal, Typo3 and Joomla, and e-commerce platforms such as Magento, Shopware and Spryker.
- Symfony components support Google Cloud, Google Ads, Facebook Ads and Facebook Insights.

12 reasons to choose Symfony

As one of the most prolific and popular PHP frameworks in the world, Symfony is one of the best choices for SMEs, startups, large businesses and developers of all skill levels. There are many reasons why you should consider Symfony, but here are 12 of the most essential ones.

1. **It is open-source.** Having been released under the MIT license, Symfony is open-source. This means that it is free to redistribute and modify as needed, with no permissions needed.

2. **There is a highly active community.** With large numbers of daily comments and interactions on GitHub and other platforms, Symfony is one of the most discussed and used frameworks in the world.

3. **Encourages best practice.** As it is always current, developers using Symfony can stay on top of the latest object-oriented design patterns such as service-oriented architectures, dependency injections, interface abstractions and more.

4. **Easy to debug.** With a built-in toolbar called the Web Debug Toolbar, Symfony helps developers debug applications during development. The toolbar can also be augmented with new panels for further functionality.

5. **Fast and flexible.** Symfony components are quick and easy to download, with a directory structure that is easily abstracted and decoupled. This makes it easier to implement in large projects that need flexibility.

6. **Modularity.** The modular structure of Symfony allows users to build applications, step by step. This also means that they can be swapped in and out as needed.

7. **Readiness.** Symfony gives users a large number of applications, straight out of the box. This saves time and provides highly stable solutions with very little time investment.

8. **Excellent documentation.** Each release of Symfony comes with robust and detailed documentation to help with all matters around implementation, usage and operation.

9. **Better hiring potential.** Users of Symfony are in demand due to its prolific, powerful and flexible nature. The wider community also attracts high-level programmers looking to push their skills to the next level.

10. **Community-tested.** Each Symfony package is tested by a large number of developers immediately after release, resulting in significantly higher chances of bug discovery and squashing.

11. **Active communication.** As a highly active framework, users of Symfony are highly informed about current trends and upcoming releases.

12. **Happy end-customers.** At the bottom line, it is all about serving the customer with meaningful experiences that help improve their work and lives. With security, reliability and speed covered, Symfony ensures your end-customers are happy with your services and digital products.

Updates and new versions are always around the corner.

- **Every 6 months** sees a new release of Symfony with enhanced features, letting you plan 'upgrade days' for all of your PHP projects.
- **Every 2 years** will see the release of a new major version with long-term support.

3. Migrating to Symfony: setting the new horizon

At first, migrating your framework may seem daunting, but when you make the choice for Symfony, both your business and daily work will be simplified. More than a modern PHP framework, Symfony is also a philosophy to guide and a community to support you.

In the previous chapter, we looked over the various reasons for considering Symfony for your migration from legacy. Now, it is time for a deep dive into the basics. How does this particular PHP framework work and what sets it apart from other PHP frameworks?

Understanding Symfony: the key basics

Symfony was born from the imagination of the web designers at SensioLabs to speed up the creation and maintenance of business web applications. With such a developer-focused approach, repetitive coding tasks are minimized and developers are given full control over the configuration.

The following four basics go into more detail on how Symfony makes web development easier.

Symfony is both open-source and supported

Since October 18th 2005, Symfony has been an open-source PHP framework released under the MIT license. While that gives you all the freedom, openness and sharing you need, Symfony is also sponsored and supported by SensioLabs, the original creator. This adds the advantage for developers looking to get the most out of Symfony and provides technical support, advice, training and migration services when needed.

'An undocumented line of code
is a line of code that doesn't exist'

An international community of developers, users, and companies backs up Symfony all over the world to further develop the framework through their experience. They can add their own modules and share knowledge on Slack, Stack Overflow, hundreds of blogs, tutorials for all levels and various forums. This leads to ongoing innovation and a certain strive for excellence in the Symfony community. For instance, the idea for the dependency injector was borrowed from the Java world and adapted to PHP.

When starting with Symfony, you have a wealth of learning to choose from, based on your level of understanding. There is extensive literature devoted to Symfony, including books written by the founder of the Symfony project himself, Fabien Potencier.

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Symfony works like Lego

As a set of reusable PHP components, Symfony offers unlimited flexibility. These software components are called *bundles* and work completely independent of each other, making Symfony fully configurable to your business needs. Everything is considered a bundle in Symfony, including both the core framework functionality and the code written for your application. You can select specific functionalities for your application by picking only the components you need.

Symfony is fully adaptable as a 3-in-1 framework:

1. **Full Stack (complete version):** for developing a complex application that requires many functionalities.
2. **Brick by brick:** for building your framework according to the functionalities as needed.
3. **Microframework:** as a standalone, to develop only a specific functionality in one of your projects. Ideal for using certain pieces of software building blocks, such as the dependency injector, translations management or forms management. You can do this without having to redevelop everything and without installing the entire framework.

Symfony is fully interoperable

Symfony is based on a system of interface contracts between components. Since those components are independent, it means that you can add functionality at any time, and change the behavior of the framework without having to reconfigure everything. Each component is intended to add functionality to the framework and can be reused in another project or be shared with the rest of the community.

'*Within Symfony, everything can be changed.*'

And because Symfony is consistent with PHP conventions (PHPUnit, naming conventions for classes, etc.), it is inherently interoperable with industry standards. To put this another way, your choice for Symfony does not lock you in and gives you all the flexibility you could ever want. In fact, Symfony itself uses external software components in its kernel, such as Doctrine, ORM and Composer.

Symfony is PHP, but different

Changing to Symfony may appear to be challenging at first, but not in the way that would require you to relearn coding. Instead, you will need to learn a new way of understanding coding. Symfony, by its nature, is more methodical which may feel restrictive at first, but after the initial shock, you will find it is actually set up to make your life easier.
With the joy of developing in mind, Symfony offers a certain comfort level to developers. Embedded within the framework you will find best practices that are natively applied automatically without the need of having to fully understand them.

Symfony also takes care of unpleasant tasks such as the development of minor functionalities, instead allowing you to focus on the actual highlights. Symfony comes with tools designed to make the developer's life easier, such as the Web Debug Toolbar as well as native support for development environments, native security and detailed error pages.

Symfony at its core

From the very start, Symfony was designed to meet the needs of the software company that created it, SensioLabs. Today, SensioLabs continues to use Symfony on its own client projects. This makes it a pragmatic tool that still reflects real-world requirements, aiming to make the day-to-day life of developers easier with a long-term vision of application assets.

'Symfony is for developers today and tomorrow, because it is made for developers, by developers.'

How Symfony addresses your legacy challenges

Legacy code is usually old code that has been developed without a framework or an outdated version that is no longer supported. While in good use for many years, sooner or later, the question of modernization arises. For developers, it comes down to sustainability and coherence:

- Every time a new development is made in an ongoing legacy project, it becomes less and less **sustainable** in terms of time and costs. It is like feeding a monster that gets bigger and bigger.
- And, when your new projects follow high-quality practices, why would you also have an ongoing project where these standards are not applied? The **lack of coherence** stiffens innovation and frankly, makes your work less enjoyable.

As a framework made by developers for developers, Symfony wants to make web development easy to create robust enterprise applications that delight customers. It does this in a way that acknowledges legacy code and provides several solutions that address key challenges by ensuring quality, performance and productivity.

Guaranteeing code quality

Development projects can be ongoing, especially if the application sees great mileage due to its success. Evaluating the code's quality and predicting its robustness and evolution over time, can be a daunting task that is done under varying conditions. Another consideration is that senior developers may retire or the business focus may linger and shift.

The signs for the accumulation of technical debt in chapter two are all too familiar for developers working with legacy. You're confronted with slowness, security flaws, multiplication of bugs and a lack of guarantee on non-regression. Your progress can be suddenly undone by hidden flaws in the coding. Because code quality is essential to sustainable development, Symfony comes with tools to easily choose a unified, measurable and comparable metric to ensure rigorous monitoring of a project's overall quality.

SymfonyInsight for continuous code analysis

SymfonyInsight is a SaaS tool that boots your Symfony application, inspects its containers and gives you advanced reports on your project quality. It is aimed to detect security risks, suggest possible corrective measures and improve quality by respecting Symfony's development guidelines. It does so by inspecting the heart of the PHP code and providing an in-depth diagnostic on code quality.

Based on more than 100 rules that cover maintainability, scalability and quality, SymfonyInsight can detect problems and errors on a daily, continuous basis. This ensures the assessment of technical debt over time, improves code quality and improves developer skills by enabling self-correction.

SymfonyInsight is a paid service that can be integrated into GitHub, GitLab or BitBucket with a few clicks. It gives you cost estimates for correcting problems and comes with a collaborative workspace and educational tutorials to understand and assimilate good practices. SymfonyInsight also saves valuable time by reducing proof-reading efforts by lead developers and provides a great way to train and help onboard junior staff.

Optimizing the performance

In the age of the customer, speed and reliability are fundamental to retaining customers and providing them with optimal digital experiences. If your website or application is just a few seconds too slow, your customers will leave for the competition. That means your business simply can't afford for its developers to spend their valuable time to keep buggy legacy running. Instead, their time is better spent innovating and building web applications and digital experiences that customers crave for.

Blackfire for performance management automation

Performance is a hygiene factor required to remain competitive today, and to be able to optimize the performance of your code, you need to be able to measure it. Blackfire is a SaaS tool designed for PHP code performance management throughout its whole life cycle, measuring the resource consumption of the code at the level of functions/ methods calls.

With intuitive navigation through call graphs or temporal representations of resource consumption, developers get a complete view of its behavior. They can see and understand how Wall-time, CPU time, I/O time, memory, network calls, HTTP and SQL are used. Blackfire highlights slowdowns and helps developers to easily verify and validate the impact of their changes at each iteration.

Blackfire seamlessly integrates into any existing toolset and process and is designed for production, but can also be used in development, testing and staging. Developers gain speed in experimenting and validating their improvements when using Blackfire on their machines, where they are able to test performance before going into production.

Speeding up your web development

In business, just like in project management, timing is everything. If the development team can't achieve a project on time, it negatively affects the economy of the project. Therefore, guarding and improving the team's productivity is essential. This is where the development infrastructure comes into play.

SymfonyCloud for an adapted development infrastructure

Created specifically to help developers working on Symfony, SymfonyCloud is a PaaS (Platform as a Service) that is perfectly adapted for the infrastructure of PHP and Symfony. It is designed to automate the deployment of a complete Symfony infrastructure, covering PHP to database, search and performance.

Getting a project up and running takes only a few seconds with SymfonyCloud. Thanks to the Git integration and Ceph layering technology, it is possible to go from dev to staging and production and back, in a matter of minutes. SymfonyCloud fully supports DevOps and continuous deployment and integrates SymfonyInsight and Blackfire.

SymfonyCloud can also perform complete snapshots of an application, its software infrastructure and associated databases. With this major feature, the development team can reproduce an identical production system to provide more reliable testing capabilities, allowing the launch of several development and test projects in parallel on the same application.

The integration of Git processes and its revolutionary file system makes it possible to deploy up to 7 times more often and increase the development team's overall productivity by 30%. At the same time, SymfonyCloud reduces overall hosting costs by 60%.

What Symfony means for every role

Migrating to Symfony not only affects the developers who use it but also the managers, project managers and system administrators within your company. That is because Symfony makes web development easier and quicker. In turn, this affects your IT infrastructure, digital products, customer experience and bottom-line business results.

For understanding the impact of using Symfony completely, here is how different roles may benefit:

Symfony for managers

Symfony is a PHP framework to develop websites or applications written in PHP. That means the development of your digital products and services complies with industry rules, is scalable and saves your developers valuable time. It is also relatively easy to find PHP developers as PHP is a very popular code language that is easy to learn. Symfony stands out from other PHP frameworks with its practical approach, where generic modules can be reused so that you can focus on specific business features. Symfony allows you to efficiently and quickly craft better digital experiences that make a difference in your market today.

Symfony for developers

The Symfony framework is made for you, the developer. Symfony is an internationally recognized, stable development environment under the MIT licence. It comes with interoperable software components called bundles that allow you to easily build business functionality as needed. Repetitive coding tasks are avoided and several integrated solutions are available to make your life easier, such as the Web Debug Toolbar. By using Symfony your maintenance is easier, development is faster and security is better. As an open-source framework, Symfony is supported by a passionate group of over 600.000 developers from more than 120 countries. Through SensioLabs, you can rely on dedicated professional support and advice. And best of all, Symfony does not confine you to its environments but adopts industry standards. You can switch at any time, if you would ever want to.

Symfony for system administrators

Symfony is PHP, which means that unlike Perl and Python, for example, it can be used as both command line and server-side scripting. Additionally, Symfony only requires two writing folders, which can be fully configured to adapt to your company's established security policy. Symfony also facilitates the build-up of applications to be hosted, for example, by storing sessions in databases or implementing HTTP standards to natively handle website accelerators like Varnish. In short, Symfony simplifies the system administrator's job.

Symfony for project managers

As a structured framework, Symfony gives your team members a shared reference for project consistency. This will help to clearly define your project, which will make it significantly easier to understand and maintain in the long-term. Developing with Symfony is fast because developers can reuse generic components such as database connection modules and forms – enabling them to focus on the application's real challenges to create real business value. Productivity is also improved by tools such as the Web Debug Toolbar, natively supported security and detailed error pages. By using Symfony, your project will be scalable, fast, reliable and successful.

4. Symfony for future-proof success

As a top-tier framework, Symfony considers every aspect of your organization to enable web development that moves your business forward. This chapter explains how SensioLabs, the creator of Symfony, provides you with the building blocks of your future success.

The why for legacy migration is clear. Once you decide to replace your legacy PHP with a modern framework, the approach comes next. The first step is to perform a code quality audit to determine the most appropriate type of migration.

If the code is burdened by heavy technical debt and if there is no active development, a direct migration from scratch is considered to be better. However, when a temporary shutdown needs to be avoided, like with an e-commerce website, the development of a new application while maintaining the legacy is recommended. Generally, gradual migration is better than one-shot migrations for several reasons: issues occur gradually instead of all at once, rolling backward is a possibility, and there is more time to improve the application with new features instead of only reproducing it.

Realizing that each legacy migration project comes with its technical debt, team, architecture, product backlog and more, SensioLabs offers various services and solutions to meet your specific requirements.

How SensioLabs helps to smoothen your legacy migration

Your choice for Symfony comes with the availability of the following migration services.

Migration workshop

When you have an existing application built with another technology and you want to learn how to move to Symfony, this migration workshop offers an excellent starting point. First off, it helps you to consider between a gradual migration and the one-shot, 'big bang' migration. The workshop gives analysis and audit of your application, and helps to identify and prioritize the principal components to migrate. As a result, you will learn how to design an environment of coexistence for two apps, define your migration roadmap, evaluate costs and prevent risks.

Progressive Migration

After you make the choice for a gradual migration to Symfony, this migration service offers you step-by-step support to execute your migration project faster and cleaner. Included are training, technical support, audit and analysis, code review, recommendations, implementation of repository and management tools, regular team follow-ups and reporting. As a whole, it will give your developers everything needed to improve their skills through best development practices to make the migration a full success.

Expertise Solutions

Since every application and project is different, SensioLabs offers a selection of professional solutions and prepackaged custom-made services that focus on the start, design, build and run phase.

The building blocks of success

As any CTO or business leader will tell you, success is never a clear-cut path. The road is often long, messy and twisted, which calls for breaking down the overall vision into smaller milestones. By reaching these smaller targets, you will be more able to hit the quick wins before reaching the ultimate goal.

Symfony provides you with all the building blocks to build your long-term success with digital experiences that your customers will appreciate and value.

The following blocks are the foundation for success in PHP development:

Technology

Your technical architecture needs to meet the business requirements of today and tomorrow. The big challenge, however, is that those requirements are shaped by the customer's needs and expectations. These are evolving faster and faster as technology adoption accelerates, which means that your reactions must be agile, instead of pe-planned. As a result, today's PHP frameworks must be highly flexible, time-saving, reliable and mature, easy to work with, high-performing and above all: secure. While that may seem like a lot to ask, SensioLabs' range of products aims to meet all these requirements.

Open-source

Symfony The PHP framework you are reading about in this whitepaper used by approximately 12% of all the websites worldwide, directly or indirectly.

Twig A strong and extensible, native PHP template engine used in Symfony and Silex. It improves the readability of HTML code with less complicated syntax than standard PHP, and has a sandbox mode to secure applications.

SaaS products

SymfonyCloud The end-to-end development and hosting solution designed for Symfony specifically. The best way to create a new project with Symfony in just minutes, with continuous deployment, a fully managed stack and synchronized app data and services.

Blackfire A continuous PHP performance testing tool to enhance PHP application performance and fix bottlenecks. Blackfire verifies and improves the application's performance throughout its life cycle by getting the right information at the right moment.

SymfonyInsight The SaaS tool for PHP project quality that covers every single aspect of your application with more than 100 quality checks. SymfonyInsight helps to protect your team against technical debt, security breaches, data leaks and customer complaints.

People

Technology today powers your business operations, the products and services it sells, and the way it interacts with target audiences. In this digital world, software excellence fuels business performance. Which means that, more than ever, your development team is responsible for delivering your company's success. Empowering your developers is what will help to set your company apart from your competitors.

SensioLabs acknowledges the leading role of the developer. In fact, Fabien Potencier, the CEO and co-founder of SensioLabs, is a passionate developer himself. To get the most out of your development team that uses Symfony, consider the following solutions for a proven and solid approach.

Upscaling your team's skills

Rather than a business cost, training is an opportunity for growth that impacts your team's skills and the recruitment and the loyalty of your developers. Without quality training, your team will struggle with development challenges as they arise, which will ultimately impact the team's well-being. That is why SensioLabs offers a wide range of in-class or remote training sessions on the latest versions of Symfony for both beginners and advanced developers. All training sessions are supported by SensioLabs University Platform, an immersive e-learning platform for evaluating your team instantly and training continuously.

Coaching to increase skills and solve issues

When the technical team lacks experience on Symfony, the first design stages of a development project are often the most complex, which makes long-term technical decisions more difficult. The best solution for defining and guaranteeing your project is having your development team coached by a PHP/Symfony expert.

This ensures long-term application stability and maintainability and also increases the potential to produce quality code. Additionally, the coach is able to support several projects with different development teams within the same company, harmonizing the quality and tools used.

Strengthening your technical team

Finding all the skills and knowledge required for each project in-house is becoming more and more difficult, where using external resources on short-term placements is sometimes the only way to complete the work. To meet the needs for specific technical skills, SensioLabs selects and evaluates the best available profiles from a wide network of partners and freelance developers.

Your success, supported by SensioLabs

As an open-source PHP framework, Symfony is freely available for your web development to build micro-sites, web services and enterprise applications. SensioLabs embraces the open-source movement wholeheartedly and fully recognizes that open-source is the reason why technology has developed at such an astonishing pace.

At the same time, there is a clear need in the market to achieve technical and business success. To help ensure that success, SensioLabs offers consultancy, expertise, services, training and technical assistance. Whether you need advanced expertise, consulting on your project or qualified staff for implementation, SensioLabs stands by your side to ensure that your Symfony project succeeds. Especially when dealing with legacy code and looking to migrate safely, SensioLabs is your best ally to smoothen the migration into the future.

Why Symfony is the safe choice for your future – 3 promises

Migrating to a new PHP framework is not a decision to be taken lightly. Even though Symfony follows industry standards and allows you to try out and switch easily, you may still have some reservations. With the following three promises, SensioLabs dedicates itself to making Symfony the safe choice for both today and tomorrow.

1. Backward Compatibility Promise

Introduced from Symfony 2.3 onwards, the backward compatibility promise is a commitment to strictly follow semantic versioning so that anyone using Symfony can safely and confidently upgrade. This enables cheaper and simpler migration between minor versions of Symfony, so you don't have to wait for the long-term support version (LTS). It also allows you to benefit from the latest version while making sure you're still benefiting from a fully maintained version.

2. Predictable Release Cycle

Symfony releases work like clockwork and follow a time-based model with semantic versioning. Minor versions come out every six months, in May and November, and major versions come out every two years. On top of these, new Symfony patch versions come out every month, which focus solely on squashing bugs.

Development

For any major or minor version, the full development period lasts six months and is divided into two phases. The development phase lasts four months and serves to add new features and enhance existing ones. Then, the next two months consist of a stabilization phase in which bugs are fixed, the release is prepared and time is given for the whole Symfony ecosystem to catch up.

Maintenance

Starting from the Symfony 3.x branch, the number of minor versions is limited to five per branch (X.0, X.1, X.2, X.3 and X.4). The last minor version of a branch (e.g. 3.4, 4.4, 5.4) is considered a long-term support version and the others are considered as standard versions.

Predictability and transparency

The rationale behind this release cycle is to:

- Shorten the release cycle and allow developers to benefit from the new features faster;
- Improve the experience of Symfony core contributors: everyone knows when a feature might be available in Symfony;
- Coordinate the Symfony timeline with popular PHP projects that work well with Symfony, and with projects using it;
- Give time to the Symfony ecosystem to catch up with the new versions;
- Give a strict and predictable timeline to companies so that they can plan their project's development.

3. Continuous Upgrade Path

The backward compatibility promise and semantic versioning are part of the continuous migration path that Symfony offers. When a feature implementation cannot be replaced with a better one without breaking backward compatibility, Symfony deprecates the old implementation and adds a new preferred one alongside.

Deprecated features will trigger deprecation notices at run-time that can be seen in the Web Debug Toolbar, or after running your tests. This allows you to update your code little-by-little, ensuring your final upgrade is easy and safe. To learn exactly how deprecations are handled in Symfony, read the conventions document here.

You are your customers' success

It is the era of the customer. Cloud and AI are increasingly ubiquitous, IoT is well underway and easy UI interfaces and optimal digital interactions are a given. The customer of today wants to feel valued and appreciated, and will not stay around to wait for you to address your technical challenges. For matching those customer expectations, the choice for a modern PHP framework is essential.

With technology leading the way in business innovation, the adoption of it in your organization should be high on your agenda. Web development has never been more important, creating new challenges in finding the best architecture choices for delivering products and services. It calls for a culture of innovation, not just a technological solution.

As a technology, philosophy and community, Symfony delivers it all.

Once your developers can create their applications in an efficient, quick and pleasant way, you can focus on customer needs in a whole new way. Symfony makes it easy to align web development with your business goals and create meaningful digital experiences that set you apart from the competition.

If you're still using legacy PHP and are ready to migrate to a modern PHP framework safely and smoothly, talk to us about Symfony. Together we can bring digital harmony to your organization and align your company's success to that of your customers'.

The SensioLabs team, a Smile group company

Choose your next step:

Download Symfony and get started!

https://symfony.com

SensioLabs University

Train your team with the creator of the Symfony Framework

university.sensiolabs.com/e-learning-platform

training.sensiolabs.com/en/

Contact us:

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About SensioLabs

SensioLabs is the creator of the open-source framework Symfony, which has become a global reference in web development. At SensioLabs, we support the success of large groups and startups, IT services companies and integrators, in the transformation or improvement of their existing projects and the creation of new services.

SensioLabs offers consultancy, expertise, services, training and support tailored to enhance developers' effectiveness, to ensure the success of web application development projects and to support the creation of a competent technical team.

SensioLabs operates in a further 20 countries through its own offices and an extensive network of more than 50 certified and affiliated partners. A company recognized internationally for its innovations in its market, SensioLabs boasts over 100 employees and consultants.

About Smile

Since the beginning of 2019, Smile has been a majority shareholder in SensioLabs. As a European market leader in digital open-source with a presence in 7 countries, Smile shares the same values and ambitions as SensioLabs.

Each year, some 1,700 committed personnel contribute to many hundreds of strategic digital projects for large corporate clients in France and Europe, based on the most innovative solutions and concepts.

Fully proficient in the best products, components and open-source frameworks combined with an in-depth understanding of the major business challenges, Smile offers its clients the support they require at every stage of their digital transformation via four vertical offerings (Digital/E-business, Business Apps, Infrastructure and Embedded/IoT) and a complete range of integrated services (consultancy, digital agency, training, development & integration, maintenance and outsourcing).

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