ActiveNET

Hypertext Pre-processor

Developed by Rasmus Lerdorf in 1994. PHP is a recursive acronym for PHP: Hypertext Pre-processor. PHP Scripts are executed on server like Java JSP, Microsoft ASP, ColdFusion CFM, Python Django, Ruby on Rails. PHP code is embedded in HTML wherever the dynamic output want to be generated in HTML there PHP script executes, retrieves to and from DB and generates a dynamic web page. Before learning PHP we need to have a basic understanding of HTML, CSS, JavaScript, MySQL SQL.

What is PHP?
- PHP is a acronym for "PHP: Hypertext Preprocessor".
- PHP is widely used open source scripting language intended to run on server.
- PHP is free to download and use.

What can PHP do?
- PHP can generate dynamic page content
- PHP can create, open, read, write, delete, and close files on the server
- PHP can collect form data
- PHP can send and receive cookies
- PHP can add, delete, modify data in your database
- PHP can be used to control user-access
- PHP can encrypt data

With PHP you are not limited to output HTML. You can output images, PDF files, and even Flash movies. You can also output any text, such as XHTML and XML.

Why PHP?

- PHP runs on various platforms (Windows, Linux, Unix, Mac OS X, etc.)
- PHP is compatible with almost all servers used today (Apache, IIS, etc.)
- PHP supports a wide range of databases
- PHP is free. Download it from the official PHP resource: **www.php.net**
- PHP is easy to learn and runs efficiently on the server side

Apart from using PHP to develop dynamic web sites or web applications, we can use PHP based Web MVC Frameworks, CMS Frameworks and ORM Frameworks.

PHP Web MVC Frameworks are:
1. **Laravel**
2. **CodeIgniter**
3. **CakePHP**
4. **Symfony**
5. **Zend Framework$_2$**
6. **Phalcon**
7. **Yii**
8. **Aura**
9. **Fat-Free**
10. **PHP-MVC**
11. **Kohana**
12. **FuelPHP**
13. **Slim**

PHP CMS Frameworks are:
1. **WordPress**
2. **Joomla**
3. **Drupal**
4. **SilverStripe**
5. **Cake PHP**
6. **Modx**
7. **Concrete5**
8. **PHP Fusion**
9. **CMS Made Simple**
10. **PHPWiki**

PHP ORM Frameworks are:
1. **Doctrine**
2. **Zend Framework/Zend DB**
3. **Cake PHP**
4. **Redbean**

PHP Web MVC Frameworks are:

1. **Laravel**

   Laravel is a PHP web application framework with expressive, elegant syntax, aiming to take the pain out of web development by easing common tasks, such as authentication, routing, sessions and caching. It provides, accessible, powerful tools needed to build, large robust applications, with an inversion control container, expressive migration system, and tightly integrated unit testing support. Laravel can be used for huge enterprise level applications, or simple JSON APIs, meaning it's perfectly suited to all types and sizes of projects. It's built on top of several Symfony components, providing a solid foundation of well-tested, reliable code. With Composer you can manage all your application's third-party packages, and works great on MySQL, Postgres, SQL Server, and SQLite.

2. **CodeIgniter**

   CodeIgniter is a powerful PHP framework with a small footprint, built for those who required a simple, yet elegant toolkit to build fully-featured web applications. It requires nearly zero configuration, with no restrictive coding rules, and offers simple solutions to complex application requirements. CodeIgniter features a rich set of libraries for commonly needed tasks, as well as a simple interface and logical structure to access these libraries. It's exceptionally fast, as its core system only requires a few small libraries, with additional libraries loaded dynamically upon requests, based on your needs for a given process. This means the base system is both lean and agile. As CodeIgniter uses the MVC controller approach, it allows for great separation between logic and presentation, particularly useful for projects in which designers are working on template files.

3. **CakePHP**

   CakePHP enables you to build web applications faster, using code generation features to rapidly build prototypes. There is no complicated configuration, just setup your database and you're ready to go. Translations, database access, caching, validation, authentication and more are all built into the framework. It comes packaged with clean MVC conventions, to guide you in developing your application. CakePHP can handle every aspect of your application, from the user's initial request all the way to the final rendering of a web page. The framework provides a basic organizational structure, from filenames to database table names, to keep your entire application consistent and logical. CakePHP also comes with built-in tools for validation and protection against SQL injection, form tampering and more, to help keep your application safe and secure.

4. **Symfony**

   Symfony is a PHP framework to speed up the creation and maintenance of your web applications. By using existing 'de facto' standards of PHP, such as PHPUnit, and naming conventions for classes, you're not confined within the Symfony environment, but instead have the freedom to choose the software components that you want to use. It provides a set of prefabricated components that can be rapidly integrated into your application, combined with a clear methodology to help you work both efficiently and effectively on the most complex tasks. The use of Best Practices guarantees the stability, maintainability and upgradeability of any application you develop. You can choose the Full Stack (complete) version if you want to develop a complex application, or Brick by Brick, to build your own framework according to the functionality you need, or Microframework, as a standalones used to develop specific functionality in your project.

5. **Zend Framework$_2$**

   Zend Framework 2 is an open-source framework for developing web applications,

using object-oriented code. The components in the standard library form a powerful an extensible framework when combined, offering a robust, high performance MVC implementation. It's easily extensible, adapting to your needs, with a modular base so you can use building blocks in combination with other applications or frameworks. Using the ZendService you can implement client libraries to access the most popular web services available. As Zend is a collection of classes, you can just load the components you need, to take advantage of the components as individual libraries, instead of the framework as a whole, cutting down on unnecessary project bloat. With no model implementation you are free to implement the framework and components in whatever way you need, free of predefined restraints.

6. Phalcon

Phalcon is a PHP 5 framework that is implemented as a C extension to offer lower resource consumption and high performance. There's no need to learn or use the C Language, as the functionality is exposed as PHP classes ready to use. As Phalcon is loosely coupled, you're free to use the full framework, or just specific parts of it as glue components. Rather than download an archive, extracting it to a directory like you do with most frameworks, Phalcon can be downloaded and installed as a PHP module. By creating a rich, fully featured framework written entirely in C and packaged as a PHP extension, Phalcon is able to save processor time and boost overall performance. While it is just under two years old, the Phalcon documentation, community and development rival that of many of the more mature frameworks available.

7. Yii

Yii is a high-performance PHP framework which has powerful caching support and is explicitly designed to work efficiently with AJAX. Security is important, and that's why Yii includes input validation, output filtering, SQL injection and Cross-site scripting prevention. As Yii follows the MVC pattern, it helps you develop clean and reusable code, ensuring a clear separation of logic and presentation. You can model database data in terms of objects and avoid the complexity and tedious nature of writing repetitive SQL statements. Collecting form input is both safe and easy, as Yii comes with a set of validators as well as numerous helper methods and widgets. There is support for writing and running unit tests and functionality tests, along with efficient error handling, and log messages can be categorized, filtered and routed to different destinations. As Yii is designed to work well with third-party code, you can integrate other frameworks data into your Yii powered application.

8. Aura

Aura provides clean, fully decoupled libraries and independent libraries for PHP 5.4+ that can be used in any database, alone, in concert with each other, or into a full-stack framework of their own. It's the second major revision of Solar, rewritten as a library collection with dependency injection. It provides high-quality, well-tested, standards-compliant library packages that can be used in any codebase, with each library being self-contained and independently downloadable. There are enough libraries to form a full framework and be used for application development. As Aura is intended to take advantage of PHP5.4+, it features formal namespaces, anonymous functions, late static binding, short array syntax, traits, and more that aren't available in earlier versions of PHP.

9. Fat-Free

Fat-Free is a powerful, easy-to-use PHP micro-framework to help build dynamic and robust web applications. It's condensed into a single file (only 60kb), to give you a solid foundation and mature base code to get started quickly. It boasts an easy-to-use web development toolkit, a high performance URL routing and cache engine,

built-in code highlighting and support for multilingual applications. There is no complex configuration required, with a well organized directory structure and support for both SQL and NoSQL databases. Fat-Free comes packaged with optional plug-ins to extend its capabilities, including; unit testing toolkit, template engine, markdown-to-HTML convertor, Geodata handler, custom logger, image processor and lots more. It takes a minimalistic approach to software architecture, avoiding un-necessary complication, aiming to strike a balance between code, performance and productivity.

10. PHP-MVC

PHP-MVC is an extremely simple but effective Model-View-Controller application structure which is clean, easy to learn, highly documented and features a self-explaining structure and optional Composer integration. It comes in two versions, a basic and advanced, with the advanced version featuring additional Twig support and automatic SASS compiling in pure PHP. It is not a fully featured framework but instead provides a bare-bone structure, aiming to be extremely slimmed down. It's as simple and readable as possible, with a skeleton structure for quick application building, especially useful for those new to PHP. The project encourages coders to work according to PSR 1/2 coding guidelines, promoting the usage of PFO, and the use of external libraries via Composer. As it only uses native PHP code, there's no need to re-learn a framework, so you can get started straight away.

11. Kohana

Kohana is a HMVC PHP5 framework that provides a rich set of common components to build web applications quickly, including translation tools, database access, code profiling, encryption, validation and lots more. Kohana has been carefully benchmarked to ensure it's both efficient and organized for real world usage. You can use specific libraries and tools, with simple tools to help identify bugs and solve performance issues. As Kohana is an OOP framework, it's built using strict PHP 5 classes and objects, with an easy setup as there are no code generators or complicated configuration files. With a simple routing structure and commented code, it's easy to understand and get started quickly. With an active community forum and IRC channel you have access to immediate support, along with the opportunity to contribute to Kohana on GitHub.

12. FuelPHP

FuelPHP is a simple, flexible MVC PHP 5.3+ framework, that was designed from the ground up to offer full support for HMVC as part of its architecture. With the added bonus of ViewModels (also known as presentation models), you have the option to add a powerful layer between the controller and the View. Almost every class in FuelPHP's core package can be extended without touching any code. You can also keep your application modular by dividing it into easily packaged modules so you can reuse code. Security is important so all of your output is encoded to make it secure and prevent XSS attacks. There is also support for CSRF prevention with tokens, input filtering and the Query Builder to assist you in preventing SQL injection attacks.

13. Slim

Often times a full-fledged framework can be overkill, micro-frameworks can enable rapid application development and prototyping without a steep learning curve, or any performance issues that can come with a large framework. Slim is a micro PHP framework to help you write simple, yet powerful web application and APIs, featuring standard and custom HTTP methods, route parameters, page templates and route redirects. The framework includes access to error handling and debugging, HTTP caching, Flash messages and secure cookies and AES-256

encryption. It's simple to configure and get started quickly, and the sophisticated URL router and middleware architecture make it ideal for rapid development or API prototyping. Slim isn't the only micro-framework available, other noteworthy choices include <u>Silex</u>, <u>Limonade</u>and <u>Flight</u>.

14. SOLAR

Solar is a PHP 5 framework for web application development. It is fully name-spaced and uses enterprise application design patterns, with built-in support for localization and configuration at all levels.

15. Silex

Silex is a PHP microframework for PHP. It is built on the shoulders of Symfony and Pimple and also inspired by sinatra.

16. Limonade

Limonade is a PHP micro framework for rapid web development and prototyping.

It's inspired by frameworks like <u>Sinatra</u> or <u>Camping</u> in Ruby, or <u>Orbit</u> in Lua. It aims to be simple, lightweight and extremly flexible.

17. Flight

Flight is a fast, simple, extensible framework for PHP. Flight enables you to quickly and easily build RESTful web applications.

PHP CMS (Content Management System) Frameworks are:

CMS Content management system is a computer program that allows publishing, editing and modifying content as well as maintenance from a central interface. Content management systems are often used to run websites containing blogs, news, and shopping. Many corporate and marketing websites use CMSs. CMSs typically aim to avoid the need for hand coding but may support it for specific elements or entire pages.

1. WordPress

WordPress is web software you can use to create a beautiful website or blog.

We like to say that WordPress is both free and priceless at the same time.

WordPress started in 2003 with a single bit of code to enhance the typography

of everyday writing and with fewer users than you can count on your fingers and

toes. Since then it has grown to be the largest self-hosted blogging tool in the

world, used on millions of sites and seen by tens of millions of people every day.

Download WordPress CMS: http://wordpress.org/download/

Demo Sites build using WordPress: http://wordpress.org/showcase/

2. Joomla

Joomla! is a free, open source content management system.

Joomla is an award-winning content management system (CMS), which enables

you to build Web sites and powerful online applications. Many aspects, including its ease-of-use and extensibility, have made Joomla the most popular Web site software available. Best of all, Joomla is an open source solution that is freely available to everyone.

Joomla Demo: http://demo.joomla.org/

Download Joomla CMS: http://www.joomla.org/download.html

Official Site: http://www.joomla.org/

3. Drupal

Drupal is an open source content management platform powering millions of websites and applications. It's built, used, and supported by an active and diverse community of people around the world.

Drupal Demo: https://drupal.org/project/demo

Download Drupal CMS: https://drupal.org/download

4. SilverStripe

SilverStripe is a free and open source Content Management System (CMS) and Framework for creating and maintaining websites and web applications.

It provides an out of the box web-based administration panel that enables users to make modifications to parts of the website, which includes a WYSIWYG website editor. The core of the software is SilverStripe Framework, a PHP Web application framework.

SilverStripe Demo: http://demo.silverstripe.com/

Download SilverStripe CMS: http://www.silverstripe.org/stable-download/

5. Cake PHP

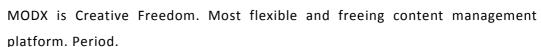CakePHP makes building web applications simpler, faster and require less code.

CakePHP is licensed under the MIT license which makes it perfect for use in commercial applications.

CakePHP comes with built-in tools for input validation, CSRF protection, Form tampering protection, SQL injection prevention, and XSS prevention, helping you

keep your application safe & secure.

Download Cake PHP CMS: https://github.com/cakephp/cakephp/tags

6. Modx

MODX is Creative Freedom. Most flexible and freeing content management platform. Period.

MODX Revolution is the web content management platform for those that truly care about no-compromise design and exceptional user experience. It gives you complete control over your site and content, with the flexibility and scalability to adapt to your changing needs.

Modx Demo: https://modxcloud.com/

Modx Documentation: http://modx.com/learn/

Download Modex CMS: http://modx.com/download/

7. Concrete5

A simple and powerful content management system. concrete5 makes running a website easy.

You can build with concrete5

* Online magazines and newspapers.

* eCommerce sites.

* Extranets and Intranets.

* Government web sites.

* Small business web sites.

* Non-profit and organization web sites.

* Community-based portals.

* Church, club and team web sites.

* Personal or family homepages.

* Marketing focused sites for a corporation.

* Any school, college or university web site.

* Many online communities.

* Anything else you can dream up!

Try Demo: http://www.concrete5.org/trial

Download Concrete5 CMS: http://www.concrete5.org/developers/downloads/

Concreate5 Documentation: http://www.concrete5.org/documentation/

8. PHP Fusion

PHP-Fusion, a lightweight open source content management system (CMS).

PHP-Fusion is written in PHP and MySQL and includes a simple, comprehensive administration system.

PHP Fusion Demo: Sorry! no official demo site link available.

Download PHP Fusion CMS: http://www.php-fusion.co.uk/downloads.php

PHP Fusion Documentation: http://www.php-fusion.co.uk/infusions/documentation/

9. CMS Made Simple

CMC Made Simple POWER FOR PROFESSIONALS SIMPLICITY FOR END USERS

CMS Made Simple, an open source content management system, allows for faster and easier management of website content. This CMS is scalable for small businesses to large corporations.

CMS Made Simple Demo: http://www.cmsmadesimple.org/documentation/end-user-tutorials/

Download CMS Made Simple : http://www.cmsmadesimple.org/downloads/

10. PHPWiki

PhpWiki is a web-based wiki software application. It began as a clone of WikiWikiWeb and was the first wiki written in PHP. PhpWiki has been used to edit and format paper books for publication.

PHPWiki Demo: sorry! no officila link available for demo.

Download PHPWiki CMS: http://sourceforge.net/projects/phpwiki/

Official Site: http://phpwiki.sourceforge.net/

PHP ORM Frameworks are:

ORM is yet another nerd-acronym, it is short for Object Relational Mapping. In a nutshell, an ORM framework is written in an object oriented language (like PHP, Java, C# etc…) and it is designed to virtually wrap around a relational database. If you look at the name (ORM), it basically translates into: mapping objects to relational tables.

Basically, the ORM framework/software generates objects (as in OOP) that virtually map (like the map of a city) the tables in a database. Then you as a programmer, would use these objects to interact with the database. So the main idea, is to try and shield the programmer from having to write optimized SQL code – the ORM generated objects take care of that for you.

1. Doctrine

The Doctrine Project is the home to several PHP libraries primarily focused on

database storage and object mapping. The core projects are the <u>Object Relational Mapper (ORM)</u> and the <u>Database Abstraction Layer (DBAL)</u> it is built upon.
2. Zend Framework/Zend DB **Zend Framework** is a collection of professional PHP packages with **more than 314 million** installations. It can be used to develop web applications and services using PHP 5.6+, and provides 100% object-oriented code using a broad spectrum of language features.
3. Cake PHP CakePHP makes building web applications simpler, faster, while requiring less code. A modern PHP 7 framework offering a flexible database access layer and a powerful scaffolding system that makes building both small and complex systems simpler, easier and, of course, tastier. Build fast, grow solid with CakePHP.
4. Redbean RedBeanPHP is an easy to use **ORM** for **PHP**. It's a **Zero Config** ORM lib that *'automagically'* builds your database **schema**.

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