

Kumbia Enterprise Framework

A framework for Enterprise PHP

LouderTechnology

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Preface

This document is a document all-in-one reference guide, tutorial and API for developing applications using Kumbia Enterprise Framework. The preface contains information about the conventions used to develop this text.

1.1 Before you read this document

Before reading this text, you must have a good knowledge of PHP language, object oriented programming, Web development technologies like HTML, CSS, JavaScript and XML, AJAX, SQL, and knowledge in databases and operating systems.

1.2 How this book is organized

Kumbia Enterprise is a robust framework for developing enterprise applications using open technology for environments with high requirements for stability, performance and scalability. All her strength is embodied in this comprehensive document and hopes to provide all possible information for the understanding and use of this platform.

The document provides a reference of each component, together with examples and API each. It seeks to link the architecture and components are integrated with each other in the form of services.

The first part explains that you can use and Kumbia Enterprise Framework features, installation and architecture of applications as an introduction to the context of development and implementation.

Chapter Tutorial makes the creation of a complete application step by step as a case study, integrating the various components and applying the most illustrative of the Framework as the basis of it.

The second part describes the domain logic layer explaining everything about the orchestration of Web services and drivers.

The third part explains each component and security features in the framework.

The fourth part discusses the logic of terms and details of data persistence, concurrency and transactions.

The fifth part explains the characteristics and internationalization and localization of components that allow applications to adapt to specific geographical, political, cultural or regional.

The sixth part presents the components of the presentation layer tools and user interaction to the final implementation.

The seventh part explains monitoring components and components for general purpose Web application development.

The eighth part explains the components that help improve performance and optimization applications.

The ninth part details the administration component, context, and persistence of user sessions.

The tenth part talks about developer tools such as unit test, debug and process data, code generation, etc.

Who should read this book?

This document is aimed at people who want to learn in depth the capabilities of Kumbia Enterprise Framework for application development, support to existing software and / or extend it.

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References to other websites

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Your comments are welcome

In LouderTechnology we are interested in improving our documentation and our products and projects, so your comments are always welcome. The reference of this document is KEF-1108.

Introduction

Kumbia Enterprise is a PHP framework whose main objective is the convenience and ease of use, while giving importance to the performance, robustness, quality and professionalism of a web-oriented application. Is implemented using version 5.2 of PHP and is fully object oriented. Components are integrated and optimized thereby increasing the internal efficiency of the framework and the applications developed with it.

The framework further allows the use of libraries and independent components and integrates with third-party application.

Kumbia Enterprise Framework is a modified version of the Kumbia Community Framework version 0.5, which has been stabilized and refactoring to improve speed and robustness. The Community version is central to innovation and development in the continuing integration of the version created by LouderTechnology. The objective of this framework is to strengthen the development of business applications designed to run a Web presentation that both Intranets and the Internet. Creating web sites using Kumbia Enterprise is possible, though other tools can be found most suitable and lightweight for this task.

This document explains in detail each component of the framework.

Differences with Community version

The modified version that we developed in Louder Technology has gone through a rigorous process of stabilization and quality production environments that require high availability for applications.

Key Benefits of using Kumbia Enterprise:

- Reduction of operational costs when implementing large systems
- Enhanced scalability (clustering, caching distributed)
- Possibility of getting support at different levels that mitigates risk and helps to eliminate vendor lock-in of software development tools.
- Integrate applications with PHP5 code, including other existing frameworks like Zend Framework.
- Multiple integration required to implement service-oriented architecture (SOA).

Other improvements in this version:

- Certified Support for multiple applications on the same instance
- File structure optimized for multiple applications
- High and Low Transactions Support
- Certified adapters for connection to relational databases
- Hardware requirements reduced by 40%
- Adapters for scalable session management
- Security Policy managers with adapters for relational, LDAP, and other (Kerberos5)

License

The business model of open source is designed to remain both you and your partners to expand from small to large without additional cost overruns.

Kumbia Enterprise Framework is a software project with an open fit for business license approved by OSI (<http://www.opensource.org>) called New BSD and that comes with the distribution of the framework.

Commercial support for development, production and training are available throughout LouderTechnology.

Installation

Introduction

Kumbia Enterprise Framework requires PHP version 5.2.0 or higher for optimum performance. The framework requires the Apache Web Server, preferably in its version 2.0 or 2.2 and the mod_rewrite module installed for operation.

Kumbia Enterprise Framework additionally supports Microsoft Internet Information Services (IIS) version 6.0 from the server module using the ISAPI_Rewrite.

After download the Kumbia Enterprise Framework package it must be uncompressed and located in the Web server document root or in a subdirectory of it, this can vary according to your platform or distribution use.

Configuring Apache Web Server 2.x

The framework implements support for smart urls making them more human and familiar to end-users. For this you need to install the mod_rewrite Apache module that makes possible rewriting URLs in an internal framework convention. Its use is vital for the proper implementation of arquitectacional pattern Model-View-Controller.

Apache provides the command a2enmod in most of Linux distributions, using this command you can easily enable the module, then it is only necessary to restart the Web server.

With the administrator user root you can use a command like this:

```
# a2enmod rewrite
# /etc/init.d/apache2 restart
```

In some systems like RedHat / Fedora the command to restart the server is:

```
# service httpd restart
```

On Microsoft Windows is necessary to enable the module directly into the Apache configuration file. This will remove the comment leaving the Apache Web Server module loaded:

```
LoadModule rewrite_module modules/mod_rewrite.so
```

The rewrite rules of the framework should be read by Apache and executed at each request to the application. It is necessary to enable the reading of .htaccess files or adding the rules to the configuration file of Apache.

The location of the httpd.conf file or default-server.conf may vary according to your Linux distribution or operating system.

SO	Path	DocumentRoot
RedHat Enterprise 4/5	/etc/httpd/conf/httpd.conf	/var/www/html
OpenSuSE 10.1/10.2/10.3/11	/etc/apache2/default-server.conf	/srv/www/htdocs/
Ubuntu/Debian	/etc/apache2/sites-available/default	/var/www
MacOS X (Leopard 10.5) using MAMP	/Applications/MAMP/conf/apache/httpd.conf	/Applications/MAMP/htdocs/
Windows XP/2003 using XAMPP	c:\Program Files\xampp\apache\conf\httpd.conf	c:\Program Files\xampp\apache\htdocs\

The mod_rewrite rules rewrite may be in the .htaccess archives included in the framework or in the configuration files of Apache Web Server. The following rules must belong to .htaccess file or the root directory where is located the framework:

```
<IfModule mod_rewrite.c>
RewriteEngine on
RewriteRule ^$ public/ [L]
RewriteRule (.*) public/$1 [L]
</IfModule>
```

Las segundas reglas de configuración deben ir en el archivo .htaccess ubicado en el directorio public/ así:

```
<IfModule mod_rewrite.c>
RewriteEngine On
RewriteCond %{REQUEST_FILENAME} !-d
RewriteCond %{REQUEST_FILENAME} !-f
RewriteRule ^(.*)$ index.php?url=$1 [QSA,L]
</IfModule>
```

When using .htaccess files is necessary to enable AllowOverride All setting to All Options for the root directory of the Web Server in the Apache configuration file. When we add

the configuration files directly to the Apache Web Server must use the “Directory” directive as follows:

```
<Directory "/srv/www/htdocs/application">
  <IfModule mod_rewrite.c>
    RewriteEngine on
    RewriteRule ^$ public/ [L]
    RewriteRule (.*) public/$1 [L]
  </IfModule>
</Directory>

<Directory "/srv/www/htdocs/application/public">
  <IfModule mod_rewrite.c>
    RewriteEngine On
    RewriteCond %{REQUEST_FILENAME} !-d
    RewriteCond %{REQUEST_FILENAME} !-f
    RewriteRule ^(.*)$ index.php?url=$1 [QSA,L]
  </IfModule>
</Directory>
```

If you do not require the use of .htaccess files, you can disable it by setting AllowOverride to None, that way we avoid that the web server search for this file in each directory for each Web request then significantly increasing application performance.

It is also important to review the file index.php is in the first position in the DirectoryIndex directive, and Apache Web Server will give a higher priority before other extensions:

```
DirectoryIndex index.php index.html
```

After performing the configuration is necessary to restart the Web server.

Configuration with Microsoft ISS and ISAPI Rewrite

To this we must add the root directory of the file httpd.ini Kumbia package as follows:

```
[ISAPI_Rewrite]
RewriteCond URL (?!/javascript/|/img/|/files/|/css/|/temp/).*
RewriteRule (.?\.php)(\?[^\/*]?)?/([^\/*]*)/(.*) $1(?2$2&:\?url=/$3/$4)
RewriteCond URL (?!/javascript/|/img/|/files/|/css/|/temp/).*
RewriteRule ^/(.*) /public/index.php?url=/$1 [L]
RewriteCond URL (?!/javascript/|/img/|/files/|/css/|/temp/).*
RewriteRule /(.*?) /public/$1
```

Related Links

- Setting up Apache on RedHat Enterprise
- PHP on Microsoft IIS
- PHP on Apache 2.x on Windows
- PHP on Apache 2.x on Unix / Linux
- Installing on Microsoft IIS ISAPI Rewrite

Configuring PHP

The following settings are optional for Web Applications with Kumbia Enterprise. The following lists the configuration settings of php.ini

Setting	Description
short_open_tag	Lets use the special PHP tags <? = Y <. Not recommended if you plan to redistribute their applications to third-party servers. Not a professional standard PHP using these labels.
display_errors	It allows to generate an error showing the routes and files that generate PHP errors, it is useful in development environments but not in production mode.
memory_limit	64M in production environments is an appropriate number for this parameter script. Should be adjusted according to circumstances.
error_reporting	Kumbia Enterprise Framework is developed with low level of reporting E_ALL E_NOTICE E_STRICT which ensures code quality and enforcement of basic standards of development in PHP5 OOP
register_globals	Allows the contents of the superglobals become local variables. In general it should be left disabled and it is not safe in many ways.
magic_quotes_gpc	Being active may help prevent SQL injection attacks at the same time makes the performance of the server is somewhat smaller.
session.use_only_cookies	When enabled significantly helps prevent attacks SQL injection and XSS.

Zend Application Server Configuration

Zend Application Server is an environment for deploying PHP applications based on the Apache Web Server so its setup is similar.

You can follow the configuration steps and deploy them on Zend Apache Server. The rewrite module is enabled by default as the configuration steps should be minimal.

3.6 Creating an Instance of Kumbia Enterprise

The framework is divided into a multi-platform file that contains the file structure of the framework and resources needed for development, test and deploy applications in Kumbia Enterprise.

The filename has the following structure *kumbia-ef-version-extension-maturity*.



kumbia-ef-1.0.tar.gz

Troubleshooting Installation

The following situations can occur when you install an instance of the framework:

Issue: No-Mod Rewrite Apache installed

The web server does not have the rewrite module installed, see "Configuration with Apache 2.x Web Server" in the installation chapter.

Issue: In the screen shows the message "Unable to use URL rewriting"

You must verify the following:

- If you use Apache Web Server, .htaccess file must be present in the root directory where the instance of the framework or rules on this must be active in the web server configuration.
- Apache Web Server supports setting overwrite configuration way .htaccess file.
- The Apache configuration option 'AllowOverride All' is not present for the settings of the web server DocumentRoot.

Issue: Upon entering the default application shows a white screen with no message

The directive of the web server default file is giving highest priority to the index.html file and not the index.php. In the case of Apache Web Server solves this by setting DirectoryIndex.

Issue: Upon entering the application generates the exception CoreException: The directory public / temp is not writable "

This exception is generated when the public directory / temp directory is a read-only or not have write permissions to the user that is running the web server.

Issue: Upon entering the application generates the exception CoreException: You must have installed PHP version 5.20 or higher to use this framework "

The version of PHP you have installed is equal to or greater than 5.0 but less than 5.2.0. Version 5.2.0 now fixes important security bugs in PHP core and has a better performance.

Issue: Upon entering the application generates the exception CoreException: Timezone invalid "

Have set a time zone file config / config.ini invalid so many options of the framework will generate misinformation.

Issue: Upon entering the application generates the exception "RouterException: There is no default application specified in the config / config.ini (defaultApp)

DefaultApp option in the configuration file of the instance does not exist or does not define an application that exists in the instance of the framework.

Issue: Upon entering the application generates the exception: "CoreConfigException: You must indicate the name of the application is the graphical file 'config.ini'"

DefaultApp option in the configuration file of the instance does not exist or does not define an application that exists in the instance of the framework.