

RefereeManager

Developer Documentation

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Ekkart Kleinod

✉ ekleinod@edgesoft.de

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1 Preface

This documentation focuses on the development aspect of the RefereeManager. Thus, there is no description for setting up the RefereeManager in a production environment. This is part of the user documentation.

Therefore, be aware, that your passwords etc. are not secured during development, if you don't secure them yourselves. The same goes for other security aspects.

I develop the RefereeManager in a virtual machine with no access from the internet, or on a laptop with no reading access from the internet. I urge you to do so yourselves, unless you know what you are doing.

1.1 Used Language

The developer's documentation is in English, because I think more people understand English than German and thus more people can use the RefereeManager. As I am a German native speaker, you can ask German questions every time.

Die Dokumentation ist auf Englisch, damit mehr Leute die Schiedsrichterverwaltung nutzen können. Da ich Deutsch als Muttersprache spreche, können Sie natürlich jederzeit auch deutsche Fragen stellen.

2 Structure and git repositories

There are six sources or downloads used for development:

1. CakePHP (Homepage¹, Git²)
2. phpMyAdmin (Homepage³, Git⁴, Downloads⁵)
3. RefereeManager (Homepage⁶, Git⁷)
4. PHPExcel (Homepage⁸, SVN⁹)
5. PHPExcelHelper (Homepage¹⁰, Git¹¹)
6. TCPDF (Homepage¹², Git¹³)

RefereeManager should be read/write if you want to develop, the other are read-only.

During the development process, several files have to be located in directories of CakePHP and phpMyAdmin resp. In order to avoid having several files mixed up, therefore making it difficult to separate RefereeManager files from original files, the development directories are separated from the git sources. This means, that the development files have to be copied to and from the corresponding directories.

This will be described in detail later (see [sec:process]()).

If you do not want to use the git sources, feel free to download available snapshots and place their files in the directories stated below.

We refer to the needed directories as follows:

<...>/apache/refereemanager/

- development directory
- contains the actual website in development
- no git allowed here

-
- ¹ <http://cakephp.org/>
 - ² <git://github.com/cakephp/cakephp.git>
 - ³ <http://www.phpmyadmin.net/>
 - ⁴ <git://github.com/phpmyadmin/phpmyadmin.git>
 - ⁵ http://www.phpmyadmin.net/home_page/downloads.php
 - ⁶ <https://github.com/ekleinod/refereemanager>
 - ⁷ <https://github.com/ekleinod/refereemanager.git>
 - ⁸ <http://phpexcel.codeplex.com/>
 - ⁹ <https://phpexcel.svn.codeplex.com/svn>
 - ¹⁰ <https://github.com/ekleinod/PHPExcelHelper>
 - ¹¹ <git://github.com/ekleinod/PHPExcelHelper.git>
 - ¹² <http://www.tcpdf.org/>
 - ¹³ <http://git.code.sf.net/p/tcpdf/code>

<...>/apache/phpmyadmin/

- phpMyAdmin directory containing a copy of the phpMyAdmin files and the configuration file
- no git allowed here

<...>/git/refereemanager/

- RefereeManager git repository
- development and configuration files reside here
- development of CakePHP files does not take place here, files are copied here

<...>/git/phpmyadmin/

- phpMyAdmin git repository
- no development files here

<...>/git/cakephp/

- CakePHP git repository
- no development files here

<...>/git/phpexcel/

- PHPExcel svn repository
- no development files here

<...>/git/phpexcelhelper/

- PHPExcelHelper git repository
- no development files here

<...>/git/tcpdf/

- TCPDF git repository
- no development files here

3 Required software

In order to develop the RefereeManager, you will need at least:

- Git
- SVN
- Ant (Java)
- Apache (incl. mysql module) and PHP
- MySQL

Please install the applications for your platform. I tested development with XUbuntu so far.

3.1 Git

You need *git* for handling the developed code.

There are no special installation or configuration steps required in order to develop the RefereeManager.

3.2 SVN

You need *svn* for accessing the *PHPExcel* code. If you prefer to use downloaded Archives of *PHPExcel* you won't need *svn*.

There are no special installation or configuration steps required in order to develop the RefereeManager.

3.3 Ant

You need *ant* for execution of the setup and maintenance scripts. *Ant* requires *Java*. You can choose not to use *ant*, in this case you have to execute the required scripts by hand.

There are no special installation or configuration steps required in order to develop the RefereeManager.

3.4 Apache and PHP

Install *apache* according to your platform. Make sure you install the *mysql* module.

Install *PHP* as well. Preferably combine the installation steps in order to ensure your *apache* server executes *PHP* correctly. In order to use CakePHP scripts *PHP* has to be executable by command line too.

After each change restart apache with

```
$ sudo apachectl -k restart
```

Execute the following configuration steps.

3.4.1 Access restrictions

In standard configuration, all sites in *apache2* have access restrictions. You have to allow access explicitly.

Handle this situation with care if you are on a live system. In my test system I can allow access to all sites without having to consider security issues.

After the changes, check if `http://localhost/` (still) works.

Change the following files:

- `apache2.conf`
- `httpd.conf`
- `default`

as follows:

apache2.conf For some reason in newer *apache* installations the file `apache2.conf` does not link to `httpd.conf` anymore. I don't know if this is a bug, a feature, a security thing or else. In that case, add the following line to `apache2.conf`

```
# Include all the user configurations:  
Include httpd.conf
```

Add the line before

```
Include ports.conf
```

The file is provided in the RefereeManager git repository, check if a link is needed or the changes are made faster by hand. The linking solution:

```
$ cd /etc/apache2/  
$ sudo ln -s <...>/git/refereemanager/configuration/apache2/ports.conf
```

httpd.conf Add the file httpd.conf to the directory /etc/apache2 or link the given httpd.conf file from the RefereeManager git repository. Check if the file exists first, merge existing files if you have to.

Important changes content of httpd.conf in section `Directory /`:

```
Options FollowSymLinks  
AllowOverride All
```

At the end of the file:

```
LoadModule rewrite_module /usr/lib/apache2/modules/mod_rewrite.so
```

The linking solution:

```
$ cd /etc/apache2/  
$ sudo ln -s <...>/git/refereemanager/configuration/apache2/httpd.conf
```

In both cases it is important to allow the following of symbolic links and the override.

default Change default in /etc/apache2/sites-available/ (to be tested if this change is needed). Here too allow override and following of symbolic links in sections `Directory /` and `Directory /var/www`.

You can link to the git-stored file as well:

```
$ cd /etc/apache2/sites-available/  
$ sudo ln -s <...>/git/refereemanager/configuration/apache2/sites-available/default
```

3.5 Known problems

3.5.1 Apache did not start

If you choose to link the needed files, there may be problems in case you encrypt your home. In that case, the links can only be resolved after you log in. You have to restart *apache* every time you log in (see Apache and PHP (Abschnitt 3.4)).

3.5.2 The mysql extension is missing

Make sure you installed the *mysql* extension correctly **and** restarted *apache* (you figured *that* out by yourselves)

If you use localhost you have to deactivate local file access with LOAD DATA statements In order to do that, edit *php.ini*, usually located in */etc/php5/apache2/*. Uncomment the lines

```
mysql.allow_local_infile = On  
mysqli.allow_local_infile = On
```

as follows

```
;mysql.allow_local_infile = On  
;mysqli.allow_local_infile = On
```

3.6 MySQL

You need *MySQL* as database server.

Make sure you install the database with the default settings and without database password. If you choose otherwise, note the values in order to put them in the configuration files.

4 Setup your working environment

Now, it is time to set up your working environment. In order to do this, follow these steps:

1. check out the git sources resp. download it
2. create and link your apache target directories
3. alter the configuration files
4. copy phpMyAdmin
5. copy CakePHP
6. copy PHPExcel
7. copy PHPExcelHelper
8. copy TCPDF
9. copy RefereeManager
10. setup database
11. start development

You should use the provided *ant* scripts for some of these tasks. Simply call

```
$ cd <...>/git/refereemanager/scripts/  
$ ant
```

For a short help message, stating the available targets and a short description. If you are not familiar with *ant*, refer to the Ant Manual¹⁴.

Important: All scripts work without security warnings.

4.1 Check out the git sources resp. download it

Clone the code of the *RefereeManager*.

```
$ git clone https://github.com/ekleinod/refereemanager.git <...>/git/refereemanager
```

Clone the code of *CakePHP*, alternatively download and unzip a version.

```
$ git clone git://github.com/cakephp/cakephp.git <...>/git/cakephp/
```

Clone the code of *phpMyAdmin*, alternatively download and unzip a version. Due to the size of the sources I use a download here.

¹⁴ <http://ant.apache.org/manual/>

```
$ git clone git://github.com/phpmyadmin/phpmyadmin.git <...>/git/phpmyadmin
```

Checkout the code of *PHPExcel*.

```
$ svn checkout https://phpexcel.svn.codeplex.com/svn/trunk/ <...>/git/php
```

Clone the code of *PHPExcelHelper*, alternatively download and unzip a version.

```
$ git clone git://github.com/ekleinod/PHPExcelHelper.git <...>/git/phpexc
```

Clone the code of *TCPDF*, alternatively download and unzip a version.

```
$ git clone http://git.code.sf.net/p/tcpdf/code <...>/git/tcpdf/
```

4.2 Create and link your apache target directories

Check if the directories exist. If yes: delete them (check if they contain valueable files first):

```
$ rm -rf <...>/apache/phpmyadmin/  
$ rm -rf <...>/apache/refereemanager/
```

Now create the directories:

```
$ mkdir <...>/apache/phpmyadmin/  
$ mkdir <...>/apache/refereemanager/
```

Now link the directories to your apache home directory:

```
$ cd /var/www/  
/var/www/$ sudo ln -s <...>/apache/phpmyadmin/  
/var/www/$ sudo ln -s <...>/apache/refereemanager/
```

All directories that are referenced by apache have to be given read rights for apache. Make sure, the whole path is readable for apache, don't forget to check the home folder.

4.3 Alter the configuration files

4.3.1 RefereeManager scripts

You have to tell the scripts where to find your directories. Default structure is:

```
../
  apache/
    phpmyadmin/
    refereemanager/
  git/
    cakephp/
    phpxcel/
    phpxcelhelper/
    phpmyadmin/
    refereemanager/
```

If your directory structure is the same, you do not have to change the configuration file.

Otherwise, edit the file

```
<...>/git/refereemanager/scripts/configuration.xml
```

Change the file according to your needs. You can check your settings with

```
$ cd <...>/git/refereemanager/scripts/
$ ant echoproperties
```

4.3.2 phpMyAdmin configuration

Change the *phpMyAdmin* configuration according to your installation. You find a configuration for the installation defaults in the RefereeManager configuration directory:

```
<...>/git/refereemanager/configuration/phpmyadmin/config.inc.php
```

If you leave your altered file at this place, it is copied by the scripts to and from the apache directory.

4.3.3 CakePHP database configuration

Note: Set your server settings, the database name (default: refereeemanager), and the database table prefix (default: rfrmgr_).

Change the *CakePHP* database configuration according to your installation. You find a configuration for the installation defaults in the RefereeManager repository:

```
<...>/git/refereemanager/cakephp/app/Config/database.php
```

If you leave your altered file at this place, it is copied by the scripts to and from the apache directory.

4.3.4 TCPDF configuration

Note: Set your preferred font, font size, creator text etc.

Change the *TCPDF* configuration according to your preferences. You find a configuration with reasonable defaults in the RefereeManager repository:

```
<...>/git/refereemanager/cakephp/app/Vendor/TCPDF/config/tcpdf_config.php
```

If you leave your altered file at this place, it is copied by the scripts to and from the apache directory.

4.4 Copy phpMyAdmin

Copy the *phpMyAdmin* files to your phpmyadmin apache directory.

Ant target phpmyadmin2apache

call: ant phpmyadmin2apache

Source directory <...>/git/phpmyadmin

Target directory <...>/apache/phpmyadmin

The script executes the following steps:

1. check if target directory exists – failure otherwise
2. delete all files and directories in the target directory
3. copy all files and directories from source directory to target directory

Important: Your *phpMyAdmin* configuration file is deleted too, restore it in the step Copy RefereeManager (Abschnitt 4.9).

4.5 Copy CakePHP

Copy the *CakePHP* files to your refereemanager apache directory.

Ant target cakephp2apache

call: ant cakephp2apache

Source directory <...>/git/cakephp

Target directory <...>/apache/refereemanager

The script executes the following steps:

1. check if target directory exists – failure otherwise
2. delete all files and directories in the target directory
3. copy all files and directories from source directory to target directory
4. change access rights for <...>/apache/refereemanager/app/tmp/ and it's files and subdirectories to read/write/execute for all users (so *apache* can change there)

Important: Your *RefereeManager* files and configurations are deleted too, restore them in the step Copy RefereeManager (Abschnitt 4.9). Be sure you don't have unsaved changes before executing this step.

4.6 Copy PHPExcel

Copy the *PHPExcel* files to your refereemanager apache directory.

Ant target phpexcel2apache

call: ant phpexcel2apache

Source directory <...>/git/phpexcel

Target directory <...>/apache/refereemanager

The script executes the following steps:

1. check if target directory exists – failure otherwise
2. copy the helper file from source directory to target directory

Important: Your *PHPExcel* files will be overwritten.

4.7 Copy PHPExcelHelper

Copy the *PHPExcelHelper* files to your refereemanager apache directory.

Ant target phpexcelhelper2apache

call: ant phpexcelhelper2apache

Source directory <...>/git/phpexcelhelper

Target directory <...>/apache/refereemanager

The script executes the following steps:

1. check if target directory exists – failure otherwise
2. copy the helper file from source directory to target directory

Important: Your *PHPExcelHelper* files will be overwritten.

4.8 Copy TCPDF

Copy the *TCPDF* files to your refereemanager apache directory.

Ant target tcpdf2apache

call: ant tcpdf2apache

Source directory <...>/git/tcpdf

Target directory <...>/apache/refereemanager

The script executes the following steps:

1. check if target directory exists – failure otherwise
2. copy the helper file from source directory to target directory

Important: Your *TCPDF* files will be overwritten.

4.9 Copy RefereeManager

Copy the *RefereeManager* files in your refereemanager apache directory.

Ant target refman2apache

call: ant refman2apache

Source directory <...>/git/refereemanager

Target directory <...>/apache/refereemanager

The script executes the following steps:

1. check if target directory exists – failure otherwise
2. copy all relevant files and directories from source directory to target directory

Important: Your *RefereeManager* files and configurations are overwritten.

4.10 Setup database

Set up the database. You should be able to access your database with:

`https://localhost/phpmyadmin/`

If not, check:

- the apache www server
- the link of phpmyadmin in the apache www root (see Create and link your apache target directories (Abschnitt 4.2))
- your phpMyAdmin configuration (see phpMyAdmin configuration (Abschnitt 4.3.2))

Create a database called `refereemanager`, use `utf8_general_ci` collation. If you choose another name, alter your CakePHP configuration file accordingly (see CakePHP database configuration (Abschnitt 4.3.3)).

Create the database tables using the code of:

```
<...>/refereemanager-code/database/refereemanager.sql
```

Fill the database with the default configuration data of your language (skip if you want to use a database dump that contains the default values):

```
<...>/refereemanager-code/database/<lang>/defaults.sql
```

Fill the database with your data if you have some.

Important: If you fill your database with a dump, you will most likely overwrite the loaded defaults.

4.11 Start development

Everything is ready for development.

5 Ideas

- apache.conf and config.inc.php in own folder
- link apache.conf in phpmyadmin to /etc/apache2/conf-available/phpmyadmin.conf
- link conf in available to conf-enabled
- ensure directory permissions through complete path

6 Versions

6.1 v0.2

Released: 2014-05-04

- database for referees working
- output of referee lists: HTML, PDF, Excel

6.2 v0.1

Released: 2013-10-13

- no special functionality
- saving the code before introducing the new branching model ¹⁵

¹⁵ <http://nvie.com/posts/a-successful-git-branching-model/>