

# How to Setup a Mirror of Wikimedia Foundation wikis With Fedora 7

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## 1 Introduction

This guide is meant to help setup a mirror of wikipedia, wiktionary, wikibooks, ect. Essentially any Wikimedia project. The goal is to provide a server setup that can be used for public and private use.

## 2 Installation

### 2.1 Essential Software

The major software components are:

- apache (httpd) <<http://apache.org>>
- mysql <<http://mysql.com>>
- mediawiki <<http://mediawiki.org>>
- tidy <<http://tidy.sourceforge.net>>
- php5 <<http://php.net>>
- xml2sql <<http://meta.wikimedia.org/wiki/Xml2sql>>

### 2.2 Installing The Software

```
# yum install httpd mysql-server php-tidy mediawiki
```

The package manager will pull in all other dependencies such as php.

Note: xml2sql needs to be downloaded and build manually (./configure; make). It is used for importing the xml wiki dumps into the sql database.

### 2.3 Installing Extensions

Fedora does not provide a package for the required extensions. They can be downloaded from <http://svn.wikimedia.org/viewvc/mediawiki/trunk/extensions/> . The required extensions are:

- Cite.php
- Cite.i18n.php
- ImageMap.php
- ImageMap.i18n.php
- ImageMap\_body.php
- ParserFunctions.php

- ParserFunctions.i18n.php
- Expr.php
- tidy.conf

The extension should be installed into the mediawiki extensions directory. On Fedora 7 it is located at `/usr/share/mediawiki/extensions/`. On Fedora Core 6 and Red Hat Enterprise Linux it is located at `/var/www/mediawiki/extensions/`. Your distribution may have it in a different location. The layout is as follows:

- extensions/
- extensions/Cite.i18n.php
- extensions/ImageMap
- extensions/ImageMap/ImageMap\_body.php
- extensions/ImageMap/ImageMap.i18n.php
- extensions/ImageMap/ImageMap.php
- extensions/tidy
- extensions/tidy/tidy.conf
- extensions/Cite.php
- extensions/ParserFunctions
- extensions/ParserFunctions/Expr.php
- extensions/ParserFunctions/ParserFunctions.i18n.php
- extensions/ParserFunctions/ParserFunctions.php

## 2.4 Adding missing Soft Links

The mediawiki rpm will install preliminary files into `/var/www/wiki`. However it will not install a soft link for the skins directory. You will need to create this yourself in order for the wiki to render correctly.

```
# ln -s /usr/share/mediawiki/skins /var/www/wiki/skins
```

## 3 Handling Multiple Wikis

### 3.1 Before Configuration

mediawiki is capable of having multiple wikis on the same system. If you would like have multile wikis simply make a copy the preliminary directory.

For example:

```
# cp /var/www/wiki /var/www/wiki2
```

While you can have multiple wikis, each one requires a separate database. After copying the directory you will configure each the same way as in the configuration section. However, make sure you specify a different database during the configuration of each wiki.

### 3.2 After Configuration

It is also possible to add a wiki some point in the future. For instance wiki2. Make

a directory for wiki2 where your httpd data files are kept.

```
# mkdir /var/www/wiki2
```

At this point copy the configuration directory for mediawiki to this directory and make it would writable. The directory only needs to be writable for LocalSettings.php to be generated during configuration. After this is done the directory can be deleted and the writable flag removed from LocalSettings.php.

```
# cp -r /usr/share/mediawiki/config/ /var/www/wiki2/  
# chmod a+w /var/www/wiki2/config/
```

Make a directory for images.

```
# mkdir /var/www/wiki2/images
```

Add necessarily soft links.

```
# ln -s /usr/share/mediawiki/index.php /var/www/wiki2/index.php  
# ln -s /usr/share/mediawiki/skins/ /var/www/wiki2/skins/
```

At the is point the new wiki is able to be configured. Just be sure to use a different database than any current wikis.

### 3.3 InterWiki Links

Add the following to LocalSettings.php

```
$wgInterwikiMagic = true;
```

Modify the interwiki table for the SQL data base to point to any external or internal sources.

## 4 Configuration

### 4.1 httpd /etc/httpd/config/httpd.conf

A directive for the wiki directory needs to be added. It can be placed at the end of the file.

```
Alias /wiki "/var/www/wiki/"  
<Directory "/var/www/wiki">  
    Options Indexes FollowSymLinks  
    AllowOverride None  
    Order allow,deny  
    Allow from all  
</Directory>
```

## 4.2 mysql /etc/my.cnf

This does not necessarily need to be changed but a few settings are helpful to keep the memory usage under control.

```
[mysqld]
set-variable = max_allowed_packet=20M
set-variable = max_connections=500
innodb_data_file_path = ibdata1:10M:autoextend
# Set buffer pool size to 50-80% of your computer's memory
# for a server. Otherwise set to the maximum amount
# you want mysql to use
innodb_buffer_pool_size=50M
innodb_additional_mem_pool_size=40M
#
# Set the log file size to about 25% of the buffer pool size
innodb_log_file_size=12M
innodb_log_buffer_size=8M
#
innodb_flush_log_at_trx_commit=1
```

## 4.3 mysql root password

This guide assumes a new installation of mysql. As such there will be no password for mysql's root user. To set the root password (not the system user root) for mysql:

```
$ mysqladmin -u root password NEWPASSWORD
```

## 4.4 mediawiki

Point your web browser to 127.0.0.1/wiki/config. Fill in the relevant information as needed. Be sure to remember the passwords and user names you use. Especially the wiki administrator.

The important parts of the configuration are under Database config:

- Select MySQL as the database type
- Set a database name (Must be different from any existing wiki databases). If did not setup the database manually then you can select any name that is not currently taken.
- Set a database user and password (This can be the same as other wikis). If you did not setup a database user manually then you can select any name.
- If you did not setup the database or database user manually check the "Use superuser account" check box. Give the superuser name (root) and password ( the password chosen when setting the mysql root password).

Note that the language selection is for the language that the wiki software will

use not the language of the content you will be putting into it.

At this point click the “Install Mediawiki!” button. A LocalSettings.php file will be generated inside of the config directory.

Move LocalSettings.php to the root directory (the same directory as your index.php soft link) of your wiki (/var/www/wiki).

```
# mv /var/www/wiki/config/LocalSettings.php
/var/www/wiki/LocalSettings.php
```

Change the file permissions to disallow global write on LocalSettings.php.

```
# chmod 755 /var/www/wiki/LocalSettings.php
```

Delete the config directory as it is no longer needed.

```
# rm -r /var/www/wiki/config
```

Directives for Tidy and the necessary extensions must be added to the LocalSettings.php file. Without these the wiki dumps will not render correctly. Add the following to the end of the file inside of the <?php and ?> tags:

```
$wgUseTidy = true;
$wgTidyBin = '/usr/bin/tidy';
$wgTidyConf = $IP.'/extensions/tidy/tidy.conf';

require_once( "$IP/extensions/ParserFunctions/ParserFunctions.php" );
require_once( "$IP/extensions/Cite.php" );
require_once( "$IP/extensions/ImageMap/ImageMap.php" );
```

If you are setting up a mirror of wiktioary you must add the following line to allow for lower case page names. Place it in the LocalSettings.php file between the <?php and ?> tags:

```
$wgCapitalLinks = false;
```

Mediawiki is now configured and ready for use. Point your web browser to 127.0.0.1/wiki to verify it is working.

## 5 Getting Wikimedia Dumps

Wikimedia provides XML dumps of all their wikis on a regular basis. They can be obtained from <http://download.wikimedia.org/backup-index.html>. The English language Wikipedia is enwiki. The file that is most useful for a mirror is pages-articles.xml.bz2. Pages-articles is only the main article content and does not include user pages, revisions, or history. Be warned the current dump (enwiki-20070802-pages-articles.xml.bz2) is 2.7 GB and uncompresses to around 12 GB.

## 6 Importing Wiki Articles Into the Database

Decompress the xml dump.

```
$ bunzip2 enwiki-20070802-pages-articles.xml.bz2
```

generate the txt files that mysql can import using xml2sql.

```
$ xml2sql enwiki-20070802-pages-articles.xml
```

Import the data into your database.

```
$ mysqlimport -u root -p --local wikidb `pwd`/{page,revision,text}.txt
```

## 7 Updating A Wiki

The simplest way is to simply download a new dump, drop the data base and repeat the configuration and import steps.

## 8 Renaming A Wiki

### 8.1 Renaming a wiki database

To move a wiki database first stop the mysql server.

```
# /etc/init.d/mysqld stop
```

The database is kept at `/var/lib/mysql/`. To rename the database rename the directory containing it.

```
# mv /var/lib/mysql/wikidb /var/lib/mysql/wikidb33
```

Start the mysql server

```
# /etc/init.d/mysqld start
```

Update the `$wgDBname = ""`; variable in `LocalSettings` for the wiki to point to the new database location.

### 8.2 Renaming a Wiki's containing Directory

Stop httpd

```
# /etc/init.d/httpd stop
```

Move the containing directory to a new location

```
# mv /var/www/wiki/ /var/www/wiki2
```

Change the Alias and directory directives in httpd.conf to point to the new location. Also change `$wgScriptPath = ""` in LocalSettings.php to point to the new location. `$wgScriptPath` and the first path in httpd's Alias directive should be the same.

Start httpd

```
# /etc/init.d/httpd start
```

### **8.3 Renaming a Wiki**

Change the `$wgSitename = ""`; variable in LocalSettings.php.

## **9 Un-installation**

### **9.1 Removing the database**

To delete the database and remove the content contained in it first open the mysql command prompt.

```
$ mysql -u root -p mysql
```

Within the mysql command prompt issue the drop command on the database.

```
> DROP DATABASE wikidb;
```

### **9.2 Removing the httpd files**

Delete the directory you have installed mediawiki into.

```
# rm -r /var/www/wiki
```

### **9.3 Removing the installed components**

Use the package manager to remove un-needed components

```
# yum remove httpd mysql-server php mediawiki tidy
```

Delete any installed themes, extensions and any other files that were not originally installed by the package manager.

```
# rm -r /usr/share/mediawiki
```