

How to install your own SSL certificates

Introduction	1
Step 1: Obtain your own SSL certificates for your domain.....	2
Step 2: Copy the certificates to your AMI	2
Step 3: Configure Apache	3
Step 4: Test it out	4

Introduction

This guide is for Symetricore products that come preconfigured with self-signed SSL certificates.

This should be in the documentation for the product. A simple test of whether this is the type of product can be made by the way you access the product. If you are using web access that is something like this URL:

<http://a.b.c.d>

then you are not using SSL. If you access the product using the URL:

<https://a.b.c.d>

Then you are using SSL.

The self-signed certificates cause the warning with web browsers about trust issues etc. We are going to replace these certificates with ones you have obtained from a certificate authority. Interestingly the level of security as far as the way your data is encrypted over the internet is the same. The difference is getting rid of the browser warning and the display of the padlock symbol on your webpage.

You will also need to have a domain name to use with your certificate. You'll also need to use an elastic IP address or DDNS to point your DNS to.

You may or may not decide this is worth the extra cost.



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Step 1: Obtain your own SSL certificates for your domain

A quick internet search for SSL certificates should reveal many folks offering SSL certificates. You can use certificates from companies like Comodo, Symantec, Verisign or anywhere else you might want to shop. These instructions should be used in conjunction with any information from your certificate issuer.

Some certificate vendors might supply certificates that might need to be concatenated into one certificate file, this is the case with Comodo who we use for our certificate for example. You should end up with three files called something like the following. Obviously substituting the name of your domain certificate.

```
yourdomain.com.crt  
yourdomain.com.key  
yourdomain.com.cer
```

Step 2: Copy the certificates to your AMI

You need to copy over your certificates to the AMI you want to install them on. You can use sftp to copy the files over. This command looks very similar to the ssh command that you might already use to connect to your box.

```
sftp -i mycert.pem ubuntu@a.b.c.d
```

Use the sftp command 'put' to copy the files over from your local machine.

```
put yourdomain.com.crt  
put yourdomain.com.key  
put yourdomain.com.cer
```

Next you will need to connect to your box to copy over the certificates to the right location for apache to use them. Connect to your instance.

```
ssh -i mycert.pem ubuntu@a.b.c.d
```

Copy over the files to the apache ssl directory.

```
sudo cp yourdomain.com.crt yourdomain.com.key yourdomain.com.cer  
/etc/apache2/ssl
```

Step 3: Configure Apache

Edit the SSL configuration file by doing.

```
sudo nano /etc/apache2/sites-enabled/default-ssl.conf
```

If you scroll down a few lines in the file you should see something like this.

```
# A self-signed (snakeoil) certificate can be created by
installing
# the ssl-cert package. See
# /usr/share/doc/apache2/README.Debian.gz for more info.
# If both key and certificate are stored in the same file,
only the
# SSLCertificateFile directive is needed.
SSLCertificateFile /etc/apache2/ssl/apache.crt
SSLCertificateKeyFile /etc/apache2/ssl/apache.key
```

We are interested in the lines in red above. They configure apache to point to the default self-signed certificates that we provide with our products. These are the ones we are going to replace.

Comment out the default certificates and underneath enter the following. Obviously substituting the name of your domain certificate.

```
# A self-signed (snakeoil) certificate can be created by
installing
# the ssl-cert package. See
# /usr/share/doc/apache2/README.Debian.gz for more info.
# If both key and certificate are stored in the same file,
only the
# SSLCertificateFile directive is needed.
#SSLCertificateFile /etc/apache2/ssl/apache.crt
#SSLCertificateKeyFile /etc/apache2/ssl/apache.key

# Updated for real certificates
SSLCertificateFile /etc/apache2/ssl/yourdomain.com.crt
SSLCertificateKeyFile /etc/apache2/ssl/yourdomain.com.key
SSLCACertificateFile /etc/apache2/ssl/yourdomain.com.cer
```

Lastly we need to restart apache for it to recognize the new configuration.

```
sudo service apache2 restart
```



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Step 4: Test it out

Now when you go to your product via your web browser you no longer see the warning about the certificate being invalid. You should also see the padlock symbol in the browser. Depending on the browser you can click on it and examine the certificate.

Note that you'll need to access your product using the domain name you have in the certificate. That is using `https://www.yourdomain.com` rather than using the IP address of the server. This means you will also need configure the DNS for your domain name to go to the correct public IP address.

You can still access your instance via the public IP address but you'll most likely encounter certificate issues.

Manual:Moving a wiki

From MediaWiki.org

This page explains how to **move a wiki to another server**. This is often needed when moving to a different web server or domain (or both).

(Note: if you are looking to just move your wiki e.g. from /var/www/html/ to /var/www/html/mywiki/ instructions are here (<http://stackoverflow.com/questions/4763909/mediawiki-on-subdirectory-and-subdomain>)).

Contents

- 1 Versions and upgrading
 - 1.1 File transfer
- 2 Overview
 - 2.1 Back up the database
 - 2.1.1 Extract uploaded files (images)
 - 2.2 Set up the destination database
 - 2.3 Import the database backup
 - 2.3.1 Possible methods
 - 2.4 Import the MediaWiki files
 - 2.4.1 Notes
 - 2.5 Update the configuration file
 - 2.6 Test
- 3 Frequent problems
- 4 See also
- 5 External links
- 6 Notes

Versions and upgrading

The instructions on this page should apply more or less evenly to any given version of MediaWiki. Ensure, prior to moving, that any upgrading of the software and database schema is done. You should only move a database into another MediaWiki installation if they both run the same MediaWiki version. If you need to do both, moving *and upgrading MediaWiki*, make sure to upgrade before migrating to a different web server.

File transfer

Choose a method for transferring files:

- SCP (<http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html>) or WinSCP
- SSH File Transfer Protocol (SFTP)
- Using an FTP client.
- Using rsync
- The hosting company might provide a file manager interface via the web browser, check with your provider.
- Some other method, there is a list of these at [Wikipedia:List of file transfer protocols](#)

Overview

1. Back up the database
2. Back up the MediaWiki files
3. Re-create the database, user and permissions
4. Import the database backup
5. Import the MediaWiki files
6. Check the configuration file
7. Test

Back up the database

To move or copy your wiki, you need to start by making a backup of everything. You should probably copy at least the following:

- The wiki's database content. See [Manual:Backing up a wiki](#).
- Images and other media files, i.e., the contents of the images and if modified any files from the skins directory.
- Favicon and .htaccess files.
- Configuration files, e.g., LocalSettings.php and (on older wiki's maybe AdminSettings.php as well).
- The contents of the extensions folder.

TIP: Wiki in read only mode

Before you start the backup your wiki, you may want to put it under "read-only" mode so that nobody can edit it while you are moving it. If you don't, you might lose edits/uploads/logs etc. that were made during the migration process. To do this, use `$wgReadOnly` in `LocalSettings.php`. For example:

```
-----
$wgReadOnly = 'Down for maintenance, access will be restored shortly';
-----
```

Extract uploaded files (images)

Requires shell access to the server:

- Go to the maintenance directory
- Create a subdirectory backup
- Use `DumpUploads.php` to extract the location of the uploaded images

```
php dumpUploads.php > listOfMediafiles.txt
```

- The content in `listOfMediafiles.txt` looks like

```
mwstore://local-backend/local-public/7/7a/STAT-Folnode6_c_3.gif
mwstore://local-backend/local-public/9/90/STAT-Folnode6_c_4.gif
mwstore://local-backend/local-public/d/d9/STAT-Folnode6_c_5.gif
...
```

- Replace in a editor `mwstore://local-backend/local-public/` with the (absolute) path to the `/my/wiki/images/` to have a file list
- Call

```
xargs -a listOfMediafiles.txt cp -t /my/wiki/maintenance/backup
```

- Now your uploaded files/images are in the backup directory and can be copied and reimported with `importImages.php`

Set up the destination database

On the destination server, create a new MySQL database and a user, and grant that user permissions on the database. `SELECT`, `INSERT`, `UPDATE` and `DELETE` permissions should suffice. You also need `DROP`, `CREATE` and `ALTER` to import the data base. You may need to consult the MySQL documentation (<http://dev.mysql.com/doc/>), your hosting provider's control panel documentation, or the documentation of any other utilities you are using for information on how to do this.

Note: The destination database may have a different name, user and/or password. If that is the case, you only have to update the configuration file on the new server (after you completed the following steps, though).

Import the database backup

The next step is to import the database backup. This creates the tables in the database and populate them with data. Duplicating the database on the other server. Importing takes a variable amount of time, depending upon the number of pages, users, edits, etc. in the wiki.

Possible methods

See [Manual:Restoring a wiki from backup](#) for the full details. Possible methods for performing the import include:

- From the command line using `mysql`
- With `phpMyAdmin` via a web browser (not recommended for large databases due to potential timeout problems that could leave the database only partially imported, and perhaps in an inconsistent state, e.g., with revision metadata imported but not the corresponding revision text)

- From an XML dump
- Using BigDump (<http://www.ozerov.de/bigdump/>) if you don't have command-line access and your MySQL administration tool has an upload size limit that is lower than the size of your database.

Import the MediaWiki files

The final "large" step in the moving process is to upload/copy the MediaWiki files (the "wiki" folder) to the destination server. If you followed the instructions above, and backed up the entire directory, this includes the images and extensions directories, plus custom skins, etc. and the configuration file.

If you backed up only portions of the directory, e.g. images, extensions, etc. then you must first upload or copy a fresh install of the MediaWiki files, then transfer the backed-up directories and files into the correct locations in the new filesystem.

Notes

- If following the latter process, ensure that your "fresh install" consists of the same version of MediaWiki as the old one did
- Check that the `upload/` directory (called `images/` in MediaWiki 13 and below) has the correct permissions set if using uploads; it must be writable by the web server.
- Make sure any extension directories have the correct permissions as well (e.g., if linux: `chmod -R o=rx extensions` or `chmod -R o=rx includes`)
- When manually transferring a wiki from a windows platform to a Linux platform the best method is to:
 1. Manually installing wikimedia on the Linux platform from a tar file as outlined here: [Manual Install of Wiki](#) (i.e., try not to use install from a automated package)
 2. Replacing the newly installed wikimedia folder (e.g., `/var/www/mediawiki...`) on your Linux machine with the wikimedia base folder from your windows machine
 3. Updating your Linux machine's MySQL Database (e.g. `wikidb`) with the wiki database from your windows machine (i.e., use the backup and restore features of `mysql` as outlined above)
- After importing a wiki database, even if the database can work, some minor problems may arise:
 1. You might need to repair Searchindex: In phpMyAdmin, enter "REPAIR TABLE `wikidb.searchindex`;" for rebuilding the search index. `wikidb` is your database's name.
 2. The collation of some rows may be changed. Cross check it with the original database.

Update the configuration file

The final step is to update the `LocalSettings.php` file. Certain entries in this will almost undoubtedly require changing.

Check the following configuration options:

Configuration option	Description	Default/Example
\$IP	Usually this is set automatically. However if you set it manually, it must be updated to absolute local file path to the MediaWiki directory on the new server.	Default: <pre>;\$IP = dirname(__FILE__);</pre>
<code>\$wgServer</code>	Needs to match the hostname of where the new wiki is served from (must not have a path, that's for <code>\$wgScriptPath</code>)	Example: <pre>;\$wgServer = 'http://example.org';</pre>
<code>\$wgScriptPath</code>	Needs to match the public url to where the MediaWiki directory is on the new server	Example: <pre>;\$wgScriptPath = '/w';</pre>
<code>\$wgArticlePath</code>	Needs to match where wiki pages are now primarily read from. See also Manual:Short URL if you have short urls set up to make sure that still works.	Examples: <pre>;\$wgArticlePath = '/w/index.php?title=\$1'; ;\$wgArticlePath = '/wiki/\$1';</pre>
<code>\$wgDBserver</code>	The hostname to the new database server.	Example: <pre>;\$wgDBserver = 'localhost';</pre>
<code>\$wgDBname</code>	The name of the database. Be sure that this includes any prefixes that your (new) hosting provider may have enforced.	Example: <pre>;\$wgDBname = 'igot_mwiki';</pre>
<code>\$wgDBuser</code>	The username that MediaWiki should use to login on the database server.	Example: <pre>;\$wgDBuser = 'igot_mwiki';</pre>
<code>\$wgDBpassword</code>	The password for the (new?) <code>wgDBuser</code> .	Example: <pre>;\$wgDBpassword = 'xxxxxxx';</pre>

You might also need to check the paths to `diff3`, `ImageMagick`, etc.

Test

At this point, try to use the wiki on the new server. Log in as a sysop and a regular user and check that viewing, creating and editing pages and uploading files still works. Fix any problems reported either by PHP or MediaWiki itself.

Frequent problems

Inaccessible files after the changing the domain

The column `md_deps` in the `module_deps` table contains absolute file paths, which are used to locate the images and LESS files that CSS depends on. These paths break when the wiki is, e.g., moved to another folder or another server. After your move, you might see PHP warnings that certain files could not be accessed. In current versions of MediaWiki, this can be solved by running `update.php`, thus clearing caches.

In versions older than MediaWiki 1.25 (where `phabricator:T37472` is not implemented), `update.php` does not delete the contents of the `module_deps` table. For these versions, the workaround is to *manually* fix wrong entries in the `module_deps` table:

```
-- Update entries in module_deps table
SET @old='wiki.old-domain.org';
SET @new='wiki.new-domain.org';

UPDATE `module_deps` SET `md_deps` = REPLACE( `md_deps`, @old, @new );
```

This can be used to update wrong path segments and to fix the error.

A similar issue can happen when MediaWiki tries to read resource loader messages. In this case the solution is to truncate the according tables:

```
-- Truncate message related caches
TRUNCATE TABLE `msg_resource`;
TRUNCATE TABLE `msg_resource_links`;
```

See also

- Manual:Restoring a wiki from backup
- Manual:Upgrading
- Manual:Backing up a wiki
- Manual:Installing MediaWiki
- Manual:Restoring wiki code from cached HTML (if you don't have a successful backup)
- Manual:importImages.php
- Manual:Short URL#Moving a wiki from `/wiki` to `/w` (change the installation directory of your wiki)

External links

- Detailed instructions on 'Migrating to a new server'

Notes

Language:	English • 日本語
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Retrieved from "https://www.mediawiki.org/w/index.php?title=Manual:Moving_a_wiki&oldid=2140211"

Categories: [MediaWiki administration](#) | [MediaWiki for site admins](#) | [Import/Export](#)

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MediaWiki User Guide

en.wikibooks.org

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Contents

1	MediaWiki User Guide/Print version	3
2	Text Formatting	5
2.1	HTML	5
2.2	Source code	6
3	Hyperlinks	7
3.1	Internal hyperlinks	7
3.2	External hyperlinks	7
3.3	Redirecting	7
4	Sections and Headings	9
4.1	Start level: 2	9
4.2	Maximum level: 6	9
4.3	Spaces	9
4.4	Table of contents	10
4.5	Headings not in TOC	10
4.6	Customizing TOC	10
4.7	Editability of sections	10
5	Lists	11
6	Tables	13
7	Images	15
7.1	Placing images	15
7.2	Galleries	15
7.3	Uploading images	16
8	Categories	17
8.1	Linking	17
8.2	Templates	17
9	Templates	19
9.1	Parameters	19
9.2	Documentation	19
9.3	Control structures	19
9.4	Transcluding any page	20
9.5	Substitution	20
10	References	23

11 Mathematics	25
11.1 Examples	25
11.2 Greek and symbols	26
12 Namespaces	27
13 Glossary	29
13.1 C	29
13.2 N	29
13.3 P	29
13.4 W	29
14 Contributors	31
List of Figures	33
15 Licenses	37
15.1 GNU GENERAL PUBLIC LICENSE	37
15.2 GNU Free Documentation License	38
15.3 GNU Lesser General Public License	38

1 MediaWiki User Guide/Print version

This is a user guide to MediaWiki, the software that runs Wikipedia, Wikibooks and other Wikimedia projects. The book focuses on Mediawiki markup. Topics out of scope of the book include administration and development of Mediawiki.

2 Text Formatting

The following is an overview of text formatting available in Mediawiki:

Basic text formatting		
Formatting	Markup	Note
Boldface	<code>'''text'''</code>	
Italics	<code>''text''</code>	
Boldface and italics	<code>''''text''''</code>	
Boldface combined with wikilink	<code>'''[[text]]'''</code>	The reverse order of ticks and brackets does not work: <code>[['''text''']]</code>

Other text formatting such as underline or blockquote needs to be done using HTML tags, including U for underline, TT for typewriter text, S for strikethrough, SUB for lower index and SUP for upper index.

2.1 HTML

Text formatting can also be done using HTML and CSS. Some of the most useful HTML elements are:

Most needed HTML markup		
Task	Markup	Note
Preformatted text	<code><pre> preformatted </pre></code>	The effect in wiki differs from the one in HTML; in wiki, the text within the PRE element is treated as within NOWIKI element, leaving all the HTML and wiki markup uninterpreted.
Blockquote	<code><blockquote>Longer passage.</blockquote></code>	
Comments	<code><!-- comment --></code>	Avoid nesting, such as <code><!-- <!-- - comment --> --></code>
Generic inline element	<code></code>	Can be styled arbitrarily using cascading style sheets - CSS.
Generic block element	<code><div style="TODO"></div></code>	Can be styled arbitrarily using cascading style sheets - CSS.

Some HTML elements are not allowed, such as A and IMG.

2.2 Source code

Source code of various programming and markup languages can be formatted using `<source>` element, which leads to **colored syntax** of the code. An example of wiki markup:

```
<source lang="html4strict">
<html>
  <body>
    <p>Hello <span style="font-weight: bold;">world</span>!
    </p>
  </body>
</html>
</source>
```

The rendering of that markup:

```
html
  body
    pHello span style="font-weight: bold;"world/span!
  /p
/body
/html
```

3 Hyperlinks

There are two types of hyperlinks in MediaWiki: internal, also called wikilinks, and external.

3.1 Internal hyperlinks

Task	Markup	Note
Internal hyperlink	[[keyword]]	
Internal hyperlink 2	[[keyword]]s	
Internal hyperlink to a section	[[keyword#section_heading link title]]	
Internal hyperlink showing a different word	[[keyword its appearance]]	
Internal hyperlink with a tooltip	[[keyword its appearance]]	
Internal hyperlink in bold	'''[[keyword]]'''	

3.2 External hyperlinks

Task	Markup	Note
External hyperlink	[URL_containing_no_spaces title of the URL]	

3.3 Redirecting

Readers and editors from different backgrounds search for the same topic under different titles, such as TODO. To avoid replication of similar content and confusion of editors and readers, the editors of a wiki website usually choose one topic title as the authorized one, under which the content is to be created, and let one or more alternative topic titles redirect to it. To **let a page title redirect** to another one, create a page with the unauthorized (or minor) title, containing only the following text:

```
#REDIRECT [[Authorized topic title]]
```

An alternative markup; notice the additional ":":

```
#REDIRECT: [[Authorized topic title]]
```

If an unauthorized topic title has more possible target authorized topic titles, redirecting does not do. In that case, a **disambiguation page** can be created, such as:

The term `'''unauthorized term'''` may refer to:

- * `[[Authorized topic title 1]]`
- * `[[Authorized topic title 2]]`

The exact wording depends on the kind of content of the wiki website.

4 Sections and Headings

Headings are created using sequences of "=" characters, placed before the heading title and after the heading title, on the same line. The level of headings is determined by the number of "=" characters. Examples:

Level	Example
2.	==Plants==
3.	===Plants===
4.	====Plants====

4.1 Start level: 2

Do not use headings of level 1, such as "=Title="; start with level 2 instead. The heading at level 1 is used for the title of the page.

4.2 Maximum level: 6

The maximum level of a heading is 6, rendered using =====Heading L6===== . Entering a heading with 7 equals-signs such as =====Heading L7===== results in the creation of a heading of the level 6, with one equal-sign becoming part of the text of the heading: "=Heading L7=".

4.3 Spaces

Depending on the convention that users and editors adopt, there can be any number of spaces between the "=" characters and the title. An example without spaces:

```
==Plants==
```

An example with spaces:

```
== Plants ==
```

4.4 Table of contents

By default, the titles of headings appear in the table of contents, shown at the top of the page. To prevent having a table of contents, put the "`__NOTOC__`" sequence of characters into the page. To force the presence of table of contents on a specific place of the page, use "`__TOC__`".

4.5 Headings not in TOC

There is no simple way to make a heading not appear in the table of contents. For a complex way requiring the adjustment of the MediaWiki software, see [Meta:Help:Section](#)¹.

4.6 Customizing TOC

There are various ways how to customize the table of contents. For instance, to place it to the right, use:

```
<div style="float:right; clear:both; margin-left:0.5em;">__TOC__</div>
```

4.7 Editability of sections

By default, all sections are editable separately, without the need to see the complete text of the page. To make all the sections on a page non-editable, place `__NOEDITSECTION__` anywhere on the page. There is no simple way to make a single section non-editable, AFAIK.

¹ <http://en.wikibooks.org/meta.wikimedia.org/wiki/Help:Section>

5 Lists

Lists formatting: Bullet lists:

```
* a
** b
** c
*** d
```

Numbered lists:

```
# a
## b
## c
### d
```

Definition lists:

```
; defined term : definition
; defined term 2 : definition 2
```

Mixed lists:

```
* a
*# b
*# c
```

Lists inside tables:

```
{|
! Heading a
! Heading b
|-
|
* a1
* a2
|
|}
```


6 Tables

Tables:

```
{|
|+ Caption of the table
! Heading 1
! Heading 2
|-
| Cell 1 in row 1
| Cell 2 in row 1
|-
| Cell 1 in row 2
| Cell 2 in row 2
|}
```

Dense format:

```
{|
|+ Caption of the table
! Heading 1
! Heading 2
|-
| Cell 1 in row 1 || Cell 2 in row 1
|-
| Cell 1 in row 2 || Cell 2 in row 2
|}
```

Lists in tables:

```
{|
! Heading a
! Heading b
|-
|
* a1
* a2
|
|}
```


7 Images

Mediawiki supports the use of images in various formats. In order to be used in a wiki, image first needs to be uploaded, to which we come later.

7.1 Placing images

The following is an overview of placing images into pages, such images that have already been uploaded.

Placing of images			
Task	Markup	Default Frame	Note
Image	[[Image:image_name.png]]	No	The image is shown in its full size as found in the file.
Image with thumb	[[Image:image_name.png thumb caption text of the image.]]	Yes	Thumbs are always scaled down so as not to exceed an upper limit on the size.
Image without thumb, with restricted size	[[Image:image_name.png 150px]]	No	

Location:

- 'right'
- 'left'
- 'center'
- 'none'

7.2 Galleries

Images can be put into a gallery as follows. Notice the absent "[[" and "]" around the names of the image files.

```
<gallery>
Image:name_1.png
Image:name_2.jpeg
</gallery>
```

Images in galleris can be given captions, as follows.

```
<gallery>
Image:name_1.png | Caption 1.
Image:name_2.jpeg | Caption 2.
</gallery>
```

7.3 Uploading images

To do:
Create this section.

8 Categories

Pages in wiki can be put into categories, by placing a category assignment anywhere in them. An example:

```
[[Category:Birds]]
```

Categories have their own namespace "Category:", and are pages of sorts too. A category can be put into another category, so the categories can form a hierarchy or other structures. A list of uncategorized pages can be shown by Mediawiki software. There is no easy way to rename a category; all its pages need to be edited and the line of category assignment changed.

8.1 Linking

A wikilink to a category needs to start with ":", such as

```
See also [[:Category:Birds]]
```

Otherwise, the page is put into the category instead of linking to it, and the wikilink is not shown.

8.2 Templates

Categories can be used in templates, just like in mainspace pages. However, when you put a category assignment into a template, all the pages using that template become a member of that category. That is sometimes the required effect, but it may be unwanted, for instance when you want to categorize the templates rather than the pages that use the templates. For that case, embrace the category assignment into `<noinclude>` tag, such as:

```
<noinclude>  
[[Category:Maintenance templates]]  
</noinclude>
```


9 Templates

Templates provide a means to repeat the same text on several pages. More advanced templates make use of parameters, and even of control structures as found in programming languages. That said, basic templates are quite easy to create, requiring no knowledge of programming. Templates have their own "Template:" namespace. To create a template called "header", edit the page "Template:header" and place the text to be repeated into that template. To use the template in a page, type "`{{header}}`". What marks the use of the template are the "{" and "}" characters, also known as curly brackets. To replace the name of the template with its contents directly in the source wikitext before the text is saved, use "`{{subst:header}}`".

9.1 Parameters

Templates can have unnamed and named parameters. The unnamed parameters are automatically numbered. To use an unnamed parameter inside a template, refer to it using `{{{1}}}`, `{{{2}}}`, and the like. Notice the *three* curly brackets. To use a named parameter inside a template, refer to it using the same curly brackets and the name, instead of a number, like `{{parameter_name}}`. To pass a parameter to a template when you use it in a mainspace page:

```
{{header|apple}}
{{header|parameter=apple}}
```

To pass equality sign (=) in the value of an unnamed parameter, you need a workaround: use, for the parameter number one, `{{template|1=text=with=equality=sign}}`.

9.2 Documentation

Templates that are to be used by many users are worth documenting. One option is to document them on their talk pages. Another is to document them in their main text, and surround the documentation with `<noinclude>` tag. A plus of placing the documentation to the talk page is that the wiki software does not need to parse the documentation when a user changes the template.

9.3 Control structures

Control structures such as *if* and *switch* are available, if the `ParserFunctions`¹ extension of MediaWiki is installed.

¹ <http://en.wikibooks.org/www.mediawiki.org/wiki/Extension:ParserFunctions>

Overview of control structures		
Keyword	Syntax	Note
#SWITCH	<pre> {{#switch: <comparison value> <value1> = <result1> <value2> = <result2> ... <valuen> = <resultn> <default result> }}</pre>	
#IF	<pre> {{ #if: <condition string> <code if true> }} {{ #if: <condition string> <code if true> <code if false> }}</pre>	The condition string is considered true if it is non-empty and not consisting only of whitespace.
#IFEQ	<pre> {{ #ifeq: <text 1> <text 2> <code if equal> }} {{ #ifeq: <text 1> <text 2> <code if equal> <code if not equal> }}</pre>	
#IFEXISTS	<pre> {{ #ifexist: <page name> <wikitext if page exists> <wikitext if page does not exist> }}</pre>	

9.4 Transcluding any page

Above, you have learned how to use a template, that is, to let MediaWiki replace the name of the template surrounded by curly brackets with the contents of the template. In similar fashion, you can *transclude* any page, not just a template, by writing the following:

```
{{:Pagename}}
```

This works for pages in the mainspace. To include any page in any namespace, use:

```
{{Namespace:Pagename}}
```

The use of a template is in fact a special case of this use, just that, as you do not specify any namespace, the Template namespace is used as the default one. This does not work with some namespaces, such as the Special and Category namespaces.

9.5 Substitution

The method of using templates described in the preceding sections leads to an *inclusion* of templates, meaning that the source text of the page contains the name of the template surrounded by curly bracket, not its content. There is however another use of templates, in which the content of the template is

written directly into the wiki page before the page is saved. This use is called *substitution* and is achieved as follows:

```
{{subst:Template}}
```

In a more advanced use, it may be required that control structures such as #if that are present in the substituted template are substituted too, which would seem to be achieved using {{subst:#if ...}}. However, this would lead to a substitution at the time of saving the template, which is undesirable. A solution: {{<includeonly></includeonly>subst:#if ...}}.

10 References

References can be used to cite sources. To **refer to a source** in the middle of the text, follow this example:

```
<ref name="Ref06">Reference text</ref>
```

or if a named reference has already been used before in the same page:

```
<ref name="Ref06"/>
```

To **list all the sources referred** to in the text, after a second level heading titled "References":

```
==References==  
<references/>
```


11 Mathematics

You can enter mathematical formulas into a wiki, using a `math` tag, such as:

```
<math>\sqrt{2}</math>
```

The formulas are marked up in the TeX markup, the markup of a complex typesetting system specialized on mathematics. Before you start writing formulas in this markup, you can consider writing the simpler ones in HTML and wiki markup, such as:

$$f(x) = b + c / d$$

which is marked up as

```
''f''(x) = ''b'' + ''c'' / ''d''
```

11.1 Examples

To get started, follow the examples below.

Examples of mathematical markup		
No.	Desired Effect	Markup
1.	α	<code><math>\alpha\, \!</math></code>
2.	$\sqrt{2}$	<code><math>\sqrt{2}</math></code>
3.	$\sqrt{1-e^2}$	<code><math>\sqrt{1-\hat{e} 2}</math></code>
4.	$\frac{2}{4} = 0.5$	<code><math>\frac{2}{4}=0.5</math></code>
5.	$\sum_{k=1}^N k^2$	<code><math>\sum_{k=1}^N \hat{k} 2</math></code>
6.	$\int_1^3 \frac{e^3/x}{x^2} dx$	<code><math>\int\limits_{1}^{3}\frac{\hat{e} 3/x}{\hat{x} 2}\, dx</math></code>
7.	$\begin{bmatrix} 0 & \cdots & 0 \\ \vdots & \ddots & \vdots \\ 0 & \cdots & 0 \end{bmatrix}$	<pre><math>\begin{bmatrix} 0 & \cdots & 0 \\ \vdots & \ddots & \vdots \\ 0 & \cdots & 0 \end{bmatrix} \end{bmatrix}</math></pre>

Examples of mathematical markup		
8.	$\begin{pmatrix} x & y \\ z & v \end{pmatrix}$	<pre><math>\begin{pmatrix}x & y \\ z & v\end{pmatrix}</math></pre>

11.2 Greek and symbols

There is a way of marking up Greek characters and special symbols, as the following table shows.

Markup of Greek alphabet and some symbols	
Desired Effect	Markup
α β γ δ ε ζ η θ ι κ λ μ ν ξ ο π ρ σ ς τ υ φ χ ψ ω Γ Δ Θ Λ Ξ Π Σ Φ Ψ Ω	<pre>&alpha; &beta; &gamma; &delta; &epsilon; &zeta; &eta; &theta; &iota; &kappa; &lambd; &mu; &nu; &xi; &omicron; &pi; &rho; &sigma; &sigmaf; &tau; &upsilon; &phi; &chi; &psi; &omega; &Gamma; &Delta; &Theta; &Lambda; &Xi; &Pi; &Sigma; &Phi; &Psi; &Omega;</pre>
$\int \sum \prod \sqrt{-\pm \infty}$ $\approx \alpha = \equiv \neq \leq \geq$ $\times \cdot \div \partial ' "$ $\nabla \% \circ \cdot \cdot \emptyset \emptyset$ $\in \notin \cup \cap \supseteq \subseteq$ $\neg \wedge \vee \exists \forall$ $\Rightarrow \Leftrightarrow \rightarrow \leftrightarrow \uparrow$ $\aleph \text{---}$	<pre>&int; &sum; &prod; &radic; &minus; &plusmn; &infin; &asymp; &prop; {=} &equiv; &ne; &le; &ge; &times; &middot; &divide; &part; &prime; &Prime; &nabla; &permil; &deg; &there4; &oslash; &oslash; &isin; &notin; &cap; &cup; &sub; &sup; &sube; &supe; &not; &and; &or; &exist; &forall; &rArr; &hArr; &rarr; &harr; &uarr; &alefsym; - &ndash; &mdash;</pre>

12 Namespaces

Namespace is the part of the name of the page before the first ":". The typical page has no ":" in its name, and is thus said to be in the *main space*. Some namespaces--native ones--are automatically created by the MediaWiki software while others can be created by the administrators of the particular wiki site. The native namespaces include "Talk:", "User:", "Category:", "Template:", and others; they total 18 namespaces. When searching the wiki, you can restrict the search to a particular namespace.

13 Glossary

This is a glossary of the book.

13.1 C

category

TODO

13.2 N

namespace

The part of the name of the page before the first ":".

13.3 P

pipelink

An internal link or interwiki link where the link target and link label are both specified.

13.4 W

wikilink

An internal link; a link pointing to another page of the same wiki or knowledge base, marked up using `[[target word]]`, contrasting to links to other web sites.

wikitext

Text containing wiki markup, such as `"'text'"` for boldface.

Category¹:

- [MediaWiki User Guide](#)²

¹ <http://en.wikibooks.org/wiki/Special:Categories>

² http://en.wikibooks.org/wiki/Category:MediaWiki_User_Guide

14 Contributors

Edits	User
8	Dan Polansky ¹

¹ http://en.wikibooks.org/wiki/User:Dan_Polansky

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² Chapter 15 on page 37

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