

# Using Subversion to keep TYPO3 installations up to date

BY MICHAEL STUCKI

*When a new TYPO3 update is released, administrators usually have to download a file which needs to be extracted on their servers. This tutorial explains an alternative solution which uses Subversion for this task.*

## Index of Contents

<b>Using Subversion to keep TYPO3 installations up to date</b> .....	<b>1</b>
Intended Audience.....	1
What is Subversion.....	1
Using Subversion for maintaining TYPO3.....	1
Advantages of using Subversion.....	2
Disadvantages of using Subversion.....	2
<b>Installation</b> .....	<b>3</b>
Prerequisites.....	3
<b>Usage</b> .....	<b>4</b>
First checkout.....	4
Change to a new version.....	5
Additional possibilities.....	6
<b>Appendix</b> .....	<b>7</b>
Naming scheme of branches and tags.....	7
Further reading.....	7
FAQ.....	7
ChangeLog.....	7
About the author.....	7

## Intended Audience

This tutorial explains how to keep TYPO3 installations up to date using simple Subversion commands. It is written for server administrators who want to use a more flexible way to update their TYPO3 installations.

## What is Subversion

Subversion is a revision control system. It is used by developers to maintain their source code, allowing them to store all changes to their project files.

For more information about Subversion, please read the article on Wikipedia:

[http://en.wikipedia.org/wiki/Apache\\_Subversion](http://en.wikipedia.org/wiki/Apache_Subversion)

## Using Subversion for maintaining TYPO3

The TYPO3 core team uses Subversion not only to versionize their development. They also create so-called branches and tags for every TYPO3 release. This means, when TYPO3 4.3.4 was released, all contents of it have already been in the Subversion branch for TYPO3 4.3, and a tag was created with exactly the same contents.

Now, to update TYPO3 on a website, users traditionally would have to perform the following steps:

1. Download the release archive (either a .tar.gz or a .zip file)
2. Copy the file to the server
3. Extract the file on the server
4. Replace the old version (either by replacing the folders, or by changing symlinks)

(I'm skipping the Install Tool part as this is not needed for patch-level releases – see <http://typo3.org/teams/core/resources/release-workflow/> for more about our release workflow.)

Now using Subversion, this whole procedure can be replaced by one simple command:

```
$ svn update
```

(Well, this is the basic example. It can work like this but the command you will have to run may be different. Scroll down in this document to see what need to run exactly.)

As you see, this is a very simple step which gives you quite a lot of nice advantages:

## Advantages of using Subversion

- **Fast updates**  
Updating to a new version is very simple and fast.
- **No risks**  
Although Subversion is mainly used as a development tool, the tags are in no way less stable than the release builds. Actually, they are exactly the same, since the releases are built from the same source.  
  
(TYPO3 is developed in different branches, and development of new features happens in a separate branch which is actually named "trunk". The release branches, however, contain only bugfixes which have passed our review process.)
- **Access to the latest changes**  
TYPO3 development is always ongoing, and changes to it can be accessed by everyone even before a new release is built. For example, if you reported a bug, and the developer replied that this is now fixed in Subversion, you can already update your repository and don't need to wait until the new version is released.
- **Preservation of custom modifications**  
Subversion can tell you if there are any modifications made to your existing TYPO3 source code, and they will be preserved when changing to a new release. Note that it is absolutely NOT recommended to modify the TYPO3 source code. Only do this if you know what you're doing. Conflicts are likely to occur, and while it's rather simple to solve them, I will not encourage you to do it by explaining it here... :-)
- **Access to old releases**  
With Subversion you can easily switch to an older version. For example, if you notice a breaking change in a new version, you can easily downgrade to the previous release.

## Disadvantages of using Subversion

- **Subversion client needs to be installed**  
The webserver needs to have Subversion installed
- **Server needs to have Internet access**  
It may sound silly but there may be webserver which have to connect through a proxy to other sites on the Internet. This is possible but beyond the scope of this article. Please refer to the Subversion FAQ for more information about it.
- **Requires shell access**  
The procedure explained here will require shell access to the webserver. Administrative privileges are not needed except for installing the Subversion program.

# Installation

## Prerequisites

This tutorial is designed for Debian Lenny servers and utilizes the command-line Subversion client. It should work well on any other server which has Subversion installed.

You can check if Subversion is installed by running the following command:

```
$ svn --version
```

If this is not the case, Debian and Ubuntu users can install it by installing the “subversion” package:

```
$ sudo apt-get -u install subversion
```

Similar to a webserver, Subversion consists of a server and a client component. Both are shipped with this package. However, since only the client will be needed for this tutorial, you can skip any further configuration. The Subversion client is immediately ready to be used.

# Usage

## First checkout

With Subversion, you will have to run an initial checkout of your project. To do so, open a terminal and change to the directory where you want to have your TYPO3 source code:

```
$ cd /var/www/typo3/
```

Choose your preferred version (see Appendix, naming scheme) and check it out. The last parameter defines the name of the directory where the contents will be written to:

```
$ svn checkout https://svn.typo3.org/TYP03v4/Core/tags/TYP03_4-4-0 TYPO3_4-4.svn
```

Replace your existing “typo3\_src” symlink so it points to this new folder:

```
$ cd /var/www/www.example.com/
$
$ ls -l
drwxr-xr-x 10 example example 4096 Jan  1 12:01 fileadmin
lrwxrwxrwx  1 example example  15 Jan  1 12:01 t3lib -> typo3_src/t3lib
lrwxrwxrwx  1 example example  15 Jan  1 12:01 typo3 -> typo3_src/typo3
lrwxrwxrwx  1 example example  30 Jan  1 12:01 typo3_src -> /var/www/typo3/typo3_src-4.4.0
drwxr-xr-x  5 example example 4096 Jan  1 12:01 typo3conf
drwxr-xr-x 10 example example 4096 Jan  1 12:01 typo3temp
drwxr-xr-x 27 example example 4096 Jan  1 12:01 uploads
lrwxrwxrwx  1 example example  19 Jan  1 12:01 index.php -> typo3_src/index.php
$
$ rm typo3_src
$ ln -s ../typo3/TYP03_4-4.svn typo3_src
$
$ ls -l
drwxr-xr-x 10 example example 4096 Jan  1 12:01 fileadmin
lrwxrwxrwx  1 example example  15 Jan  1 12:01 t3lib -> typo3_src/t3lib
lrwxrwxrwx  1 example example  15 Jan  1 12:01 typo3 -> typo3_src/typo3
lrwxrwxrwx  1 example example  28 Jan  1 12:02 typo3_src -> /var/www/typo3/TYP03_4-4.svn
drwxr-xr-x  5 example example 4096 Jan  1 12:01 typo3conf
drwxr-xr-x 10 example example 4096 Jan  1 12:01 typo3temp
drwxr-xr-x 27 example example 4096 Jan  1 12:01 uploads
lrwxrwxrwx  1 example example  19 Jan  1 12:01 index.php -> typo3_src/index.php
```

That's all. Your site will work like before since you're using the same version but this time including the Subversion repository information.

## Change to a new version

Once you receive the announcement that a new version has been released, you can easily switch to that release. Before you do that, you may want to check which branch or tag you are currently using, and if there are any modifications made to your code:

```
$ cd /var/www/www.example.com/typo3_src/
$
$ svn info
Path: .
URL: https://svn.typo3.org/TYP03v4/Core/tags/TYP03_4-4-0
Repository Root: https://svn.typo3.org/TYP03v4/Core
Repository UUID: 709f56b5-9817-0410-a4d7-c38de5d9e867
Revision: 8465
Node Kind: directory
Schedule: normal
Last Changed Author: benni
Last Changed Rev: 8047
Last Changed Date: 2010-06-22 17:35:41 +0200 (Tue, 22 Jun 2010)
$
$ svn status
$
```

At this point, the “svn info” command will show you the current branch/tag, the last revision within this tree, and the date when the last change was made to it.

The “svn status” command will list all files which have been modified. Normally, the output of this command should be empty, as shown in the example above. If you see any output here then these files have been modified. (Run “svn help status” to understand what the status codes mean. You can use “svn diff” to see your changes in diff format.)

Now, as promised before, the switch requires just one command:

```
$ svn switch https://svn.typo3.org/TYP03v4/Core/tags/TYP03\_4-4-1
```

The output of this command will list many changes in the form of this line:

```
U    tests/t3lib/t3lib_befuncTest.php
```

(“U” means that the file has been updated, “A” means it has been added, “D” means it has been deleted, etc. See “svn help update” to get a list of all status codes.)

After the switch is finished, you can run “svn info” and “svn status” again to verify the result.

## Additional possibilities

It is also possible to switch to the branch where the tags have been made of. This gives you even more flexibility, e.g. to access yet unreleased changes:

```
$ svn switch https://svn.typo3.org/TYPO3v4/Core/branches/TYPO3\_4-4
```

Switch to the branch, same procedure like explained before.

Within a branch, you can use the “svn update” command to change to a past revision, date, or the current version (which is the default):

```
$ svn update -r 8046
```

Update to revision 8046 (this is the revision where TYPO3 4.4.0 was tagged from).

```
$ svn update -r {2010-06-23}
```

Update to the contents as of June 23, 2010 (that was the day after 4.4.0 was released).

```
$ svn update -r 8431
```

Update to revision 8431 (this is the revision where TYPO3 4.4.1 was tagged from).

```
$ svn update -r HEAD
```

Update to HEAD (“-r HEAD” can also be left out as it is the default choice). HEAD is always the current stage of this branch, and it will become the next version once the release manager decides to build a new release... So, after a new release has been announced, “svn update” within the TYPO3\_4-4 branch (verify this using “svn info”) will give you almost the same result as if you would switch to the tag. (I say “almost” because the version number is updated immediately after the release is made. You will notice it only in the title of your browsers window while working in the backend.)

Important: Beware that the “svn update” command only applies to the tag or branch you are currently switched to. If you are in tags/TYPO3\_4-0-0 then HEAD and r8431 are obviously not the same like HEAD in branches/TYPO3\_4-4. Make sure to check using “svn info” what branch you are switched to.

You can browse the whole repository to see all changes, revisions, tags, etc.

The repository browser is part of our Forge website: <http://forge.typo3.org/projects/typo3v4-core/repository>

# Appendix

## Naming scheme of branches and tags

The TYPO3 core team maintains branches for every major/minor release (4.2, 4.3, 4.4, etc.). All changes for the patch-level releases (4.2.1, 4.3.4, etc.) are committed to one or more of these branches.

For every release (4.3.0, 4.4.1, etc.) a tag is created, which is actually a simple bookmark to the respective branch as of the time when this release was built:

<https://svn.typo3.org/TYP03v4/Core/>

- branches/
  - TYP03\_4-3/
  - TYP03\_4-4/
  - etc.
- tags/
  - TYP03\_4-4-0/ (points to TYP03\_4-4 at revision 8046 from June 22, 2010)
  - TYP03\_4-4-1/ (points to TYP03\_4-4 at revision 8431 from July 28, 2010)
  - etc.
- trunk/

The Subversion repository of TYPO3 contains all changes, tags and branches since 2003, shortly before the date when TYPO3 3.6.0 was released.

## Further reading

[1] Subversion project website: <http://subversion.apache.org/>

[2] Wikipedia article: [http://en.wikipedia.org/wiki/Apache\\_Subversion](http://en.wikipedia.org/wiki/Apache_Subversion)

[3] Subversion FAQ: <http://subversion.apache.org/faq.html>

## FAQ

No questions as of now. This part of the document may be updated in the future.

## ChangeLog

### Changes in version 1.0

- Initial version

## About the author

Michael Stucki is a member of the TYPO3 core team. He's been using Subversion as a source code management tool since TYPO3 started using it. About two years ago, he also started using it for keeping his TYPO3 sites up to date, as explained now in this tutorial. Michael is currently learning Git, a tool which may replace Subversion for TYPO3 core development in the future. Once this will happen, he will update this document so users can safely migrate to it.

This document is published under the Open Content License available from <http://www.opencontent.org/opl.shtml>

The content of this document is related to TYPO3 - a GNU/GPL CMS/Framework available from [www.typo3.com](http://www.typo3.com)