

SmartSynchronize - A short introduction

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1 Introduction

SmartSynchronize is a tool to compare and merge (text) files and directories. You can merge changes from one to another file or directory. This makes it very easy, to synchronize files or directory structures, for example, between your home and your office data.

2 Starting SmartSynchronize

2.1 Using the Welcome Dialog

When you click the SmartSynchronize icon, the Welcome dialog occurs. Here you can select what to do: compare files, perform a 3-way merge or compare directories. For directory comparison you have the choice between comparing two arbitrary directories or to open a previously saved profile, where a profile is a named directory-pair with its settings (e.g. ignored file and directory patterns).

2.2 Using Command-Line Parameters

Alternatively, you can pass the file or directory names as command line parameters. If you pass three file names, the 3-Way-Merge opens. If you pass two file names, the File Compare opens, if you pass two directories, the Directory Compare opens. If you pass file and directory names together, SmartSynchronize tries to take the files in the specified directory using the passed file's name. If SmartSynchronize could not find a suitable command to perform directly, the Welcome dialog is displayed with the specified files or directories in the file or directory input fields.

Example

```
smartsynchronize.exe C:\path1\left.txt C:\path2\right.txt C:\path\base.txt
```

This will open the 3-Way Merge with `left.txt` on the left, `right.txt` on the right and `base.txt` as the base, where also the merge result will be stored.

```
smartsynchronize.exe C:\path1\file1.txt C:\path2\file2.txt
```

This will open the File Compare with `file1.txt` on the left and `file2.txt` on the right.

```
smartsynchronize.exe C:\path1\dir1 C:\path2\dir2
```

This will open the Directory Compare with `dir1` being the left and `dir2` the right directory.

```
smartsynchronize.exe C:\path1\file.txt C:\path2\dir2
```

This will try to open the File Compare with `C:\path1\file.txt` on the left and `C:\path2\dir2\file.txt` on the right.

3 File Compare

To compare or synchronize two files, use the File Compare. You can start it either from the Welcome dialog, by double-clicking a file in the Directory Compare window or by passing the target file names as command line parameters. If you pass one file and a directory name as command line parameters, SmartSynchronize tries to compare the specified file and the file of the same name in the specified directory.

3.1 File Compare Display

The File Compare displays the files left to right. At the outer left and right borders the changes are marked with colors. Clicking there with the left mouse button centers the corresponding change within the text area. Between the two file contents, the changes are linked with colored areas. You will also find small buttons which make it easy to synchronize the particular change from one to the other file. You also can use the two right most toolbar buttons or the short-cuts `<Alt>+<Left>` or `<Alt>+<Right>`, respectively.

With `<Alt>+<Down>` you jump to the next, with `<Alt>+<Up>` to the previous change.

To create a colored HTML file showing the files as they occur on the screen, use **File|Export as HTML-File**.

3.2 Configuration

Use **Edit|Preferences** to configure the tab-size, how inner-line changes should be detected, whether whitespaces or line numbers should be displayed or whether changes in whitespaces are relevant for comparison. You can also choose to make these options permanent for other file comparisons by selecting **Store current values as default**.

4 3-Way Merge

To merge two different changes of one file, use the 3-Way Merge. You can start it either from the Welcome dialog or by passing the base file and the two different changed files (left and right) as command line parameters.

If SmartSynchronize detects, that it can merge conflicting changes automatically, it will ask you immediately after opening the 3-Way Merge. To auto-merge later, use the menu item **File|Auto-Merge Changes**.

5 Directory Compare

To compare or synchronize two directories recursively, use the Directory Compare. You can start it either from the Welcome dialog or by passing two directory names as command line parameters.

5.1 Directory Compare Display

SmartSynchronize combines the content of both directories visually so it appears as one directory structure. To the left you will find the combined directory structure of the compared directories. If a subdirectory is only available in one of the two directory structures, only the corresponding part of the icon is displayed. If a directory icon is painted fully red, this directory contains modified, left-only or right-only files. If only the back part of the directory icon is red, it contains at least one red subdirectory.

To the right you can see the files and their states. By default, all files from subdirectories are displayed. A partially red icon indicates a file which is only available in one directory structure. The value in the **Changes** table column which is only shown for text files, displays the kind of detected changes. `+9 -3 ~4`, for example, means 9 added, 3 removed and 4 changed lines, when you think of the older directory structure to the left and the newer one to the right. If you want to see the detailed changes, double click the file to open the File Compare.

Use **File|Synchronize Left to Right** or **File|Synchronize Right to Left** menu items to synchronize the change of the selected file pairs to the other side.

Note This does not just copy files, but also creates or deletes files, depending on the file's existence and the direction of the synchronization.

5.1.1 Automatic Synchronization

To synchronize directory structures easily, use the menu item **File|Synchronize**. A dialog will open which lets you specify the time of the last synchronization (there is also an option to remember this date automatically) and shows suggestions how to copy or delete files.

The suggestions are based on the specified time of the last synchronization, the file existence and file times. For example, if left and right files exist, the left file time is not later than the last synchronization time, but the right one is, the file will be copied from the right to the left. If the left file is missing and the right one older than the last synchronization time, the right file will be deleted.

Be sure to verify the suggestions in the dialog before clicking **OK!**

5.2 Configuration

By **View|Files From Subdirectories** and **View|Unchanged Files** or the corresponding toolbar buttons, you can toggle the display of files from subdirectories or equal files.

In **Edit|Preferences** you can define how the file compare or change preview pane should display the files. You also can specify, whether synchronization should prune empty directories.

With **File|Settings** you can edit compare settings and file or directory files. These settings will be stored with the profiles, so they can be different for different profiles. Use **File|Default Settings** to change the settings for new profiles.

5.2.1 Compare Settings

Select, whether SmartSynchronize should compare files by comparing the file contents or by comparing only the file sizes and modification times. If the **Quick Compare** option is selected, SmartSynchronize optionally can skip files with modification times older than the specified number of days.

If **Inspect EOL for building change overview** is selected, SmartSynchronize will detect also files, which just differ by their line separators in the left or right directory, and displays the file state accordingly. If **Evaluate line-based changes (in background)** is selected, SmartSynchronize will start a detailed analysis of the file content to display the count of added, removed and changed lines.

5.2.2 File/Directory Filters

When working with projects, they often contain files or directories, which you don't want to synchronize, because they are of temporary nature or specific to the particular directory structure. These are, for example, files with the extension `.obj` or `.class` or directories with version control information like `CVS` or `.svn`. You can define file or directory name patterns in **File|Settings**, which should be ignored by the Directory Compare. To define a filter pattern, you can use the known wildcards `*` (zero or more characters) and `?` (one character). If the pattern contains backward or forward slashes, it will be tried to match with the file or directory path. Otherwise it will be tried to match with the file or directory name.

Example

`*.class`

This pattern ignores files (or directories) whose names end with the text `".class"`, e.g., `Foo.class` or `Bar.class`, but not `Foo.classes` or `Bar.txt`.

`.*`

This pattern ignores files (or directories) whose names starting with a period, e.g. `.classes`. Those are considered hidden files on Unix based operating systems.

`*/foo/bar`

This pattern ignores files (or directories) whose file path ends with a `"/foo/bar"` (or `"\foo\bar"`), e.g. `C:\test\foo\bar`.

5.3 Working with Profiles

If you need to compare or synchronize the same directory pairs multiple times, you can save them as a named profile, which can quickly be selected from subsequent directory comparisons. When the directory compare is open, click **File|Save Profile** and enter the name of the profile. With **File|Profile Manager** you can rename, delete or reorder your saved profiles.

6 What's New

6.1 Version 2.5

An synchronization feature can synchronize directory structures automatically using file times and a time of the last synchronization.

You now can specify the encoding which is used to read and write text files.

SmartSynchronize now contains a feature which automatically can look for a new update version.

By settings the VM property "smartsynchronize.home" to the value "\${smartsynchronize.installation} you can make SmartSynchronize a portable application storing its settings in the installation directory. So you can put it on a USB-stick and always have it available.

6.2 Version 2

The File Compare now offers a features to complete words which already are existing in the document (`<Ctrl>+<Space>`). The search dialog now uses the selected text to initialize the search text.

You are able now to export the display of the File Compare as a colored HTML file. This makes it easy to save changes, present them without SmartSynchronize or to print the changes using a normal browser.

The Directory Compare now has a built-in preview feature which lets you examine the detailed file changes without explicitly opening a File Compare.

To limit the displayed files, you now have a **Filter** textfield above the file table which lets you enter file patterns (e.g. `*.java`).

In the Settings (**File|Settings**) you can define file and directory filters individually for each profile. These file and directory filters allow to match against the file/directory *name* (when the pattern does not contain a slash) or against the file/directory *path* (when the pattern contains at least one slash).

The Directory Compare now optionally also detects files which only differ by different line separators (e.g. a file with Windows and a file with Unix line separators).

To speed-up the process of comparing very large directory structures, the Directory Compare now can be configured in the Profile settings to compare just by file size and modification time.

Completely new is the 3-Way-Merge where two different modifications of one file can be merged back into this file.

Last, but not least, SmartSynchronize 2 automatically detects UTF-16 encoded text files and even after modification saves them with that encoding. Other text files are read and written using the system encoding.

6.3 Version 1.5

Comparing files is a sophisticated and quite memory-consuming task. To compare larger text files (some MB) a much larger memory pool is needed. In the new version SmartSynchronize makes use of temporary files on your hard-disk to handle larger text files.

Sometimes you need to compare text files with different line separators, e.g. a unix text file and a windows text file. When you change and save them, now the line separators of the file are preserved independent of the operating system.

If a file was locked by another application, the Directory Compare continues ignoring this file.

On Mac OS X the look and feel was significantly improved.

A couple of short-cuts were added or changed:

- *<ESC>* closes the file compare.
- *<Ctrl>+<Up>* and *<Ctrl>+<Down>* now scroll the file up or down, respectively.
- When clicking *<Ctrl>+<C>* or *<Ctrl>+<X>* the whole line is copied or cut, respectively.
- *<Ctrl>+<Y>* deletes the current line.
- *<Ctrl>+<D>* duplicates the current line.