

# Find Equal Files

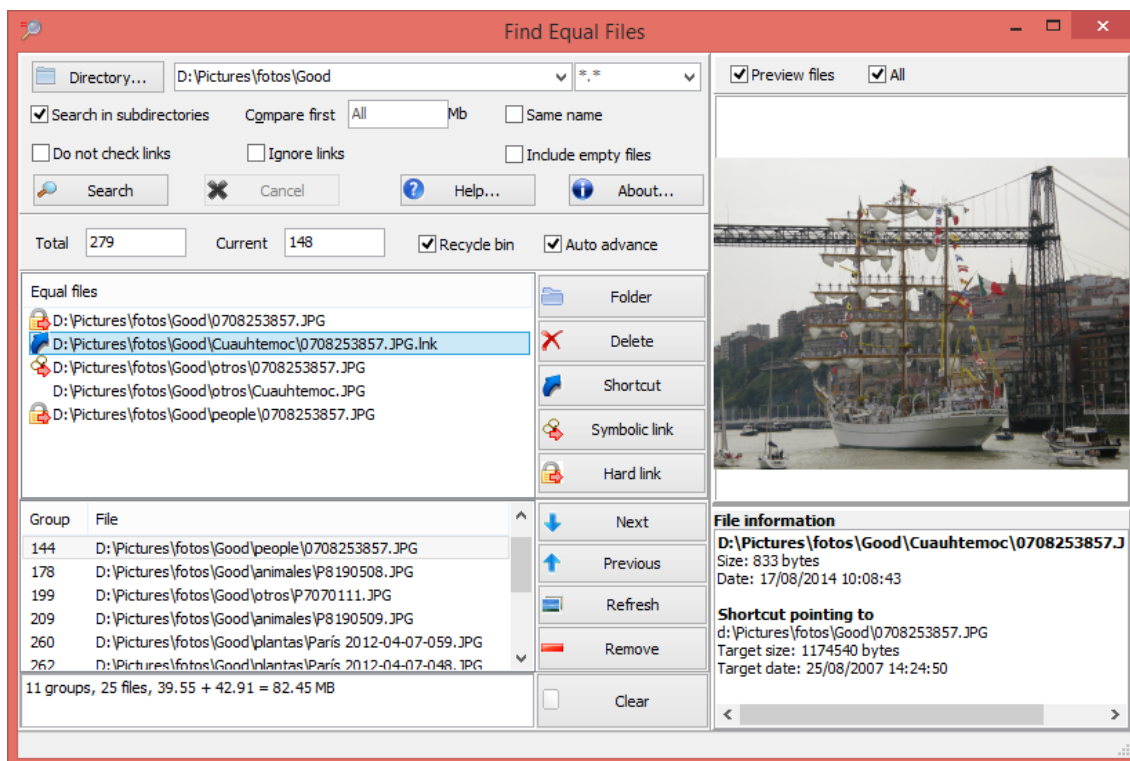
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**Copyright**

The program, `fequal.exe`, the help file, `fequal.chm`, the documentation file, `fequal.pdf`, and the `lshl.exe` utility are copyrighted:

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**Disclaimer**

In no event will the [Author](#) be liable to users for any damages, including but not limited to any lost profits, lost savings or other incidental or consequential damages arising out of the use or the inability to use this program, even if the Author has been advised of the possibility of such damages, or for any claim by other party.

**Hardware and software requirements**

**Fequal** runs, at least, under Windows XP and later.

**Other free programs by the same author**

To get the last version of **fequal** and of all my free programs contact the [Author](#).

## Introduction

**Fequal** is a utility to help you finding, inspecting and (optionally) removing or **replacing by a shortcut, symbolic link or hard link**, equal files in your system, i.e., file with the same content, differing only in folder and/or name. Optionally, shortcuts, symbolic or hard links can be handled as equal files in the mentioned tasks. You can also substitute the target file for a shortcut or symbolic link and a copy of the file for a hard link.

## Installing Fequal

To install the program unzip the distribution file and copy to a folder the executable file, `fequal.exe`, the help file `fequal.chm`, the documentation file, `fequal.pdf` and, optionally, the `lshl.exe` utility. No installation is necessary, but you may want to add a shortcut to the **Start** menu by dragging and dropping the executable `fequal.exe` over the desired menu while holding down the **Alt** key.

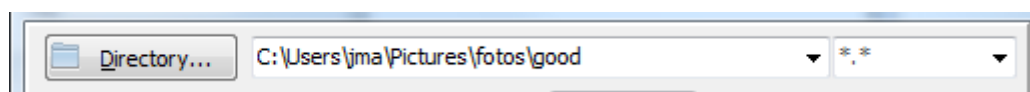
**On Windows 8 you must start the program by using Run as administrator to be able to create symbolic links.** You might want to create such a shortcut in the Start Menu.

## Uninstalling Fequal

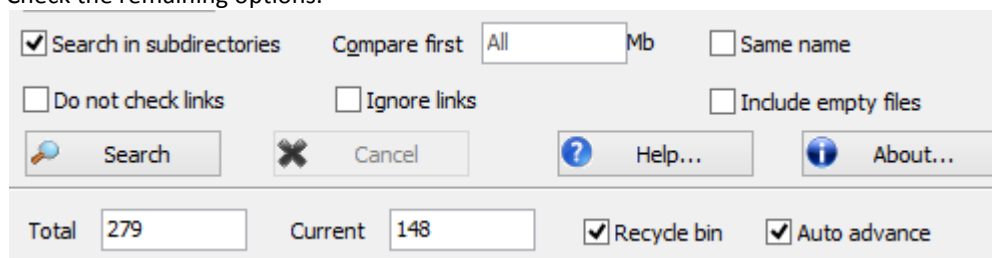
To uninstall **fequal**, remove from the installation directory the executable file, `fequal.exe`, the help file `fequal.chm`, the documentation file `fequal.pdf` and, if installed the `lshl.exe` utility.

## Running Fequal

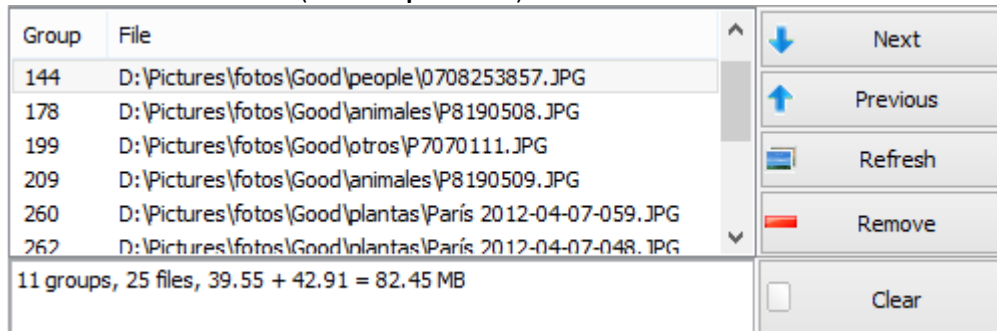
1. Start **fequal** by choosing it from the **Start** menu (or in any other way; see also **Command line options**). **On Windows 8 you should start the program by using Run as administrator if you want to create symbolic links.**
2. The first time the program is run a message displays the copyright and the disclaimer notice. Accept them by pressing **Yes** and you won't see it anymore.
3. Select the root directory (or directories separated by semicolons) by doing one of the following:
  - o Click **Directory** and then select the appropriate directory.
  - o Enter the directory or directories in the edit box after the **Directory** button.
  - o Drag the directory or directories from **Explorer** and drop.
 (In the first and third cases you will be asked whether the new directories should replace those already in the edit box or appended after them.)



4. Next to the directory edit box you may select the pattern (or patterns separated by semicolons) of files to be searched by using the ? and \* wildcards. The default empty value (or \*.\*) will match all names. **Don't forget that shortcuts have a .lnk extension.** So, to match all JPG pictures you may use something like \*.jpg;\*.jpg\*.lnk.
5. Check the remaining options.

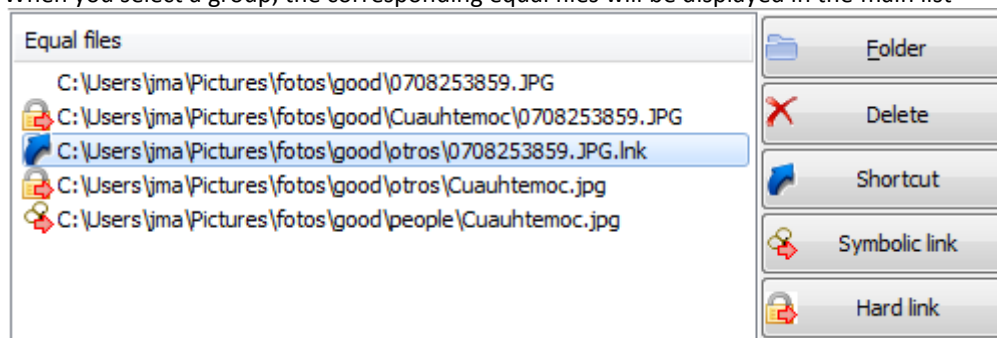


6. Press **Search**. The program will start searching for all files in the directory or directories selected (as well as into their subdirectories, if **Search in subdirectories** is checked) for all files matching the selected pattern. (You can click **Cancel** or press **ESC** to cancel any lengthy operation.)
7. Then it will sort them by file size and start finding equal files. Each group of equal files will be shown in the lower list box (the **Group window**).

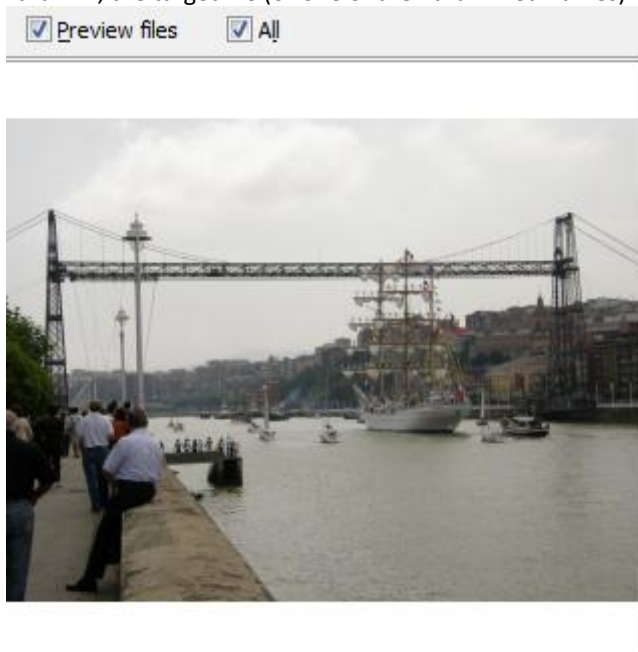


You may sort the list, in ascending or descending order, by clicking the corresponding column header.

8. When you select a group, the corresponding equal files will be displayed in the main list

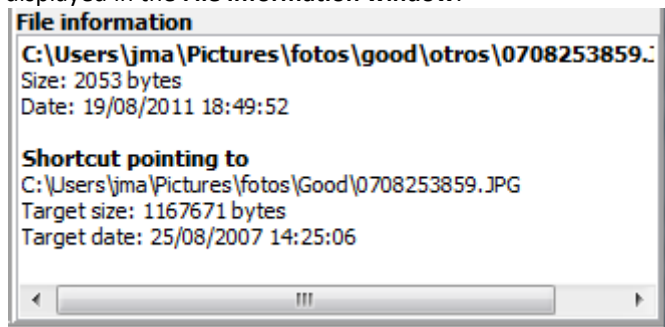


and, depending on the file and the selected options, their common content will be displayed in the **Preview window**. If the mouse pointers remains for a while over a shortcut, symbolic or hard link, the target file (or one of the hard linked names) will be displayed.



9. You may change the selected group with the mouse or the **Next** and **Previous** buttons and menu entries. You may also remove entries from this list.

10. When the selection in the main list changes, information about the (first) selected file will be displayed in the **File Information window**.



11. You may now delete files or replace them with by using the main list menu or the buttons.  
 12. You may also use the menu to open the context menu that displays when right clicking on an **Explorer** entry.  
 13. Also you may instruct the program to automatically delete (or replace by a shortcut, symbolic or hard link) all equal files except the first one (which is not a shortcut or a symbolic link).

## Options

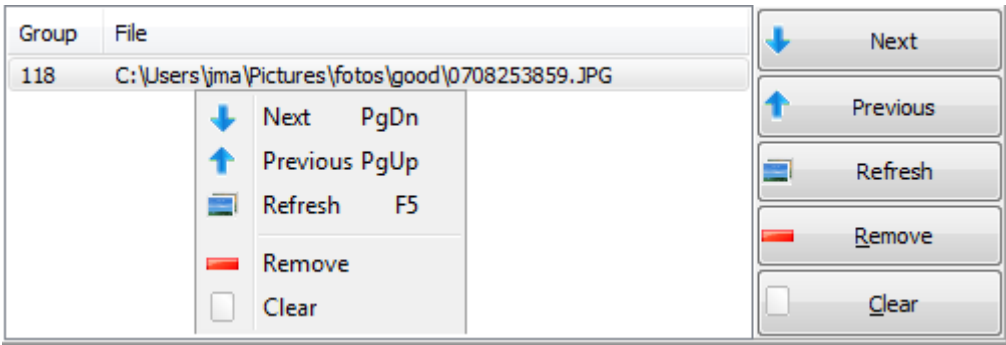
The upper panel displays the following entries:

Entry	Meaning (if checked)
Search in subdirectories	Continue into the subdirectories of the path(s) selected in <b>Directory</b>
Compare first <i>n</i> Mb	Compare only the first <i>n</i> megabytes of the files to decide if they are equal. This may speed up the search if very long files exist. Leave this empty to compare the whole file contents.
Same name	Equal files must also share the same name (and extension)
Do not check links	Do not try to find whether files are shortcuts, symbolic or hard links. This will speed up things.
Ignore links	Ignore files that are shortcuts, symbolic or hard links. This is enabled only if the previous option is not checked.
Include empty files	Include zero length files: <b>they will be all equal!</b>
Search	Start searching for all files in the directory or directories selected (as well as into their subdirectories, if <b>Search in subdirectories</b> is checked) for all files matching the selected pattern
Cancel	Stop lengthy operations
Help	Open the help system
About	Information on the program and its author
Total	This read-only entry displays the total number of files that have been scanned.
Current	This read-only entry displays the file that is currently being compared with others of equal size.

Recycle bin	Copy to the recycle bin (if available), <b>after appending the .backup extension</b> , files being deleted or replaced by shortcuts, symbolic or hard links.
Auto advance	Display the next group of equal files after one or several files are deleted or replaced by shortcuts, symbolic or hard links.

**Group window**

The groups of equal files are displayed in the lower left window: the number of the first file in the list of scanned files sorted by size followed by its full file specification.



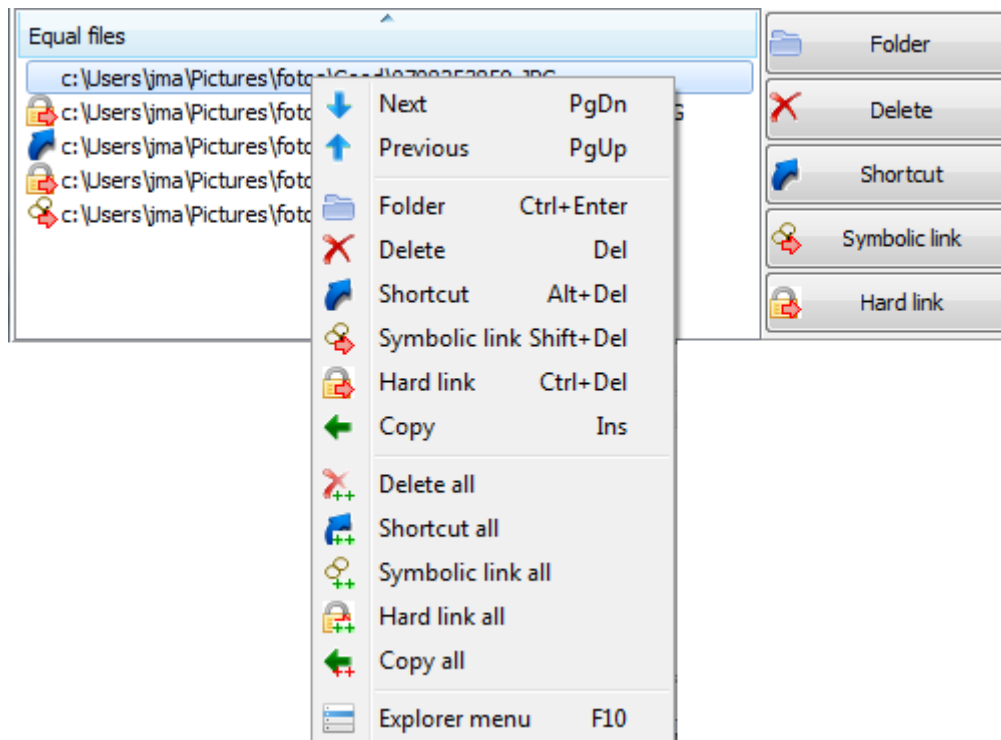
From this window

- You may select with the mouse any group of equal files, which will then be displayed in the Equal files list.
- You may also right click to open the context menu or use the corresponding shortcut or button:

Menu entry/Button	Shortcut	Icon	Meaning
Next	PgDn		Display the next group in the Equal files list
Previous	PgUp		Display the previous group in the Equal files list
Refresh	F5		Display again the current group of equal files
Remove			Remove from this list the selected group
Clear			Empty this list






**Equal files window**

The main list will display a group of equal files. Depending on your settings and the file extension, a preview will wil displayed. Information about the (first) file currently selected (including the file it points to in the case of shortcuts and symbolic kinks) appears in the File Information window.




From the main menu you may

- Click on an item to get the corresponding information in the File Information window.
- Click on the right mouse button to display the context menu and select any of the entries (you may also use the shortcuts or buttons):

Menu entry/Button	Shortcut	Icon	Meaning
Next	PgDn		Display next group of equal files
Previous	PgUp		Display previous group of equal files
Folder	Ctrl+Enter		Open the folder(s) containing the selected file(s)
Delete	Del		Delete the selected file(s)*.
Shortcut	Alt+Del		Replace the selected files by a shortcut to the first unselected file*. See <b>Shortcuts, symbolic and hard links</b> .
Symbolic link	Shift+Del		Replace the selected files by a symbolic link to the first unselected file*. See <b>Shortcuts, symbolic and hard links</b> .
Hard link	Ctrl+Del		Replace the selected files by a hard link to the first unselected file*. See <b>Shortcuts, symbolic and hard links</b> .
Copy	Ins		Substitute the target file for a shortcut or symbolic link or a copy for a hard link.
Delete all			Delete all but the first (true) file <b>in every group**</b> .
Shortcut all			Replace by a shortcut to the first true file the remaining files <b>in every group**</b> . See <b>Shortcuts, symbolic and hard links</b> .
Symbolic link all			Replace by a symbolic link to the first true file the remaining files <b>in every group**</b> . See <b>Shortcuts, symbolic and hard links</b> .
Hard link all			Replace by a hard link to the first true file the remaining files <b>in every group**</b> . See <b>Shortcuts, symbolic and hard links</b> .
Copy all			Substitute the target files for all shortcuts and symbolic links



			or copies for a hard links.
Explorer menu	F10		Display the context menu that opens when right clicking on a file for the selected files.

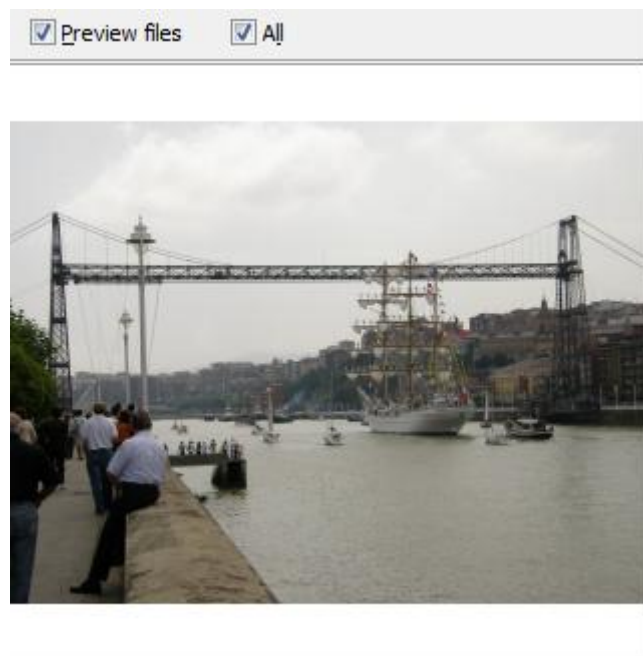
\*Make sure **Recycle bin** in **Options** is checked if you want to be able to undo this.

\*\*This operation must be confirmed. Make sure **Recycle bin** in **Options** is checked if you want to be able to undo this.

### Preview window

On the right upper window there appears a preview of the equal files currently displayed in the [Equal files window](#) if

- **Preview files** is checked **and**
- the files extension has a registered preview handler **or**
- **All** is checked.



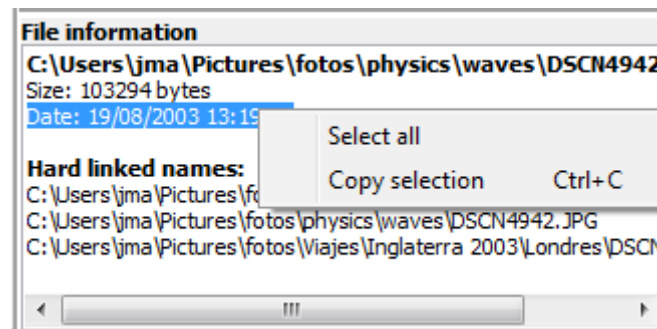
- By default your system will be able to display (in the preview pane of **Explorer** under Vista and later) many image formats and, depending on the installed software, Office documents, PDF files and so on.
- Many files (with extensions `.ini`, `.c`, `.cpp`, `.h`, `.bat` etc.) are really text files, but no preview handler is available by default. You may
  - Use the **PreviewConfig**<sup>1</sup> utility to register them as text files **or**
  - check **All** to display all non registered file types as text files. This will work fine for files which are really text and give strange (but sometimes useful) results in other cases.

### File information window

In the right lower window the following information will be displayed about the file currently selected in the Equal files window:

<sup>1</sup> <http://www.winhelponline.com/blog/previewconfig-tool-registers-file-types-for-the-preview-pane-in-windows-vista/>

- The file full path specification.
- Its size and date.
- If the file is a shortcut or symbolic link (see **shortcuts, symbolic and hard links**), the file it points to as well as target's size and date.
- If the file is hard linked, all the names to access it.




You may use the mouse to select text from this window (or right click and **Select all**) and copy it to the clipboard by pressing **Ctrl+C** (or selecting **Copy selection** in the menu which opens when right clicking on the window).

### Shortcuts, symbolic and hard links

There are, at least, three ways to save disk space by avoiding duplicate files. **Fequal** can use the three methods to deal with duplicate files.


#### Shortcuts

These are the more familiar, since they are easily created by dragging and dropping while holding down the **Alt** key or using the **New/Shortcut** entry from the context menu that appears after right clicking inside an **Explorer** view.

- They are identified by their `.lnk` extension and in **Explorer** they are tagged with the  image.
- In most programs opening or loading one of these will in fact open or load the target.
- If one of these is deleted, copied or moved nothing happens to the target file and the shortcut still point to it (if not deleted).
- If the target is deleted the shortcut still points to it and trying to open it will give the opportunity to restore it from the recycle bin if still there. Remember that you must remove the `.backup` extension that files in the recycle bin have appended.
- More information: <http://support.microsoft.com/kb/140443>

#### Symbolic links


Symbolic links are available in NTFS starting with Windows Vista (on Windows 8 you should start the program by using **Run as administrator** if you want to create symbolic links) and are equivalent to UNIX links.

- In **Explorer** they are tagged with the  image.
- When listed with the `dir` command they are tagged as `<SYMLINK>`.
- Opening or loading one of these will in fact open or load the target.
- If one of these is deleted, nothing happens to the target file.
- If one of these is copied the target is copied.
- If one of these is moved it still points to the original target.

- If the target is deleted the shortcut still points to it, but Windows is able to recover the target from the recycle bin (and, I have found that in other cases it may recover another file!). Remember that you must remove the **.backup extension** that files in the recycle bin have appended.
- More information: [http://msdn.microsoft.com/en-us/library/aa365680\(v=VS.85\).aspx](http://msdn.microsoft.com/en-us/library/aa365680(v=VS.85).aspx)

### Hard links

Hard links, available in NTFS, are essentially different names for the same physical file (in a sense, all files are hard links, but most of them have a single name). They can be created by using the `mklink` command (refer to your system documentation) and all names must be in the same volume (usually a disk).

- In **Explorer** they are tagged with the  image.
- The `dir` command gives no hint about a file being hard linked. You may use the enclosed **lshl utility** to find hard linked names in your system.
- Opening or loading one of these will in fact open or load the target.
- If one of these is deleted, nothing happens to the true file, as long as there remains other names.
- If one of these is copied the target is copied.
- If one of these is moved it still points to the original target.
- More information: [http://msdn.microsoft.com/en-us/library/aa365006\(v=vs.85\).aspx](http://msdn.microsoft.com/en-us/library/aa365006(v=vs.85).aspx)

When using **Delete all**, **Shortcut all**, **Symbolic link all**, **Hard link all**, (see **Equal files window**) the program will make sure that a true file (maybe hard linked), i.e., not a simple shortcut or symbolic link, remains undeleted.

The free **List Links** program by the same author lets you find, inspect, delete and modify all the shortcuts and links in your system.

### Explorer Context Menu

If any file is selected in the **Equal files window** and you right click on it and select the **Explorer menu...** (or press the F10 key), there will appear the same menu that opens when right clicking on items in **My PC** or **Explorer** views, so that you can use the shell to display items properties, delete them, send them to utility programs and so on.

### Command line options

If you start the program (from a command line box or the **Run** menu or, in Windows 7, from the search box in the **Start** menu) with one directory path (or several paths separated by spaces or semicolons) as parameter (enclosed between double quotes, if there is any blank space):

```
[path\]fequal directory
```

or

```
[path\]fequal directory directory...
```


or

```
[path\]fequal "directory" ["directory"..."
```

The parameter(s) will be copied to the **Directory** box and a **Search** will start.

### Lshl utility

Shortcuts and symbolic links (see **Shortcuts, symbolic and hard links**) are easily identified. At least in


Windows 7, in **Explorer** they are tagged with the  image. Furthermore, if you use the `dir` command from a command line box, shortcuts have the `.lnk` extension and symbolic links are identified as

<SYMLINK>, as displayed in the next example, where Near 2011-08-17-115 - copia.JPG - Acceso directo.lnk is a shortcut and s.jpg and soft.jpg are symbolic links (whose targets are displayed between square brackets):

```
dir \w
El volumen de la unidad C es Main
El número de serie del volumen es: 245C-E774

Directorio de C:\w

18/08/2011  19:25    <DIR>          .
18/08/2011  19:25    <DIR>          ..
17/08/2003  14:23             183,021 DSCN4818.JPG
17/08/2003  14:23             183,021 hard.jpg
17/08/2011  13:54             5,145,458 Near 2011-08-17-115 - copia.JPG
18/08/2011  19:11             1,384 Near 2011-08-17-115 - copia.JPG -
Acceso directo.lnk
17/08/2011  13:54             5,145,458 Near 2011-08-17-115.JPG
18/08/2011  19:25    <SYMLINK>      s.jpg [C:\w\Near 2011-08-17-
115.JPG]
18/08/2011  19:13    <SYMLINK>      soft.jpg [C:\w\DSCN4818.JPG]
```

However, there is no clue in output from the `dir` command of a file being hard linked (in **Explorer** they are tagged with the  image). For this reason I have include a small utility, `lshl.exe`, which finds hard linked files and displays all their names. In the above example you get

```
lshl c:\w\*.*
=====
c:\w\DSCN4818.JPG:
-----
C:\w\hard.jpg
C:\w\DSCN4818.JPG
=====

=====
c:\w\hard.jpg:
-----
C:\w\hard.jpg
C:\w\DSCN4818.JPG
=====

=====
c:\w\soft.jpg:
-----
C:\w\DSCN4818.JPG
=====
```

Notice that the last result arises because `c:\w\soft.jpg` is a symbolic link to a hard linked file.

## Usage

- Use `/?` to get a short help:

```
lshl /?
```

```
List hard links:
```

```
Copyright © 2011 Juan M. Aguirregabiria
All rights reserved
```

```
Usage:
lshl file [file...]
will list all files hard linked
(? and * wildcards may be used.)
```

- The last three lines show the syntax. For instance, we can find that **Explorer** and **Notepad** are hard linked:

```
lshl c:\Windows\*. * c:\Windows\n*. *
=====
c:\Windows\explorer.exe:
-----
C:\Windows\explorer.exe
C:\Windows\winsxs\x86_microsoft-windows-
explor-
er_31bf3856ad364e35_6.1.7601.17567_none_5389023fd8245f84\explor
er.exe
=====

=====
c:\Windows\notepad.exe:
-----
C:\Windows\winsxs\x86_microsoft-windows-
notepadwin_31bf3856ad364e35_6.1.7600.16385_none_42a023025c60a33a
\notepad.exe
C:\Windows\winsxs\x86_microsoft-windows-
note-
pad_31bf3856ad364e35_6.1.7600.16385_none_6ef0e39ed15350e4\notepa
d.exe
C:\Windows\notepad.exe
C:\Windows\System32\notepad.exe
=====
```

### Version history

- August 2014. New Same name option and information on number of groups and files and total file sizes.
- July 2013. Minor bug fix.
- March 2013. Minor bug fix.
- December 2011. Stable sort. Minor bug fixes.
- August 2011. First public release

### Suggestions, bugs and help

The Author would highly appreciate receiving information about any bug or problem found in the program. Suggestions to improve **fequal** in future versions are also welcome.