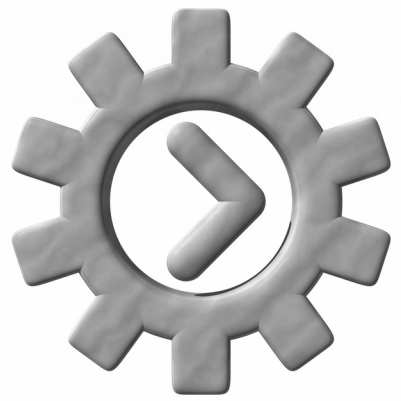
SFK

Tutorial



A step by step introduction
into the Swiss File Knife
command line tool.

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General infos

How to get the Swiss File Knife up and running anywhere.

Download the executables for Windows, Linux or Mac OS/X

By web browser: go to

http://stahlworks.com/sfk/

then click on one of the top links to download your binary instantly.
Alternatively, look on SourceForge:

http://sourceforge.net/projects/swissfileknife/

or on a Linux text console, use one of these:

`wget http://stahlworks.com/sfkux`	for current 32 bit systems
`wget http://stahlworks.com/sfkux64`	for current 64 bit systems
`wget http://stahlworks.com/sfkuxold`	for older 32 bit systems (like DSL, using lib5)
`wget http://stahlworks.com/sfkarm`	for 32 bit ARM systems

If your system has no wget command then try curl instead, like:

```
curl -o sfk http://stahlworks.com/sfkux
```

The Apple Mac OS/X binaries are available by:

`curl -o sfk http://stahlworks.com/sfkmac`	for current Intel based Macs
`curl -o sfk http://stahlworks.com/sfkmacold`	for PowerPC based Macs

Self compile: on systems for which no binary is available you may download the sourcecode from the SourceForge link (.zip or .tar.gz). Make sure the g++ or gcc compiler is installed on your system. Then type:

```
g++ sfk.cpp sfkext.cpp sfkpack.cpp -o sfk
```

Transfer of SFK without internet access:

If the target machine has any connection to a local network, try the following:

SFK Instant HTTP Server for easy file exchange

on another machine where you have SFK already, type

```
sfk httpserv -port=9090
```

and make sure the sfk binary is located in the current folder.
on the target machine, open a web browser and access:

```
http://othermachine:9090/
```

or on a Linux/Mac console, type one of:

```
wget http://othermachine:9090/sfk
curl -o sfk http://othermachine:9090/sfk
```

further reading:
httpserv tutorial on page 35.

If that fails (no browser, no gui, no wget or curl command), check if there is an "ftp" command on the target. If so, try:

SFK Instant FTP Server for easy file exchange

on a machine where you have SFK already, type:

```
sfk ftpserv
```

it will tell you the machine's IP address. then, on the target machine, type:

```
ftp ipaddress
```

and if the login succeeds, try:

```
bin
get sfk.exe
```

If ftp cannot connect to the server then try to run ftpserv as administrator. If get fails, check if the ftp client on the target accepts the command:

```
passive
```

then try to "get" again (ftp creates a new connection per file download, which is often blocked by firewalls. the passive command changes the way in which those connections are created.)

further reading:
ftpserv tutorial on page 35.

How to prepare the SFK binary under Linux:

After download, you have to type

```
mv sfkux sfk
chmod +x sfk
```

to enable execution (the 'x' flag) of sfk. Then simply type

```
./sfk
```

to get it running (the "./" is often needed as the PATH may not contain the current directory ".").

Where to place the SFK executable:

Recommendation for Windows

Create a directory structure

```
c:\app\bin
```

then copy sfk.exe to c:\app\bin. Then extend the Windows Shell Path like

```
set PATH=%PATH%;c:\app\bin
```

which is best done in a batch file like `c:\app\init.bat`, so after opening CMD.EXE just type `c:\app\init` to extend the path. Also make sure your Windows Shell (CMD.EXE) supports command auto-completion and copy/paste of text (the QuickEdit and Insert setting), otherwise it is very hard to use!

further reading:
sfk help shell

If you create a collection of batch files (e.g. through the "sfk alias" command) it is most convenient to store them in c:\app\bin as well, as this path is short and contains no blank characters. Further tools can be installed parallel to "bin" into c:\app.

Recommendation for Linux and Mac OS/X

Type "cd" then "pwd" to find out what your account's home directory is. Within your home directory (e.g. /home/users/youruserid/) create a directory "tools" by

```
mkdir tools
```

then rename sfk-linux.exe to sfk, and copy that into the tools dir. Extend the PATH like:

```
export PATH=$PATH:/home/users/youruserid/tools
```

then you should be able to run sfk by typing "sfk".

By default, there are no colors, as it is not possible to autodetect the background color under Linux/Mac. If you like colorful output then read on under "sfk help color".

List all files of a folder, and all sub folders

Everyone knows that `dir mydir` on Windows, or `ls mydir` on Linux/Mac shows the filenames in the top level of a folder mydir, without it's sub folders.

If, however, you want to list all files in mydir and all it's sub folders, as a flat list of filenames with full path each, then use

```
sfk dir mydir
```

example output:

```
mydir\project1\01-make-all.sh
mydir\project1\app\gui\base\Tools.cpp
mydir\project1\app\gui\base\Tools.hpp
mydir\project1\app\gui\login\Screen.cpp
mydir\project1\config.h
mydir\project1\config.h.bak
mydir\project1\save\config.h
mydir\project1\save2\config.h
mydir\project1\save3\config.h
mydir\project1\tmp\trash1.txt
mydir\project1\tmp\trash2.txt
mydir\project1\tmp\trash3.txt
mydir\project1\tools\include\Tools.hpp
mydir\project1\tools\include\Tools.hpp.bak
mydir\project1\tools\new.myscm\sub1.txt
mydir\project1\tools\org.myscm\sub1.txt
mydir\project1\tools\source\.myscm\sub3.txt
mydir\project1\tools\source\other1.myscm
mydir\project1\tools\source\other1.myscm.bak
mydir\project1\tools\source\save\.myscm
mydir\project1\tools\source\save\.myscm-file.txt
mydir\project1\tools\source\save\Tools.cpp
mydir\project1\tools\source\Tools.cpp
mydir\project1\tools\source\Tools.tmp
25 files, 18 dirs, 2828 bytes.
```

Notice that sub folder traveling is **default** with most SFK commands, so you don't have to use an extra option for that. This is because, if I want to do something "with all files of a folder", in most cases I literally mean **all** files.

Instead of "sfk dir" you may also use "sfk list" which produces just the list of filenames, without the "files, dirs, bytes" info.

List only selected files in selected sub folders

In the above example, we notice two kinds of files:
- live files we are actively working with
- backup or trash files and folders named tmp, bak, save.
In most cases, we want to
- list all files of that folder
- except for files within folders having tmp or save in their name
- and except for files ending with .bak or .tmp.
This can be done with SFK by:

```
sfk dir -dir mydir -subdir !tmp !save -file !.bak !.tmp
```

example output:

```
mydir\project1\01-make-all.sh
mydir\project1\app\gui\base\Tools.cpp
mydir\project1\app\gui\base\Tools.hpp
mydir\project1\app\gui\login\Screen.cpp
mydir\project1\config.h
mydir\project1\tools\include\.myscm\sub2.txt
mydir\project1\tools\include\Tools.hpp
mydir\project1\tools\new.myscm\sub1.txt
mydir\project1\tools\org.myscm\sub1.txt
mydir\project1\tools\source\.myscm\sub3.txt
mydir\project1\tools\source\other1.myscm
mydir\project1\tools\source\Tools.cpp
12 files, 13 dirs, 1376 bytes.
```

Wildcards are default and need not to be specified in most cases. This means that `!save` actually means `!*save*` - i.e. excluding every sub directory that has save somewhere in it's name, like save, save2, save3 etc.

Under Linux/Mac you have to use a colon ":" instead of "!" because the command shell misinterprets "!" as some command for itself.
So use instead:

```
sfk dir -dir mydir -subdir :tmp :save -file :.bak :.tmp
```

Listing files using wildcards

To list files within sub folder names containing words "new" and "scm" use

```
sfk list -dir mydir -subdir new*scm
```

example output:

```
mydir\project1\tools\new.myscm\sub1.txt
```

Under Linux/Mac you must surround anything with * or ? by double quotes because the command shell misinterprets "*" as some command for itself. Alternatively you may use % as a replacement for "*". So use one of:

```
sfk list -dir mydir -subdir "new*scm"
sfk list -dir mydir -subdir new%scm
```

for all Linux/Mac syntax details see page 80.

List the latest or biggest files

Which files were changed most recently within mydir? Find out by:

```
sfk list -late mydir
```

example output:

```
2015-01-18 06:47:54 mydir\project1\app\gui\base\Tools.cpp
2015-01-18 13:44:17 mydir\project1\tools\source\save\.myscm
2015-02-28 08:54:20 mydir\project1\tools\source\other1.myscm
2015-02-28 08:54:20 mydir\project1\tools\source\Tools.cpp
2015-02-28 08:54:20 mydir\project1\tools\source\Tools.tmp
```

And what are the biggest files in mydir?

```
sfk list -big mydir
```

example output:

```
   41 mydir\project1\save2\config.h
   56 mydir\project1\save\config.h
  171 mydir\project1\config.h
 1074 mydir\project1\tools\source\Tools.cpp
 1210 mydir\project1\tools\source\Tools.tmp
```

Find a filename quickly in the current directory tree

You are standing within a folder and know that a file having `foo` somewhere in it's path- and/or filename exists. But you don't know exactly where. This can be solved by

```
sfk filefind foo
```

example output:

```
project1\tools\source\BarFoo.cpp
```

So, there is a file "BarFoo" in a sub folder `project1\tools\source` .
Notice that **case insensitive search is default** with every SFK command, therefore "foo" finds both "foo" and "Foo". Because this quick local filename search is needed so often, you may also type:

```
sfk :foo
```

Which does the same as "filefind foo".
Another example:

```
sfk :tool*sub2
```

may find:

```
project1\tools\include\.myscm\sub2.txt
```

as this contains "tool" in it's **path** and "sub2" in it's **filename**.

Under Linux/Mac use instead:

```
sfk :tool%sub2
```

as otherwise a * wildcard would be misinterpreted by the shell
and not given to SFK.

List different files between two folders

I have files in a folder "step1". I make a copy of the whole folder as "step2" and continue working within "step2". After some hours I wonder which files are different compared to the old folder.

```
sfk list -sincedir step1 step2
```

tells:

```
[dif] step2\base.php
[dif] step2\classes\tree.class.php
[dif] step2\index.php
[add] step2\organizer.php
[add] step2\tasks.php
```

meaning:

- 3 files that exist in both folders are different
- 2 files have been created in step2 that did not exist in step1

Note that files which were deleted in folder step2 are not shown. These can be found by running a reverse folder comparison:

```
sfk list -sinceadd step2 step1
```

tells:

```
[add] step1\queuescanner.php
```

so the file queuescanner.php was deleted in step2.

Run a command on all files of a folder

I want to collect all .jpg files in a folder mydir like

```
mydir\Formats\06-binary.jpg
mydir\myproj\app\gui\base\GreenFoo.jpg
mydir\myproj\app\gui\login\Door.jpg
mydir\myproj\tools\BackButton.jpg
mydir\myproj\tools\Home.jpg
```

into a single flat folder called "overview". This can be done by:

```
sfk list mydir .jpg +run "copy $qfile overview"
```

on Linux/Mac: use #qfile instead of $qfile.