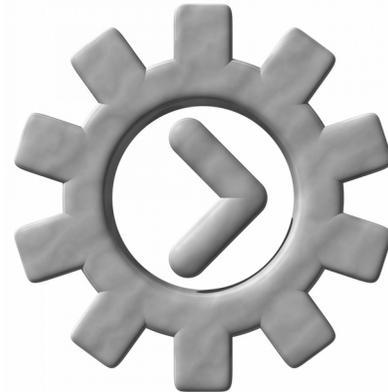


# SFK

## Tutorial



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

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## 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.

---

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## 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.

---