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Which, Where, What Is It?

This month we feature Jeffrey Blake’s enhanced version of the BSD `which` command implemented as a Bourne shell script.

Dear Editor:

I just love scripts and finding new ways to use them. My contribution is a little script that is particularly nice because I can use it in combination with other Unix commands inside an alias. It is simple and powerful (one might even say elegant).

My `wh` script is used to locate the first or all occurrences (`-a` option) of a file in your shell’s command-search path. The other options let you display additional information, such as file type (determined by the `file` command when you specify the `-f` option) and long-directory listing (specified with `-l` option to `wh`). Additionally, it can display the list of files that match a substring (`-s` option). I’ve also found the `-d` option helpful when I wanted to reference the directory containing the located command. The name ‘‘wh’’ might be considered shorthand for which, where, or what.

Now `wh` started life as a simple script to find a file in my command-search path. I added features as the need arose or I had a new idea. Then, I began looking for ways to use `wh` in combination with other commands. First, I combined `wh` with `vi` inside an alias to give me the ability to quickly start up an editing session for a file in my bin directory without specifying the path name to the file. Other aliases soon followed. The C shell aliases that I use currently include:

```
alias fcd  'cd `wh -d \!*`;ls'
alias fvi  'vi `wh \!*`'
alias fcp  'echo copying `wh \!*` to current directory..;cp -i `wh \!*` .;'
alias fpd  'pushd `wh -d \!*`;ls'
```

The ‘‘f’’ in ‘‘fvi’’ stands for find-the-file and ‘‘vi’’ it. In retrospect, I could have named it ‘‘wvi’’ but I don’t like the way it looks. Consequently the names of all my other aliases using `wh` also begin with a lower-case ‘‘f.’’

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Editor’s Note: Here are some sample command-line usage examples:

```
% wh
Must specify at least one command name
Usage: wh [-a] [-d] [-f] [-l] [-s] command-name...
        ( -a print all instances in path        )
        ( -d print directory path only          )
        ( -f print type of file                 )
        ( -l print ls -l for file               )
        ( -s use case-sensitive substring match  )
```

```
% wh date
/bin/date
% wh -a date
/bin/date
/usr/bin/date
/usr/5bin/date
% wh -d date
/bin
% wh -f date
/bin/date:      sparc pure dynamically linked executable
% wh -l date
-rwxr-xr-x  1 root         7456 Apr 15  1991 /bin/date
% wh -s date
/bin/date
/usr/bin/date
/usr/ucb/rdate
/usr/5bin/date
/usr/local/scripts/convert.date
/usr/local/scripts/date_login
/usr/local/scripts/dateorder
/usr/local/scripts/dateorder-1
/usr/local/scripts/getdate
/usr/local/scripts/update.yr.appt
% wh -a -f date
/bin/date:      sparc pure dynamically linked executable
/usr/bin/date:  sparc pure dynamically linked executable
/usr/5bin/date: sparc demand paged dynamically linked executable
% wh -a -l date
-rwxr-xr-x  1 root         7456 Apr 15  1991 /bin/date
-rwxr-xr-x  1 root         7456 Apr 15  1991 /usr/bin/date
-rwxr-xr-x  1 root        16384 Apr 15  1991 /usr/5bin/date
% wh -d -f date
/bin:           symbolic link to usr/bin
% []
```

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Go To Content   Search

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