

Preliminaries

Show of hands: How many here run multiple shell sessions?
Multiple histories: I run a number of xterms and each has its own cd and command history file. Multiple command histories in bash is a whole other talk so if they crop up tonight I'll gloss over them.

What is the bash cd history?

GNU bash can maintain a history of visited working directories. To add to this list, use **pushd** rather than **cd** to change directory. **popd** removes an entry from the list. If **pushd** always specifies a new WD, the list operates as a stack. But **pushd $\pm n$** makes the indicated entry the CWD (the last entry is -0). The history is rotated, no entries are lost. **popd $\pm n$** removes the indicated entry. **dirs** displays the history.

Streamlining cd history builtins

I find the default behaviour to be a bit clunky: **pushd** & **popd** do a gratuitous **dirs**, you have to enter **dirs -v** to get the entry numbers and who wants to type e.g. **pushd +2** anyway? The extensions in the next slide can all be found in [dot_bashrc](#) (part of [command line tools](#) (C_L_T))

command_line_tools extensions

All are functions, except as marked

Bash builtin	extensions
pushd	pd, pdd, up
popd	ppd
dirs],]] (aliases)

The extensions to **pushd** & **popd** suppress the gratuitous **dirs** and treat unsigned numbers as having a leading **+**. Thus **pd 3** becomes **pushd +3**. (quick demo)

Saving the cd list

The **svdirs** function writes the command history to *\$HISTFILE.dirs*. (*\$HISTFILE* nominates the bash command history file, *~/.bash_history* by default). **svdirs** should be defined in your *~/.bashrc* (from *dot bashrc*). If you run multiple shell sessions then you likely want multiple cd history files (because they have no **shopt histappend** equivalent) and so multiple command history files (I heard **zsh** has that already).

Automatic: *~/.bashrc* sets a trap: **trap -- 'svdirs' EXIT** (Show shutdown VM)

Manual: Issue **svdirs** any time.

Restoring the cd list (1 of 2)

`~/bashrc` does this. So that `.bashrc` may be invoked multiple times, only restore the list if it is currently empty (has 1 entry).

(Show the code from `dot bashrc`).

102: `cut` is a loadable builtin which some systems won't have

103: test if we should go ahead

105 ff: use **`tac`** since 1st entry is CWD which we want to push

last; saved list has line numbers we need to remove; don't

push (now) nonexistent directories

109: when done, discard initial CWD

Restoring the cd list (2 of 2)

Automatic: `.bashrc` does it.

Manual: Ensure cd stack is empty then `. ~/.bashrc`.