# **Bashmatic Usage Docs (v2.4.2)**

# **Table of Contents**

File lib/file.sh
file.temp()
file.normalize-files()
Example
file.ask.if-exists()
file.install-with-backup()
Example
Arguments
File lib/pids.sh
pids.stop-by-listen-tcp-ports()  Example
pid.stop-if-listening-on-port()
Example
File lib/bashit.sh
bashit-prompt-terraform()
bashit-install()
File lib/array.sh
array.has-element()
Example
array.includes()
array.join()
Example
Arguments
array.sort()
Example
array.sort-numeric()
Example
array.min()
Example
array.force-range()
Example
array.max()
Example
array.uniq()
Example
array.from.command()
Example
File lib/asciidoc.sh
asciidoc.rouge-themes()
File lib/output-utils.sh
is-dbg()
dbg()
File lib/audio.sh
lib/audio.sh
File lib/brew.sh
package.is-installed()

File lib/output.sh	
section()	12
Arguments	12
File lib/file-helpers.sh	12
.file.make_executable()	12
File lib/video.sh	12
b/video.sh.	12
File lib/path.sh	14
path.strip-slash()	14
path.dirs()	14
Arguments	14
path.dirs.size()	14
path.dirs.uniq()	14
path.dirs.delete()	
Arguments	
path.uniq()	15
PATH.uniqify()	15
path.append()	15
path.prepend()	15
path.mutate.uniq()	15
path.mutate.delete()	15
path.mutate.append()	
path.mutate.prepend()	
PATH_add()	16
File lib/osx.sh	
osx.app.is-installed()	
Example	
Arguments	
Exit codes	
File lib/db.sh.	
db.config.parse()	
Example	
db.psql.connect()	
Example	
db.psql.connect.just-data()	
Exampledb.psql.connect.table-settings-set()	
Example	
db.psql.db-settings()	
Example	
db.psql.connect.db-settings-pretty()	
Example	
Arguments	
db.psql.connect.db-settings-toml()	
Example	
Arguments	
db.actions.run-multiple()	
Example	
db.actions.pga()	
File lib/shdoc.sh	
ib/shdoc.sh	19
File lib/git.sh	19
git.cfgu()	19

Example	
git.open()	
Example	
Arguments	
File lib/package.sh	
package.ensure.is-installed()	
package.ensure.commmand-available()	
Example	
File lib/time.sh	
time.with-duration.start()	
Example.	
File Lib/shasum.sh	
shasum.set-command()	
shasum.set-algo()	
Example	
shasum.sha()	
shasum.sha-only()	
shasum.sha-only-stdin()	
shasum.to-hash()	
Example	
shasum.all-files().	
Example	
shasum.all-files-in-dir()	
Example	
File lib/color.sh	
color.current-background()	
File lib/pg.sh	
pg.is-running()	
pg.running.server-binaries()	
pg.running.data-dirs()	
pg.server-in-path.version()	
File lib/dir.sh	
dir.short-home()	
File lib/config.sh	
•	
config.get-format()	
config.set-file()	
config.get-file()	
config.dig()	
Arguments	
config.dig.pretty()	
File lib/net.sh	
net.is-host-port-protocol-open().	
Arguments	
File lib/is.sh	
is.validation.error()	
Arguments	
Exit codes.	
is-validations()	
is.validation.ignore-error()	
is.validation.report-error()	
whenever()	
Example	
•	

File lib/runtime.sh	26
run.inspect-vars()	26
File lib/pdf.sh	26
Bashmatic Utilities for PDF file handling	27
File bin/install-direnv	27
direnv.register()	27
File bin/regen-usage-docs	27
File bin/pdf-reduce	27
pdf.do.shrink()	28
File bin/scheck	28
manual-install()	28
Copyright & License	28

NOTICE: shdoc documentation is auto-extracted from the Bashmatic Sources.

# File lib/file.sh

- file.temp()
- file.normalize-files()
- file.ask.if-exists()
- file.install-with-backup()

# file.temp()

Creates a temporary file and returns it as STDOUT shellcheck disable=SC2120

# file.normalize-files()

This function will rename all files passed to it as follows: spaces are replaced by dashes, non printable characters are removed, and the filename is lower cased.

#### **Example**

```
file.normalize-files "My Word Document.docx"
# my-word-document.docx
```

### file.ask.if-exists()

Ask the user whether to overwrite the file

# file.install-with-backup()

Installs a given file into a provided destination, while making a copy of the destination if it already exists.

#### **Example**

file.install-with-backup conf/.psqlrc ~/.psqlrc backup-strategy-function

#### **Arguments**

- @arg1 File to backup
- @arg2 Destination
- @arg3 [optional] Shortname of the optional backup strategy: 'bak' or 'folder'.

# File lib/pids.sh

- pids.stop-by-listen-tcp-ports()
- pid.stop-if-listening-on-port()

# pids.stop-by-listen-tcp-ports()

Finds any PID listening on one of the provided ports and stop thems.

#### **Example**

pids.stop-by-listen-tcp-ports 4232 9578 "\${PORT}"

# pid.stop-if-listening-on-port()

Finds any PID listening the one port and an optional protocol (tcp/udp)

#### **Example**

pid.stop-if-listening-on-port 3000 tcp pid.stop-if-listening-on-port 8126 udp

### File lib/bashit.sh

- bashit-prompt-terraform()
- bashit-install()

### bashit-prompt-terraform()

Possible Bash It Powerline Prompt Modules

aws\_profile battery clock command\_number cwd dirstack gcloud go history\_number hostname in\_toolbox in\_vim k8s\_context last\_status node python\_venv ruby scm shlvl terraform user\_info wd

# bashit-install()

Installs Bash-It Framework

# File lib/array.sh

- array.has-element()
- array.includes()
- array.join()
- array.sort()
- array.sort-numeric()
- array.min()
- array.force-range()
- array.max()
- array.uniq()
- array.from.command()

### array.has-element()

Returns "true" if the first argument is a member of the array passed as the second argument:

#### **Example**

```
$ declare -a array=("a string" test2000 moo)
if [[ $(array.has-element "a string" "${array[@]}") == "true" ]]; then
...
fi
```

# array.includes()

Similar to array.has-elements, but does not print anything, just returns 0 if includes, 1 if not.

# array.join()

Joins a given array with a custom string.

#### **Example**

```
$ declare -a array=(one two three)
$ array.join "," "${array[@]}"
$ array.join " -> " true "${array[@]}"
-> one
-> two
-> three
```

#### **Arguments**

- @arg1
- @arg2
- @arg3.

# array.sort()

Sorts the array alphanumerically and prints it to STDOUT

#### **Example**

```
declare -a unsorted=(hello begin again again)
local sorted="$(array.sort "${unsorted[@]}")"
```

# array.sort-numeric()

Sorts the array numerically and prints it to STDOUT

#### **Example**

```
declare -a unsorted=(1 2 34 45 6)
local sorted="$(array.sort-numeric "${unsorted[@]}")"
```

# array.min()

Returns a minimum integer from an array. Non-numeric elements are ignored and skipped over. Negative

numbers are supported, but non-integers are not.

#### **Example**

```
$ declare -a array=(10 20 30 -5 5)
$ array.min "," "${array[@]}"
-5
```

# array.force-range()

Given a numeric argument, and an additional array of numbers, determines the min/max range of the array and prints out the number if it's within the range of array's min and max. Otherwise prints out either min or max.

#### **Example**

```
$ array.force-range 26 0 100
# => 26
$ array.force-range 26 60 100
# => 60
```

# array.max()

Returns a maximum integer from an array. Non-numeric elements are ignored and skipped over. Negative numbers are supported, but non-integers are not.

#### **Example**

```
$ declare -a array=(10 20 30 -5 5)
$ array.min "," "${array[@]}"
30
```

# array.uniq()

Sorts and uniqs the array and prints it to STDOUT

#### **Example**

```
declare -a unsorted=(hello hello goodbye)
local uniqued="$(array.sort-numeric "${unsorted[@]}")"
```

### array.from.command()

Creates an array variable, where each element is a line from a command output, which includes any spaces.

#### **Example**

array.from.command music\_files "find . -type f -name '\*.mp3'"
echo "You have \${#music[@]} music files."

# File lib/asciidoc.sh

Provides helper functions for dealing with asciidoc format.

asciidoc.rouge-themes()

# asciidoc.rouge-themes()

Installs gem "rouge" and prints all available themes

# File lib/output-utils.sh

- is-dbg()
- dbg()

# is-dbg()

Checks if we have debug mode enabled

# dbg()

Local debugging helper, activate it with DEBUG=1

# File lib/audio.sh

# lib/audio.sh

Audio conversions routines.

- audio.file.frequency()
- audio.make.mp3s()

- audio.make.mp3()
- audio.file.mp3-to-wav()
- audio.dir.mp3-to-wav()
- .audio.karaoke.format()
- audio.dir.rename-wavs()
- audio.dir.rename-karaoke-wavs()

# audio.file.frequency()

Given a music audio file, determine its frequency.

### audio.make.mp3s()

Given a folder of MP3 files, and an optional KHz specification, perform a sequential conversion from AIF/WAV format to MP3.

#### **Example**

```
audio.wav-to-mp3 [ file.wav | file.aif | file.aiff ] [ file.mp3 ]
```

### audio.make.mp3()

Converts one AIF/WAV file to high-rez 320 Kbps MP3

### audio.file.mp3-to-wav()

Decodes a folder with MP3 files back into WAV

## audio.dir.mp3-to-wav()

assume a folder with a bunch of MP3s in subfolders

#### **Example**

same folder structure but under /Volumes/SDCARD.

### .audio.karaoke.format()

Rename function for one filename to another. This particular function deals with files of this format: Downloaded from karaoke-version.com:

#### **Example**

.audio.karaoke.format "Michael\_Jackson\_Billie\_Jean(Drum\_Backing\_Track\_(Drum\_only))\_248921.wav" => michael\_jackson\_billie\_jean--drum\_backing\_track-drum\_only.wav

# audio.dir.rename-wavs()

This function receives a format specification, and an optional directory as a second argument. Format specification is meant to map to a function .audio.<format>.format that&#8217;s used as follows: .audio.<format>.format "file-name" =&gt; "new file name" </format></format>

#### **Example**

audio.dir.rename-wavs karaoke ~/Karaoke

# audio.dir.rename-karaoke-wavs()

Renames wav files in the current folder (or the folder passed as an argument, based on the naming scheme downloaded from karaoke-version.com

#### **Example**

audio.dir.rename-karaoke-wavs "~/Karaoke"

# File lib/brew.sh

package.is-installed()

## package.is-installed()

For each passed argument checks if it's installed.

# File lib/output.sh

• section()

# section()

Prints a "arrow-like" line using powerline characters

#### **Arguments**

- @arg1 Width (optional) only interretered as width if the first argument is a number.
- @args Text to print

# File lib/file-helpers.sh

• .file.make\_executable()

## .file.make\_executable()

Makes a file executable but only if it already contains a "bang" line at the top.

# File lib/video.sh

# lib/video.sh

Video conversions routines.

- .video.install-deps()
- .video.convert.compress-shrinkwrap()
- .video.convert.compress-11()
- .video.convert.compress-12()
- .video.convert.compress-13()
- .video.convert.compress-21()
- .video.convert.compress-22()
- .video.convert.compress-23()
- .video.convert.compress-3()
- video.convert.compress()

# .video.install-deps()

# .video.convert.compress-shrinkwrap()

Named after the author of a similar tool that does this:

### .video.convert.compress-11()

Given two arguments (from), (to), performs a video recompression

### .video.convert.compress-12()

Given two arguments (from), (to), performs a video recompression

## .video.convert.compress-13()

Given two arguments (from), (to), performs a video recompression

### .video.convert.compress-21()

Given two arguments (from), (to), performs a video recompression

### .video.convert.compress-22()

Given two arguments (from), (to), performs a video recompression

# .video.convert.compress-23()

Given two arguments (from), (to), performs a video recompression

# .video.convert.compress-3()

Given two arguments (from), (to), performs a video recompression

## video.convert.compress()

Given two arguments (from), (to), performs a video recompression according to the algorithm in the second argument.

#### **Example**

video.convert.compress bigfile.mov 13

# File lib/path.sh

Utilities for managing the \$PATH variable

- path.strip-slash()
- path.dirs()
- path.dirs.size()
- path.dirs.uniq()
- path.dirs.delete()
- path.uniq()
- PATH.uniqify()
- path.append()
- path.prepend()
- path.mutate.uniq()
- path.mutate.delete()
- path.mutate.append()
- path.mutate.prepend()
- PATH\_add()

## path.strip-slash()

Removes a trailing slash from an argument path

## path.dirs()

Prints a new-line separated list of paths in PATH

#### **Arguments**

• @arg1 A path to split, defaults to \$PATH

# path.dirs.size()

Prints the tatal number of paths in the path argument, which defaults to \$PATH

# path.dirs.uniq()

Prints all folders in \$PATH, one per line, removing any duplicates, Does not mutate the \$PATH

## path.dirs.delete()

Deletes any number of folders from the PATH passed as the first string argument (defaults to \$PATH). Does not mutate the \$PATH, just prints the result to STDOUT

#### **Arguments**

- @arg1 String representation of a PATH, eg "/bin:/usr/bin:/usr/local/bin"
- @arg2 An array of paths to be removed from the PATH

### path.uniq()

Removes duplicates from the \$PATH (or argument) and prints the results in the PATH format (column-joined). DOES NOT mutate the actual \$PATH

### PATH.uniqify()

Using sed and tr uniq the PATH without re-sorting it.

### path.append()

Appends a new directory to the \$PATH and prints the result to STDOUT, Does NOT mutate the actual \$PATH

### path.prepend()

Prepends a new directory to the \$PATH and prints to STDOUT, If one of the arguments already in the PATH its moved to the front. DOES NOT mutate the actual \$PATH

### path.mutate.uniq()

Removes any duplicates from \$PATH and exports it.

### path.mutate.delete()

Deletes paths from the PATH provided on the command line

### path.mutate.append()

Appends valid directories to those in the PATH, and exports the new value of the PATH

### path.mutate.prepend()

Prepends valid directories to those in the PATH, and exports the new value of the PATH

### PATH\_add()

This function exists within direnv, but since we are sourcing in .envrc we need to have this defined to avoid errors.

# File lib/osx.sh

**OSX Specific Helpers and Utilities** 

osx.app.is-installed()

# osx.app.is-installed()

Checks if a given parameter matches any of the installed applications under /Applications and ~/Applications

By the default prints the matched application. Pass -q as a second argument to disable output.

#### **Example**

```
> osx.app.is-installed safari
Safari.app
> osx.app.is-installed safari -q && echo installed
installed
> osx.app.is-installed microsoft -c
6
```

#### **Arguments**

- \$1 (a): string value to match (case insentively) for an app name
- \$2.. additional arguments to the last invocation of grep

#### **Exit codes**

- 0: if match was found
- 1: if not

# File lib/db.sh

- db.config.parse()
- db.psql.connect()

- db.psql.connect.just-data()
- db.psql.connect.table-settings-set()
- db.psql.db-settings()
- db.psql.connect.db-settings-pretty()
- db.psql.connect.db-settings-toml()
- db.actions.run-multiple()
- db.actions.pga()

# db.config.parse()

Returns a space-separated values of db host, db name, username and password

#### **Example**

```
db.config.set-file ~/.db/database.yml
db.config.parse development
#=> hostname dbname dbuser dbpass
declare -a params=($(db.config.parse development))
echo ${params[0]} # host
```

## db.psql.connect()

Connect to one of the databases named in the YAML file, and optionally pass additional arguments to psql. Informational messages are sent to STDERR.

#### **Example**

```
db.psql.connect production
db.psql.connect production -c 'show all'
```

# db.psql.connect.just-data()

Similar to the db.psql.connect, but outputs just the raw data with no headers.a

#### **Example**

```
db.psql.connect.just-data production -c 'select datname from pg_database;'
```

# db.psql.connect.table-settings-set()

Set per-table settings, such as autovacuum, eg:

#### **Example**

db.psql.connect.table-settings-set prod users autovacuum\_analyze\_threshold 1000000 db.psql.connect.table-settings-set prod users autovacuum\_analyze\_scale\_factor 0  $\,$ 

### db.psql.db-settings()

Print out PostgreSQL settings for a connection specified by args

#### **Example**

db.psql.db-settings -h localhost -U postgres appdb

# db.psql.connect.db-settings-pretty()

Print out PostgreSQL settings for a named connection

#### **Example**

db.psql.connect.db-settings-pretty primary

#### **Arguments**

• @arg1 dbname database entry name in ~/.db/database.yml

# db.psql.connect.db-settings-toml()

Print out PostgreSQL settings for a named connection using TOML/ini format.

#### **Example**

db.psql.connect.db-settings-toml primary > primary.ini

#### **Arguments**

• @arg1 dbname database entry name in ~/.db/database.yml

### db.actions.run-multiple()

Executes multiple commands by passing them to psql each with -c flag. This allows, for instance, setting session values, and running commands such as VACUUM which can not run within an implicit transaction started when joining multiple statements with ";"

#### **Example**

\$ db -q run my\_database 'set default\_statistics\_target to 10; show default\_statistics\_target; vacuum users'
ERROR: VACUUM cannot run inside a transaction block

# db.actions.pga()

Installs (if needed) pg\_activity and starts it up against the connection

# File lib/shdoc.sh

# lib/shdoc.sh

Helpers to install gawk and shdoc properly.0

see \${BASHMATIC\_HOME}/lib/shdoc.md for an example of how to use SHDOC. and also project's github page.

• gawk.install()

# gawk.install()

Installs gawk into /usr/local/bin/gawk

# File lib/git.sh

- git.cfgu()
- git.open()

# git.cfgu()

Sets or gets user values from global gitconfig.

#### **Example**

```
git.cfgu email
git.cfgu email kigster@gmail.com
git.cfgu
```

# git.open()

Reads the remote of a repo by name provided as an argument (or defaults to "origin") and opens it in the browser.

#### **Example**

```
git clone git@github.com:kigster/bashmatic.git
cd bashmatic
source init.sh
git.open
git.open origin # same thing
```

#### **Arguments**

• \$1 (optional): name of the remote to open, defaults to "orogin"

# File lib/package.sh

- package.ensure.is-installed()
- package.ensure.commmand-available()

```
package.ensure.is-installed()
```

fr

package.ensure.commmand-available()

#### **Example**

```
In this example we skip installation if `gem` exists and in the PATH. Oherwise we install the package and retry, and return if not found
```

# File lib/time.sh

• time.with-duration.start()

# time.with-duration.start()

Starts a time for a given name space

#### **Example**

```
time.with-duration.start moofie
# ... time passes
time.with-duration.end moofie 'Moofie is now this old: '
# ... time passes
time.with-duration.end moofie 'Moofie is now very old: '
time.with-duration.clear moofie
```

# File lib/shasum.sh

**SHA Functions** 

SHASUM related functions, that compute SHA for a single file, collection of files, or entire directories.

- shasum.set-command()
- shasum.set-algo()
- shasum.sha()
- shasum.sha-only()
- shasum.sha-only-stdin()
- shasum.to-hash()
- shasum.all-files()
- shasum.all-files-in-dir()

# shasum.set-command()

Override the default SHA command and alogirthm Default is shasum -a 256

# shasum.set-algo()

Override the default SHA algorithm

#### **Example**

```
$ shasum.set-algo 256
```

### shasum.sha()

Compute SHA for all given files, ignore STDERR NOTE: first few arguments will be passed to the shasum command, or whatever you set via shasum.set-command.

# shasum.sha-only()

Print SHA ONLY removing the file components

# shasum.sha-only-stdin()

Print SHA ONLY removing the file components

### shasum.to-hash()

This function populates a pre-declare associative array with filenames mapped to their SHAs, but only in the current directory Call dbg-on to enable additional debugging info.

#### **Example**

```
$ declare -A file_shas
$ shasum.to-hash file_shas $(find . -type f -maxdepth 2)
$ echo "Total of ${#file_shas[@]} files in the hash"
```

### shasum.all-files()

For a given array of files, sort them, take a SHA of each file, and return a single SHA finger-printing this set of files. # NOTE: the files are sorted prior to hashing, so the return SHA should ONLY change when files are either changed, or added/removed. Only computes SHA of the files provided, does not recurse into folders

#### **Example**

```
$ shasum.all-files *.cpp
```

## shasum.all-files-in-dir()

For a given directory and an optional file pattern, use find to grab every single file (that matches optional pattern) and return a single SHA

#### **Example**

```
$ shasum.all-files-in-dir . '*.pdf'
cc35aad389e61942c75e111f1eddbe634d74b4b1
```

### File lib/color.sh

color.current-background()

### color.current-background()

Prints the background color of the terminal, assuming terminal responds to the escape sequence. More info: https://stackoverflow.com/questions/2507337/how-to-determine-a-terminals-background-color

# File lib/pg.sh

- pg.is-running()
- pg.running.server-binaries()
- pg.running.data-dirs()
- pg.server-in-path.version()

# pg.is-running()

Returns true if PostgreSQL is running locally

# pg.running.server-binaries()

if one or more PostgreSQL instances is running locally, prints each server's binary postgres file path

# pg.running.data-dirs()

For each running server prints the data directory

### pg.server-in-path.version()

Grab the version from postgres binary in the PATH and remove fractional sub-version

### File lib/dir.sh

dir.short-home()

## dir.short-home()

Replaces the first part of the directory that matches \${HOME} with '~/'

# File lib/config.sh

- config.get-format()
- config.set-file()
- config.get-file()
- config.dig()
- config.dig.pretty()

# config.get-format()

Get current format

Set the default config file

Get the file name

# config.dig()

Reads the value from a two-level configuration hash

#### **Arguments**

- @arg1 hash key
- @arg2 hash sub-key

# config.dig.pretty()

Uses jq utility to format JSON with color, supports partial

### File lib/net.sh

net.is-host-port-protocol-open()

# net.is-host-port-protocol-open()

Uses pingless connection to check if a remote port is open Requires sudo for UDP

#### **Arguments**

- @arg1 host
- @arg2 port
- @arg3 [optional] protocol (defaults to "tcp", supports also "udp")

## File lib/is.sh

Various validations and asserts that can be chained and be explicit in a DSL-like way.

- <<isvalidationerror,is.validation.error()>>
- is-validations()
- <<isvalidationignore-error,is.validation.ignore-error()>>
- <<isvalidationreport-error,is.validation.report-error()>>
- whenever()

# \_\_is.validation.error()

Invoke a validation on the value, and process the invalid case using a customizable error handler.

#### **Arguments**

- @arg1 func Validation function name to invoke
- @arg2 var Value under the test
- @arg4 error\_func Error function to call when validation fails

#### **Exit codes**

• 0: if validation passes

# is-validations()

Returns the list of validation functions available

```
__is.validation.ignore-error()
```

Private function that ignores errors

```
__is.validation.report-error()
```

Private function that ignores errors

# whenever()

a convenient DSL for validating things

#### **Example**

```
whenever /var/log/postgresql.log is.an-empty-file && {
   touch /var/log/postgresql.log
}
```

# File lib/util.sh

Miscellaneous utilities.

# File lib/runtime.sh

• run.inspect-vars()

### run.inspect-vars()

Prints values of all variables starting with prefixes in args

# File lib/pdf.sh

# **Bashmatic Utilities for PDF file handling**

Install and uses GhostScript to manipulate PDFs.

pdf.combine()

# pdf.combine()

Combine multiple PDFs into a single one using ghostscript.

#### **Example**

pdf.combine ~/merged.pdf 'my-book-chapter\*'

#### **Arguments**

- \$1 (pathname): to the merged file
- ... (the): rest of the PDF files to combine

# File bin/install-direnv

Add direnv hook to shell RC files

direnv.register()

# direnv.register()

Add direnv hook to shell RC files

# File bin/regen-usage-docs

Regenerates USAGE.adoc && USAGE.pdf

# File bin/pdf-reduce

pdf.do.shrink()

# pdf.do.shrink()

shrinkgs PDF

# File bin/scheck

• manual-install()

# manual-install()

Manually Download and Install ShellCheck

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