

NAME

`env_parallel` - export environment to GNU parallel

SYNOPSIS

`env_parallel` [--record-env|--session|--end-session] [options for GNU Parallel]

DESCRIPTION

`env_parallel` is a shell function that exports the current environment to GNU **parallel**.

If the shell function is not loaded, a dummy script will be run instead that explains how to install the function.

`env_parallel` is 100 ms slower at startup than pure GNU **parallel**, and takes up to 30% longer to start a job (typically 15 ms).

Due to the problem with environment space (see below) you are recommended only to transfer the environment that you need.

To help you do that, you can mark names that should not be transferred. This can be done with either **--session** or **--record-env**.

```
# Record the "clean" environment (this only needs to be run once)
env_parallel --record-env
```

```
# Optionally edit ~/.parallel/ignored_vars (only needed once)
```

```
# Define whatever you want to use
myfunc() { myalias and functions $myvar work. $1.; }
alias myalias='echo Aliases'
myvar='and variables'
```

```
# Use --env _ to only transfer the names not in the "empty" environment
env_parallel --env _ -S localhost myfunc ::: Hooray
```

Or:

```
# Do --record-env into $PARALLEL_IGNORED_NAMES
env_parallel --session
```

```
# Define whatever you want to use
myfunc() { myalias and functions $myvar work. $1.; }
alias myalias='echo Aliases'
myvar='and variables'
```

```
# env_parallel will not export names in $PARALLEL_IGNORED_NAMES
env_parallel -S localhost myfunc ::: Hooray
```

```
# Optionally
env_parallel --end-session
```

In **csh** **--session** is not supported:

```
# Record the "clean" environment - this only needs to be run once
env_parallel --record-env
```

```
# Optionally edit ~/.parallel/ignored_vars - only needed once
```

```
# Define whatever you want to use
alias myalias 'echo Aliases $myvar \!*. '
set myvar='and variables'

# Use --env _ to only transfer the names not in the "empty" environment
env_parallel --env _ -S localhost myalias ::: work
```

Environment space

By default **env_parallel** will export all environment variables, arrays, aliases, functions and shell options (see details for the individual shells below).

But this only works if the size of the current environment is smaller than the maximal length of a command and smaller than half of the max if running remotely. E.g. The max size of Bash's command is 128 KB, so **env_parallel** will fail if **'set | wc -c'** is bigger than 128 KB. Technically the limit is in `execve(1)` which `IPC::open3` uses.

Bash completion functions are well-known for taking up well over 128 KB of environment space and the primary reason for causing **env_parallel** to fail.

Instead you can use **--env** to specify which variables, arrays, aliases and functions to export as this will only export those with the given name. Or follow the recommended usage in shown in DESCRIPTION.

OPTIONS

Same as GNU **parallel** in addition to these:

--end-session

Undo last **--session**

--record-env

Record all names currently defined to be ignored every time running **env_parallel** in the future.

--session

Ignore all names currently defined. Aliases, variables, arrays, and functions currently defined will not be transferred.

But names defined *after* running **parallel --session** will be transferred.

This is only valid in the running shell, and can be undone with **parallel --end-session**.

You can run multiple **--session** inside each other:

```
env_parallel --session
var=not
# var is transferred
env_parallel -Slocalhost 'echo var is $var' ::: ignored
env_parallel --session
# var is not transferred
env_parallel -Slocalhost 'echo var is $var' ::: ignored
env_parallel --end-session
# var is transferred again
env_parallel -Slocalhost 'echo var is $var' ::: ignored
```

SUPPORTED SHELLS

Ash

Installation

Put this in \$HOME/.profile:

```
. env_parallel.ash
```

E.g. by doing:

```
echo '. env_parallel.ash' >> $HOME/.profile
```

Supported use

--env is supported to export only the variable, or alias with the given name. Multiple **--envs** can be given.

--session is supported.

aliases

```
alias myecho='echo aliases'
env_parallel myecho ::: work
env_parallel -S server myecho ::: work
env_parallel --env myecho myecho ::: work
env_parallel --env myecho -S server myecho ::: work
```

```
alias multiline='echo multiline
echo aliases'
env_parallel multiline ::: work
env_parallel -S server multiline ::: work
env_parallel --env multiline multiline ::: work
env_parallel --env multiline -S server multiline ::: work
```

functions

ash cannot list defined functions - thus is not supported.

variables

```
myvar=variables
env_parallel echo '$myvar' ::: work
env_parallel -S server echo '$myvar' ::: work
env_parallel --env myvar echo '$myvar' ::: work
env_parallel --env myvar -S server echo '$myvar' ::: work
```

arrays

Arrays are not supported by Ash.

Bash

Installation

Put this in \$HOME/.bashrc:

```
. env_parallel.bash
```

E.g. by doing:

```
echo '. env_parallel.bash' >> $HOME/.bashrc
```

Supported use

--env is supported to export only the variable, alias, function, or array with the given name. Multiple **--envs** can be given.

--session is supported.

aliases

```
alias myecho='echo aliases'
env_parallel myecho ::: work
env_parallel -S server myecho ::: work
env_parallel --env myecho myecho ::: work
env_parallel --env myecho -S server myecho ::: work

alias multiline='echo multiline
echo aliases'
env_parallel 'multiline {}';
echo but only when followed by a newline' ::: work
env_parallel -S server 'multiline {}';
echo but only when followed by a newline' ::: work
env_parallel --env multiline 'multiline {}';
echo but only when followed by a newline' ::: work
env_parallel --env multiline -S server 'multiline {}';
echo but only when followed by a newline' ::: work
```

functions

```
myfunc() { echo functions $*; }
env_parallel myfunc ::: work
env_parallel -S server myfunc ::: work
env_parallel --env myfunc myfunc ::: work
env_parallel --env myfunc -S server myfunc ::: work
```

variables

```
myvar=variables
env_parallel echo '$myvar' ::: work
env_parallel -S server echo '$myvar' ::: work
env_parallel --env myvar echo '$myvar' ::: work
env_parallel --env myvar -S server echo '$myvar' ::: work
```

arrays

```
myarray=(arrays work, too)
env_parallel -k echo '${myarray[{}]} ' ::: 0 1 2
env_parallel -k -S server echo '${myarray[{}]} ' ::: 0 1 2
env_parallel -k --env myarray echo '${myarray[{}]} ' ::: 0 1 2
env_parallel -k --env myarray -S server \
echo '${myarray[{}]} ' ::: 0 1 2
```

BUGS

Due to a bug in Bash, aliases containing newlines must be followed by a newline in the command. Some systems are not affected by this bug, but will print a warning anyway.

csch (alpha testing)

env_parallel for **csch** breaks **\$PARALLEL**, so do not use **\$PARALLEL**.

Installation

Put this in \$HOME/.cshrc:

```
source `which env_parallel.csh`
```

E.g. by doing:

```
echo 'source `which env_parallel.csh`' >> $HOME/.cshrc
```

Supported use

--env is supported to export only the variable, alias, or array with the given name. Multiple **--envs** can be given.

aliases

```
alias myecho 'echo aliases'
env_parallel myecho ::: work
env_parallel -S server myecho ::: work
env_parallel --env myecho myecho ::: work
env_parallel --env myecho -S server myecho ::: work
```

functions

Not supported by **csh**.

variables

```
set myvar=variables
env_parallel echo '$myvar' ::: work
env_parallel -S server echo '$myvar' ::: work
env_parallel --env myvar echo '$myvar' ::: work
env_parallel --env myvar -S server echo '$myvar' ::: work
```

arrays with no special chars

```
set myarray=(arrays work, too)
env_parallel -k echo \${myarray[{}]}' ::: 1 2 3
env_parallel -k -S server echo \${myarray[{}]}' ::: 1 2 3
env_parallel -k --env myarray echo \${myarray[{}]}' ::: 1 2 3
env_parallel -k --env myarray -S server \
echo \${myarray[{}]}' ::: 1 2 3
```

Dash

Installation

Put this in \$HOME/.profile:

```
. env_parallel.dash
```

E.g. by doing:

```
echo '. env_parallel.dash' >> $HOME/.profile
```

Supported use

--env is supported to export only the variable, or alias with the given name. Multiple **--envs** can be given.

--session is supported.

aliases

```
alias myecho='echo aliases'
env_parallel myecho ::: work
env_parallel -S server myecho ::: work
env_parallel --env myecho myecho ::: work
env_parallel --env myecho -S server myecho ::: work

alias multiline='echo multiline
echo aliases'
env_parallel multiline ::: work
env_parallel -S server multiline ::: work
env_parallel --env multiline multiline ::: work
env_parallel --env multiline -S server multiline ::: work
```

functions

dash cannot list defined functions - thus is not supported.

variables

```
myvar=variables
env_parallel echo '$myvar' ::: work
env_parallel -S server echo '$myvar' ::: work
env_parallel --env myvar echo '$myvar' ::: work
env_parallel --env myvar -S server echo '$myvar' ::: work
```

arrays

dash does not support arrays.

fish (alpha testing)**Installation**

Put this in `$HOME/.config/fish/config.fish`:

```
source (which env_parallel.fish)
```

E.g. by doing:

```
echo 'source (which env_parallel.fish)' \
>> $HOME/.config/fish/config.fish
```

Supported use

--env is supported to export only the variable, alias, function, or array with the given name. Multiple **--envs** can be given.

--session is supported.

aliases

```
alias myecho 'echo aliases'
env_parallel myecho ::: work
env_parallel -S server myecho ::: work
env_parallel --env myecho myecho ::: work
env_parallel --env myecho -S server myecho ::: work
```

functions

```
function myfunc
```

```
    echo functions $argv
end
env_parallel myfunc ::: work
env_parallel -S server myfunc ::: work
env_parallel --env myfunc myfunc ::: work
env_parallel --env myfunc -S server myfunc ::: work
```

variables

```
set myvar variables
env_parallel echo '$myvar' ::: work
env_parallel -S server echo '$myvar' ::: work
env_parallel --env myvar echo '$myvar' ::: work
env_parallel --env myvar -S server echo '$myvar' ::: work
```

arrays

Arrays normally work, but fail intermitently.

```
set myarray arrays work, too
env_parallel -k echo '$myarray[{}]' ::: 1 2 3
env_parallel -k -S server echo '$myarray[{}]' ::: 1 2 3
env_parallel -k --env myarray echo '$myarray[{}]' ::: 1 2 3
env_parallel -k --env myarray -S server \
    echo '$myarray[{}]' ::: 1 2 3
```

ksh

Installation

Put this in \$HOME/.kshrc:

```
source env_parallel.ksh
```

E.g. by doing:

```
echo 'source env_parallel.ksh' >> $HOME/.kshrc
```

Supported use

--env is supported to export only the variable, alias, function, or array with the given name. Multiple **--envs** can be given.

--session is supported.

aliases

```
alias myecho='echo aliases'
env_parallel myecho ::: work
env_parallel -S server myecho ::: work
env_parallel --env myecho myecho ::: work
env_parallel --env myecho -S server myecho ::: work

alias multiline='echo multiline
echo aliases'
env_parallel multiline ::: work
env_parallel -S server multiline ::: work
env_parallel --env multiline multiline ::: work
env_parallel --env multiline -S server multiline ::: work
```

functions

```
myfunc() { echo functions $*; }
env_parallel myfunc ::: work
env_parallel -S server myfunc ::: work
env_parallel --env myfunc myfunc ::: work
env_parallel --env myfunc -S server myfunc ::: work
```

variables

```
myvar=variables
env_parallel echo '$myvar' ::: work
env_parallel -S server echo '$myvar' ::: work
env_parallel --env myvar echo '$myvar' ::: work
env_parallel --env myvar -S server echo '$myvar' ::: work
```

arrays

```
myarray=(arrays work, too)
env_parallel -k echo '${myarray[{}]} ' ::: 0 1 2
env_parallel -k -S server echo '${myarray[{}]} ' ::: 0 1 2
env_parallel -k --env myarray echo '${myarray[{}]} ' ::: 0 1 2
env_parallel -k --env myarray -S server \
    echo '${myarray[{}]} ' ::: 0 1 2
```

mksh

Installation

Put this in \$HOME/.mkshrc:

```
source env_parallel.mksh
```

E.g. by doing:

```
echo 'source env_parallel.mksh' >> $HOME/.mkshrc
```

Supported use

--env is supported to export only the variable, alias, function, or array with the given name. Multiple **--envs** can be given.

--session is supported.

aliases

```
alias myecho='echo aliases'
env_parallel myecho ::: work
env_parallel -S server myecho ::: work
env_parallel --env myecho myecho ::: work
env_parallel --env myecho -S server myecho ::: work

alias multiline='echo multiline
echo aliases'
env_parallel multiline ::: work
env_parallel -S server multiline ::: work
env_parallel --env multiline multiline ::: work
env_parallel --env multiline -S server multiline ::: work
```

functions

```
myfunc() { echo functions $*; }
env_parallel myfunc ::: work
```



```
env_parallel -S server myfunc ::: work
env_parallel --env myfunc myfunc ::: work
env_parallel --env myfunc -S server myfunc ::: work
```

variables

```
myvar=variables
env_parallel echo '$myvar' ::: work
env_parallel -S server echo '$myvar' ::: work
env_parallel --env myvar echo '$myvar' ::: work
env_parallel --env myvar -S server echo '$myvar' ::: work
```

arrays

```
myarray=(arrays work, too)
env_parallel -k echo '${myarray[{}]} ' ::: 0 1 2
env_parallel -k -S server echo '${myarray[{}]} ' ::: 0 1 2
env_parallel -k --env myarray echo '${myarray[{}]} ' ::: 0 1 2
env_parallel -k --env myarray -S server \
    echo '${myarray[{}]} ' ::: 0 1 2
```

pdksh

Installation

Put this in \$HOME/.profile:

```
source env_parallel.pdksh
```

E.g. by doing:

```
echo 'source env_parallel.pdksh' >> $HOME/.profile
```

Supported use

--env is supported to export only the variable, alias, function, or array with the given name. Multiple **--envs** can be given.

--session is supported.

aliases

```
alias myecho="echo aliases";
env_parallel myecho ::: work;
env_parallel -S server myecho ::: work;
env_parallel --env myecho myecho ::: work;
env_parallel --env myecho -S server myecho ::: work
```

functions

```
myfunc() { echo functions $*; };
env_parallel myfunc ::: work;
env_parallel -S server myfunc ::: work;
env_parallel --env myfunc myfunc ::: work;
env_parallel --env myfunc -S server myfunc ::: work
```

variables

```
myvar=variables;
env_parallel echo "\$myvar" ::: work;
env_parallel -S server echo "\$myvar" ::: work;
```

```
env_parallel --env myvar echo "\$myvar" ::: work;
env_parallel --env myvar -S server echo "\$myvar" ::: work
```

arrays

```
myarray=(arrays work, too);
env_parallel -k echo "\${myarray[{}]}" ::: 0 1 2;
env_parallel -k -S server echo "\${myarray[{}]}" ::: 0 1 2;
env_parallel -k --env myarray echo "\${myarray[{}]}" ::: 0 1
2;
env_parallel -k --env myarray -S server \
echo "\${myarray[{}]}" ::: 0 1 2
```

sh

Installation

Put this in \$HOME/.profile:

```
. env_parallel.sh
```

E.g. by doing:

```
echo '. env_parallel.sh' >> $HOME/.profile
```

Supported use

--env is supported to export only the variable, or alias with the given name. Multiple **--envs** can be given.

--session is supported.

aliases

sh does not support aliases.

functions

```
myfunc() { echo functions $*; }
env_parallel myfunc ::: work
env_parallel -S server myfunc ::: work
env_parallel --env myfunc myfunc ::: work
env_parallel --env myfunc -S server myfunc ::: work
```

variables

```
myvar=variables
env_parallel echo '$myvar' ::: work
env_parallel -S server echo '$myvar' ::: work
env_parallel --env myvar echo '$myvar' ::: work
env_parallel --env myvar -S server echo '$myvar' ::: work
```

arrays

sh does not support arrays.

tcsh (alpha testing)

env_parallel for **tcsh** breaks **\$PARALLEL**, so do not use **\$PARALLEL**.

Installation

Put this in `$HOME/.tcshrc`:

```
source `which env_parallel.tcsh`
```

E.g. by doing:

```
echo 'source `which env_parallel.tcsh`' >> $HOME/.tcshrc
```

Supported use

--env is supported to export only the variable, alias, or array with the given name. Multiple **--envs** can be given.

aliases

```
alias myecho 'echo aliases'
env_parallel myecho ::: work
env_parallel -S server myecho ::: work
env_parallel --env myecho myecho ::: work
env_parallel --env myecho -S server myecho ::: work
```

functions

Not supported by **tcsh**.

variables

```
set myvar=variables
env_parallel echo '$myvar' ::: work
env_parallel -S server echo '$myvar' ::: work
env_parallel --env myvar echo '$myvar' ::: work
env_parallel --env myvar -S server echo '$myvar' ::: work
```

arrays with no special chars

```
set myarray=(arrays work, too)
env_parallel -k echo '${myarray[{}]} ' ::: 1 2 3
env_parallel -k -S server echo '${myarray[{}]} ' ::: 1 2 3
env_parallel -k --env myarray echo '${myarray[{}]} ' ::: 1 2 3
env_parallel -k --env myarray -S server \
    echo '${myarray[{}]} ' ::: 1 2 3
```

Zsh

Installation

Put this in `$HOME/.zshrc`:

```
. env_parallel.zsh
```

E.g. by doing:

```
echo '. env_parallel.zsh' >> $HOME/.zshenv
```

Supported use

--env is supported to export only the variable, alias, function, or array with the given name. Multiple **--envs** can be given.

--session is supported.

aliases

```
alias myecho='echo aliases'
env_parallel myecho ::: work
env_parallel -S server myecho ::: work
env_parallel --env myecho myecho ::: work
env_parallel --env myecho -S server myecho ::: work

alias multiline='echo multiline
echo aliases'
env_parallel multiline ::: work
env_parallel -S server multiline ::: work
env_parallel --env multiline multiline ::: work
env_parallel --env multiline -S server multiline ::: work
```

functions

```
myfunc() { echo functions $*; }
env_parallel myfunc ::: work
env_parallel -S server myfunc ::: work
env_parallel --env myfunc myfunc ::: work
env_parallel --env myfunc -S server myfunc ::: work
```

variables

```
myvar=variables
env_parallel echo '$myvar' ::: work
env_parallel -S server echo '$myvar' ::: work
env_parallel --env myvar echo '$myvar' ::: work
env_parallel --env myvar -S server echo '$myvar' ::: work
```

arrays

```
myarray=(arrays work, too)
env_parallel -k echo '${myarray[{}]} ' ::: 1 2 3
env_parallel -k -S server echo '${myarray[{}]} ' ::: 1 2 3
env_parallel -k --env myarray echo '${myarray[{}]} ' ::: 1 2 3
env_parallel -k --env myarray -S server \
echo '${myarray[{}]} ' ::: 1 2 3
```

EXIT STATUS

Same as GNU **parallel**.

AUTHOR

When using GNU **env_parallel** for a publication please cite:

O. Tange (2018): GNU Parallel 2018, March 2018, ISBN 9781387509881, DOI: 10.5281/zenodo.1146014.

This helps funding further development; and it won't cost you a cent. If you pay 10000 EUR you should feel free to use GNU Parallel without citing.

Copyright (C) 2007-10-18 Ole Tange, <http://ole.tange.dk>

Copyright (C) 2008-2010 Ole Tange, <http://ole.tange.dk>

Copyright (C) 2010-2024 Ole Tange, <http://ole.tange.dk> and Free Software Foundation, Inc.

LICENSE

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 3 of the License, or at your option any later version.

This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with this program. If not, see <http://www.gnu.org/licenses/>.

Documentation license I

Permission is granted to copy, distribute and/or modify this documentation under the terms of the GNU Free Documentation License, Version 1.3 or any later version published by the Free Software Foundation; with no Invariant Sections, with no Front-Cover Texts, and with no Back-Cover Texts. A copy of the license is included in the file LICENSES/GFDL-1.3-or-later.txt.

Documentation license II

You are free:

to Share

to copy, distribute and transmit the work

to Remix

to adapt the work

Under the following conditions:

Attribution

You must attribute the work in the manner specified by the author or licensor (but not in any way that suggests that they endorse you or your use of the work).

Share Alike

If you alter, transform, or build upon this work, you may distribute the resulting work only under the same, similar or a compatible license.

With the understanding that:

Waiver

Any of the above conditions can be waived if you get permission from the copyright holder.

Public Domain

Where the work or any of its elements is in the public domain under applicable law, that status is in no way affected by the license.

Other Rights

In no way are any of the following rights affected by the license:

- Your fair dealing or fair use rights, or other applicable copyright exceptions and limitations;
- The author's moral rights;
- Rights other persons may have either in the work itself or in how the work is used, such as publicity or privacy rights.

Notice

For any reuse or distribution, you must make clear to others the license terms of this work.

A copy of the full license is included in the file as LICENCES/CC-BY-SA-4.0.txt

DEPENDENCIES

env_parallel uses GNU **parallel**.

SEE ALSO

parallel(1), **ash(1)**, **bash(1)**, **cs(1)**, **dash(1)**, **fish(1)**, **ksh(1)**, **pdksh(1)**, **tcsh(1)**, **zsh(1)**.