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) the recommended usage is either:

# 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

Or:

# 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

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:

   . `which env_parallel.ash`

E.g. by doing:

   echo '. `which env_parallel.ash`' >> $HOME/.profile
Supported use

--env is supported to export only the variable, 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:

. `which env_parallel.bash`

E.g. by doing:

echo '. `which 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
GNU Parallel with environment

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.

csh
env_parallel for csh 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
functions

Not supported by csh.

variables

arrays with no special chars

Dash

Installation

Put this in $HOME/.profile:

```
. `which env_parallel.dash`
```

E.g. by doing:

```
echo `. `which 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
eenv_parallel -S server myecho ::: work
eenv_parallel --env myecho myecho ::: work
eenv_parallel --env myecho -S server myecho ::: work
```
GNU Parallel with environment

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

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
GNU Parallel with environment

arrays

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

ksh
Installation

Put this in $HOME/.kshrc:

source `which env_parallel.ksh`

E.g. by doing:

echo `source `which 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'
eval env_parallel myecho ::: work
eval env_parallel -S server myecho ::: work
eval env_parallel --env myecho myecho ::: work
eval env_parallel --env myecho -S server myecho ::: work

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

functions

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

variables

myvar=variables
eval env_parallel echo '$myvar' ::: work
eval env_parallel -S server echo '$myvar' ::: work
eval env_parallel --env myvar echo '$myvar' ::: work
eval env_parallel --env myvar -S server echo '$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 `which env_parallel.mksh`
```

E.g. by doing:

```
echo 'source `which 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
```
GNU Parallel with environment

```bash
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:

```bash
source `which env_parallel.pdksh`
```

E.g. by doing:

```bash
echo 'source `which 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**

```bash
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**

```bash
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**

```bash
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**

```bash
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:

```
. `which env_parallel.sh`
```

E.g. by doing:

```
echo '. `which 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

```
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:

```zsh
. `which env_parallel.zsh`
```

E.g. by doing:

```bash
echo '. `which 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 $*; }

GNU Parallel with environment

variables

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


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.

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DEPENDENCIES

depends_parallel uses GNU parallel.

SEE ALSO

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