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
::: work
env_parallel -S server '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**

```
alias myecho 'echo aliases'
env_parallel 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 \n    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

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
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

set 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

set myarray arrays work, too
eval_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 eval_env_parallel.ksh

E.g. by doing:

    echo 'source eval_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 $*; }

GNU Parallel with environment

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 myfunc -S server myfunc :::: 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 '${myarray[{}]}': ::: 0 1 2
env_parallel -k --env myvar -S server \  echo '${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 myfunc :::: work
    env_parallel --env myecho -S server myfunc :::: 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;
GNU Parallel with environment

```
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

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:

```bash
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**

```bash
alias myecho 'echo aliases'
env_parallel myecho ::: work
env_parallel --env myecho ::: work
env_parallel --env myecho myecho ::: work
```

**functions**

Not supported by tcsh.

**variables**

```bash
set myvar=variables
env_parallel echo '$myvar' ::: work
env_parallel --env myvar echo '$myvar' ::: work
env_parallel --env myvar --env myecho myvar ::: work
```

**arrays with no special chars**

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

**Zsh**

**Installation**

Put this in $HOME/.zshrc:

```
. env_parallel.zsh
```

E.g. by doing:

```bash
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**

```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

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:


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

env_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).