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
GNU Parallel with 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 '${myarray[{}]}QRSTUV' :::: 0 1 2
env_parallel -k -S server echo '${myarray[{}]}QRSTUV' :::: 0 1 2
env_parallel -k --env myarray echo '${myarray[{}]}QRSTUV' :::: 0 1 2
env_parallel -k --env myarray -S server \
 echo '${myarray[{}]}QRSTUV' :::: 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.
GNU Parallel with environment

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:

. `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
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
    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
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

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'
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)
GNU Parallel with environment

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

```
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 `which env_parallel.pdksh`
```

E.g. by doing:

```
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**

```
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:

. `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 '$myvar' ::: work
eenv_parallel -S server echo '$myvar' ::: work
eenv_parallel --env myvar echo '$myvar' ::: work
eenv_parallel --env myvar -S server echo '$myvar' ::: work

arrays with no special chars

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

Zsh
Installation
Put this in $HOME/.zshrc:

. `which env_parallel.zsh`

E.g. by doing:

  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'
eenv_parallel myecho ::: work
eenv_parallel -S server myecho ::: work
eenv_parallel --env myecho myecho ::: work
eenv_parallel --env myecho -S server myecho ::: work

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

functions

myfunc() { echo functions $*; }
GNU Parallel with environment

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

eenv_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).