

## NAME

prove - Run tests through a TAP harness.

## USAGE

prove [options] [files or directories]

## OPTIONS

Boolean options:

-v, --verbose	Print all test lines.
-l, --lib	Add 'lib' to the path for your tests (-Ilib).
-b, --blib	Add 'blib/lib' and 'blib/arch' to the path for your tests
-s, --shuffle	Run the tests in random order.
-c, --color	Colored test output (default).
--nocolor	Do not color test output.
--count	Show the X/Y test count when not verbose (default)
--nocount	Disable the X/Y test count.
-D --dry	Dry run. Show test that would have run.
-f, --failures	Show failed tests.
-o, --comments	Show comments.
--ignore-exit	Ignore exit status from test scripts.
-m, --merge	Merge test scripts' STDERR with their STDOUT.
-r, --recurse	Recursively descend into directories.
--reverse	Run the tests in reverse order.
-q, --quiet	Suppress some test output while running tests.
-Q, --QUIET	Only print summary results.
-p, --parse	Show full list of TAP parse errors, if any.
--directives	Only show results with TODO or SKIP directives.
--timer	Print elapsed time after each test.
--trap	Trap Ctrl-C and print summary on interrupt.
--normalize	Normalize TAP output in verbose output
-T	Enable tainting checks.
-t	Enable tainting warnings.
-W	Enable fatal warnings.
-w	Enable warnings.
-h, --help	Display this help
?, --help	Display this help
-V, --version	Display the version
-H, --man	Longer manpage for prove
--norc	Don't process default .proverc

Options that take arguments:

-I	Library paths to include.
-P	Load plugin (searches App::Prove::Plugin::*.)
-M	Load a module.
-e, --exec	Interpreter to run the tests ('' for compiled tests.)
--ext	Set the extension for tests (default '.t')
--harness	Define test harness to use. See TAP::Harness.
--formatter	Result formatter to use. See FORMATTERS.
--source	Load and/or configure a SourceHandler. See SOURCE HANDLERS.

<code>-a,</code>	<code>--archive out.tgz</code>	Store the resulting TAP in an archive file.
<code>-j,</code>	<code>--jobs N</code>	Run N test jobs in parallel (try 9.)
	<code>--state=opts</code>	Control prove's persistent state.
	<code>--rc=rcfile</code>	Process options from rcfile
	<code>--rules</code>	Rules for parallel vs sequential processing.

## NOTES

### **.proverc**

If `~/proverc` or `./proverc` exist they will be read and any options they contain processed before the command line options. Options in `.proverc` are specified in the same way as command line options:

```
# .proverc
--state=hot,fast,save
-j9
```

Additional option files may be specified with the `--rc` option. Default option file processing is disabled by the `--norc` option.

Under Windows and VMS the option file is named `_proverc` rather than `.proverc` and is sought only in the current directory.

### **Reading from STDIN**

If you have a list of tests (or URLs, or anything else you want to test) in a file, you can add them to your tests by using a '-':

```
prove - < my_list_of_things_to_test.txt
```

See the README in the `examples` directory of this distribution.

### **Default Test Directory**

If no files or directories are supplied, `prove` looks for all files matching the pattern `t/*.*`.

### **Colored Test Output**

Colored test output using `TAP::Formatter::Color` is the default, but if output is not to a terminal, color is disabled. You can override this by adding the `--color` switch.

Color support requires `Term::ANSIColor` on Unix-like platforms and `Win32::Console` on windows. If the necessary module is not installed colored output will not be available.

### **Exit Code**

If the tests fail `prove` will exit with non-zero status.

### **Arguments to Tests**

It is possible to supply arguments to tests. To do so separate them from prove's own arguments with the arisdottle, '::'. For example

```
prove -v t/mytest.t :: --url http://example.com
```

would run `t/mytest.t` with the options `'--url http://example.com'`. When running multiple tests they will each receive the same arguments.

### **--exec**

Normally you can just pass a list of Perl tests and the harness will know how to execute them. However, if your tests are not written in Perl or if you want all tests invoked exactly the same way, use the `-e`, or `--exec` switch:

```
prove --exec '/usr/bin/ruby -w' t/
prove --exec '/usr/bin/perl -Tw -mstrict -Ilib' t/
prove --exec '/path/to/my/customer/exec'
```

## --merge

If you need to make sure your diagnostics are displayed in the correct order relative to test results you can use the `--merge` option to merge the test scripts' STDERR into their STDOUT.

This guarantees that STDOUT (where the test results appear) and STDERR (where the diagnostics appear) will stay in sync. The harness will display any diagnostics your tests emit on STDERR.

Caveat: this is a bit of a kludge. In particular note that if anything that appears on STDERR looks like a test result the test harness will get confused. Use this option only if you understand the consequences and can live with the risk.

## --trap

The `--trap` option will attempt to trap SIGINT (Ctrl-C) during a test run and display the test summary even if the run is interrupted

## --state

You can ask `prove` to remember the state of previous test runs and select and/or order the tests to be run based on that saved state.

The `--state` switch requires an argument which must be a comma separated list of one or more of the following options.

`last`

Run the same tests as the last time the state was saved. This makes it possible, for example, to recreate the ordering of a shuffled test.

```
# Run all tests in random order
$ prove -b --state=save --shuffle
```

```
# Run them again in the same order
$ prove -b --state=last
```

`failed`

Run only the tests that failed on the last run.

```
# Run all tests
$ prove -b --state=save
```

```
# Run failures
$ prove -b --state=failed
```

If you also specify the `save` option newly passing tests will be excluded from subsequent runs.

```
# Repeat until no more failures
$ prove -b --state=failed,save
```

`passed`

Run only the passed tests from last time. Useful to make sure that no new problems have been introduced.

`all`

Run all tests in normal order. Multiple options may be specified, so to run all tests with the

failures from last time first:

```
$ prove -b --state=failed,all,save
```

hot

Run the tests that most recently failed first. The last failure time of each test is stored. The `hot` option causes tests to be run in most-recent- failure order.

```
$ prove -b --state=hot,save
```

Tests that have never failed will not be selected. To run all tests with the most recently failed first use

```
$ prove -b --state=hot,all,save
```

This combination of options may also be specified thus

```
$ prove -b --state=adrian
```

todo

Run any tests with todos.

slow

Run the tests in slowest to fastest order. This is useful in conjunction with the `-j` parallel testing switch to ensure that your slowest tests start running first.

```
$ prove -b --state=slow -j9
```

fast

Run test tests in fastest to slowest order.

new

Run the tests in newest to oldest order based on the modification times of the test scripts.

old

Run the tests in oldest to newest order.

fresh

Run those test scripts that have been modified since the last test run.

save

Save the state on exit. The state is stored in a file called `.prove` (`_prove` on Windows and VMS) in the current directory.

The `--state` switch may be used more than once.

```
$ prove -b --state=hot --state=all,save
```

## --rules

The `--rules` option is used to control which tests are run sequentially and which are run in parallel, if the `--jobs` option is specified. The option may be specified multiple times, and the order matters.

The most practical use is likely to specify that some tests are not "parallel-ready". Since mentioning a file with `--rules` doesn't cause it to be selected to run as a test, you can "set and forget" some rules preferences in your `.proverc` file. Then you'll be able to take maximum advantage of the performance benefits of parallel testing, while some exceptions are still run in parallel.

### --rules examples

```
# All tests are allowed to run in parallel, except those starting with
"p"
--rules='seq=t/p*.t' --rules='par=**'

# All tests must run in sequence except those starting with "p", which
should be run parallel
--rules='par=t/p*.t'
```

### --rules resolution

- \* By default, all tests are eligible to be run in parallel. Specifying any of your own rules removes this one.
- \* "First match wins". The first rule that matches a test will be the one that applies.
- \* Any test which does not match a rule will be run in sequence at the end of the run.
- \* The existence of a rule does not imply selecting a test. You must still specify the tests to run.
- \* Specifying a rule to allow tests to run in parallel does not make them run in parallel. You still need specify the number of parallel jobs in your Harness object.

### --rules Glob-style pattern matching

We implement our own glob-style pattern matching for --rules. Here are the supported patterns:

```
** is any number of characters, including /, within a pathname
* is zero or more characters within a filename/directory name
? is exactly one character within a filename/directory name
{foo,bar,baz} is any of foo, bar or baz.
\ is an escape character
```

### More advanced specifications for parallel vs sequence run rules

If you need more advanced management of what runs in parallel vs in sequence, see the associated 'rules' documentation in *TAP::Harness* and *TAP::Parser::Scheduler*. If what's possible directly through *prove* is not sufficient, you can write your own harness to access these features directly.

### @INC

*prove* introduces a separation between "options passed to the perl which runs *prove*" and "options passed to the perl which runs tests"; this distinction is by design. Thus the perl which is running a test starts with the default @INC. Additional library directories can be added via the PERL5LIB environment variable, via -Ifoo in PERL5OPT or via the -Ilib option to *prove*.

### Taint Mode

Normally when a Perl program is run in taint mode the contents of the PERL5LIB environment variable do not appear in @INC.

Because PERL5LIB is often used during testing to add build directories to @INC *prove* passes the names of any directories found in PERL5LIB as -I switches. The net effect of this is that PERL5LIB is honoured even when *prove* is run in taint mode.

### FORMATTERS

You can load a custom *TAP::Parser::Formatter*.

```
prove --formatter MyFormatter
```

## SOURCE HANDLERS

You can load custom *TAP::Parser::SourceHandlers*, to change the way the parser interprets particular *sources* of TAP.

```
prove --source MyHandler --source YetAnother t
```

If you want to provide config to the source you can use:

```
prove --source MyCustom \  
      --source Perl --perl-option 'foo=bar baz' --perl-option avg=0.278 \  
      --source File --file-option extensions=.txt --file-option \  
extensions=.tmp t \  
      --source pgTAP --pgtap-option pset=format=html --pgtap-option \  
pset=border=2
```

Each `--$source-option` option must specify a key/value pair separated by an `=`. If an option can take multiple values, just specify it multiple times, as with the `extensions=` examples above. If the option should be a hash reference, specify the value as a second pair separated by a `=`, as in the `pset=` examples above (escape `=` with a backslash).

All `--sources` are combined into a hash, and passed to *"new"* in *TAP::Harness's* `sources` parameter.

See *TAP::Parser::IteratorFactory* for more details on how configuration is passed to *SourceHandlers*.

## PLUGINS

Plugins can be loaded using the `-Pplugin` syntax, eg:

```
prove -PMyPlugin
```

This will search for a module named `App::Prove::Plugin::MyPlugin`, or failing that, `MyPlugin`. If the plugin can't be found, `prove` will complain & exit.

You can pass arguments to your plugin by appending `=arg1,arg2,etc` to the plugin name:

```
prove -PMyPlugin=fou,du,fafa
```

Please check individual plugin documentation for more details.

### Available Plugins

For an up-to-date list of plugins available, please check CPAN:

<http://search.cpan.org/search?query=App%3A%3AProve+Plugin>

### Writing Plugins

Please see *"PLUGINS"* in *App::Prove*.