

**NAME**

perl - The Perl 5 language interpreter

**SYNOPSIS**

```
perl [ -sTtuUWX ] [ -hv ] [ -V[:configvar] ] [ -cw ] [ -d[t][:debugger] ] [ -D[number/list] ] [ -pna ] [ -F
pattern ] [ -l[octal] ] [ -O[octal/hexadecimal] ] [ -ldir ] [ -m[-]module ] [ -M[-]'module...' ] [ -f ] [ -C [
number/list] ] [ -S ] [ -x[dir] ] [ -i[extension] ] [ [-e|-E] 'command' ] [ -- ] [ programfile ] [ argument ]...
```

**GETTING HELP**

The *perldoc* program gives you access to all the documentation that comes with Perl. You can get more documentation, tutorials and community support online at <http://www.perl.org/>.

If you're new to Perl, you should start by running `perldoc perlintro`, which is a general intro for beginners and provides some background to help you navigate the rest of Perl's extensive documentation. Run `perldoc perldoc` to learn more things you can do with *perldoc*.

For ease of access, the Perl manual has been split up into several sections.

```
# This section is parsed by Porting/pod_lib.pl for use by pod/buildtoc etc
```

```
flag =g perluniprops perlmodlib perlapi perlintern flag =go perltoc flag =ro perlcn perljp perlko perltw
flag = perlvms
```

```
path perlfaq.* cpan/perlfaq/lib/ path perlglossary cpan/perlfaq/lib/ path perlxs(?:tut|typemap)?
dist/ExtUtils-ParseXS/lib/ path perldoc cpan/Pod-Perldoc/lib/
```

```
aux a2p c2ph h2ph h2xs perlbug pl2pm pod2html pod2man s2p splain xsubpp
```

**Overview**

```
perl Perl overview (this section)
perlintro Perl introduction for beginners
perltoc Perl documentation table of contents
```

**Tutorials**

```
perlreftut Perl references short introduction
perldsc Perl data structures intro
perl101 Perl data structures: arrays of arrays

perlrequick Perl regular expressions quick start
perlretut Perl regular expressions tutorial

perloutut Perl OO tutorial for beginners

perlperf Perl Performance and Optimization Techniques

perlstyle Perl style guide

perlcheat Perl cheat sheet
perltrap Perl traps for the unwary
perldebtut Perl debugging tutorial

perlfaq Perl frequently asked questions
perlfaq1 General Questions About Perl
perlfaq2 Obtaining and Learning about Perl
perlfaq3 Programming Tools
```

perlfaq4 Data Manipulation  
perlfaq5 Files and Formats  
perlfaq6 Regexes  
perlfaq7 Perl Language Issues  
perlfaq8 System Interaction  
perlfaq9 Networking

## Reference Manual

perlsyn Perl syntax  
perldata Perl data structures  
perlop Perl operators and precedence  
perlsub Perl subroutines  
perlfunc Perl built-in functions  
    perlopentut Perl open() tutorial  
    perlpacktut Perl pack() and unpack() tutorial  
perlpod Perl plain old documentation  
perlpodspec Perl plain old documentation format specification  
perlpodstyle Perl POD style guide  
perlrun Perl execution and options  
perldiag Perl diagnostic messages  
perllexwarn Perl warnings and their control  
perldebug Perl debugging  
perlvar Perl predefined variables  
perlre Perl regular expressions, the rest of the story  
perlrebackslash Perl regular expression backslash sequences  
perlrecharclass Perl regular expression character classes  
perlrefref Perl regular expressions quick reference  
perlref Perl references, the rest of the story  
perlform Perl formats  
perlobj Perl objects  
perltie Perl objects hidden behind simple variables  
    perldbmfilter Perl DBM filters

perlipc Perl interprocess communication  
perlfork Perl fork() information  
perlnumber Perl number semantics

perlthrtut Perl threads tutorial

perlport Perl portability guide  
perllocale Perl locale support  
perluniintro Perl Unicode introduction  
perlunicode Perl Unicode support  
perlunifaq Perl Unicode FAQ  
perluniprops Index of Unicode Version 6.0.0 properties in Perl  
perlunitut Perl Unicode tutorial  
perlebcdic Considerations for running Perl on EBCDIC platforms

perlsec Perl security

perlmod Perl modules: how they work  
perlmodlib Perl modules: how to write and use  
perlmodstyle Perl modules: how to write modules with style  
perlmodinstall Perl modules: how to install from CPAN

perlnewmod Perl modules: preparing a new module for distribution  
perlpragma Perl modules: writing a user pragma

perlutil utilities packaged with the Perl distribution

perlfiler Perl source filters

perldtrace Perl's support for DTrace

perlglossary Perl Glossary

## Internals and C Language Interface

perlembed Perl ways to embed perl in your C or C++ application  
perldebbugs Perl debugging guts and tips  
perlxs Perl XS tutorial  
perlxs Perl XS application programming interface  
perlxsstypemap Perl XS C/Perl type conversion tools  
perlclib Internal replacements for standard C library functions  
perlguts Perl internal functions for those doing extensions  
perlcall Perl calling conventions from C  
perlmroapi Perl method resolution plugin interface  
perlreapi Perl regular expression plugin interface  
perlreguts Perl regular expression engine internals

perlapi Perl API listing (autogenerated)  
perlintern Perl internal functions (autogenerated)  
perliol C API for Perl's implementation of IO in Layers  
perlpio Perl internal IO abstraction interface

perlhack Perl hackers guide  
perlsource Guide to the Perl source tree  
perlinterp Overview of the Perl interpreter source and how it works  
perlhacktut Walk through the creation of a simple C code patch  
perlhacktips Tips for Perl core C code hacking  
perlpolicy Perl development policies  
perlgit Using git with the Perl repository

## Miscellaneous

perlbook Perl book information  
perlcommunity Perl community information

perldoc Look up Perl documentation in Pod format

perlhists Perl history records  
perldelta Perl changes since previous version  
perl5161delta Perl changes in version 5.16.1  
perl5160delta Perl changes in version 5.16.0  
perl5160delta Perl changes in version 5.16.0  
perl5143delta Perl changes in version 5.14.3  
perl5142delta Perl changes in version 5.14.2  
perl5141delta Perl changes in version 5.14.1  
perl5140delta Perl changes in version 5.14.0

perl5124delta Perl changes in version 5.12.4  
perl5123delta Perl changes in version 5.12.3  
perl5122delta Perl changes in version 5.12.2  
perl5121delta Perl changes in version 5.12.1  
perl5120delta Perl changes in version 5.12.0  
perl5101delta Perl changes in version 5.10.1  
perl5100delta Perl changes in version 5.10.0  
perl589delta Perl changes in version 5.8.9  
perl588delta Perl changes in version 5.8.8  
perl587delta Perl changes in version 5.8.7  
perl586delta Perl changes in version 5.8.6  
perl585delta Perl changes in version 5.8.5  
perl584delta Perl changes in version 5.8.4  
perl583delta Perl changes in version 5.8.3  
perl582delta Perl changes in version 5.8.2  
perl581delta Perl changes in version 5.8.1  
perl58delta Perl changes in version 5.8.0  
perl561delta Perl changes in version 5.6.1  
perl56delta Perl changes in version 5.6  
perl5005delta Perl changes in version 5.005  
perl5004delta Perl changes in version 5.004

perlexperiment A listing of experimental features in Perl

perlartistic Perl Artistic License  
perlgpl GNU General Public License

## Language-Specific

perlcn Perl for Simplified Chinese (in EUC-CN)  
perljp Perl for Japanese (in EUC-JP)  
perlko Perl for Korean (in EUC-KR)  
perltw Perl for Traditional Chinese (in Big5)

## Platform-Specific

perlaix Perl notes for AIX  
perlamiga Perl notes for AmigaOS  
perlbeos Perl notes for BeOS  
perlbs2000 Perl notes for POSIX-BC BS2000  
perlce Perl notes for WinCE  
perlcygwin Perl notes for Cygwin  
perldgux Perl notes for DG/UX  
perldos Perl notes for DOS  
perlepoc Perl notes for EPOC  
perlfreesbsd Perl notes for FreeBSD  
perlhaiku Perl notes for Haiku  
perlhpx Perl notes for HP-UX  
perlhurd Perl notes for Hurd  
perlirix Perl notes for Irix  
perllinux Perl notes for Linux  
perlmacos Perl notes for Mac OS (Classic)  
perlmacosx Perl notes for Mac OS X  
perlmpaix Perl notes for MPE/iX  
perlnetware Perl notes for NetWare  
perlopenbsd Perl notes for OpenBSD

```
perlos2 Perl notes for OS/2
perlos390 Perl notes for OS/390
perlos400 Perl notes for OS/400
perlplan9 Perl notes for Plan 9
perlqnx Perl notes for QNX
perlrisco Perl notes for RISC OS
perlsolaris Perl notes for Solaris
perlsymbian Perl notes for Symbian
perltru64 Perl notes for Tru64
perluts Perl notes for UTS
perlvms Perl notes for VM/ESA
perlvms Perl notes for VMS
perlvos Perl notes for Stratus VOS
perlwin32 Perl notes for Windows
```

## Stubs for Deleted Documents

```
perlboot
perlbot
perltodo
perltooc
perltoot
```

On a Unix-like system, these documentation files will usually also be available as manpages for use with the *man* program.

In general, if something strange has gone wrong with your program and you're not sure where you should look for help, try the **-w** switch first. It will often point out exactly where the trouble is.

## DESCRIPTION

Perl officially stands for Practical Extraction and Report Language, except when it doesn't.

Perl was originally a language optimized for scanning arbitrary text files, extracting information from those text files, and printing reports based on that information. It quickly became a good language for many system management tasks. Over the years, Perl has grown into a general-purpose programming language. It's widely used for everything from quick "one-liners" to full-scale application development.

The language is intended to be practical (easy to use, efficient, complete) rather than beautiful (tiny, elegant, minimal).

Perl combines (in the author's opinion, anyway) some of the best features of C, **sed**, **awk**, and **sh**, so people familiar with those languages should have little difficulty with it. (Language historians will also note some vestiges of **csh**, Pascal, and even BASIC-PLUS.) Expression syntax corresponds closely to C expression syntax. Unlike most Unix utilities, Perl does not arbitrarily limit the size of your data--if you've got the memory, Perl can slurp in your whole file as a single string. Recursion is of unlimited depth. And the tables used by hashes (sometimes called "associative arrays") grow as necessary to prevent degraded performance. Perl can use sophisticated pattern matching techniques to scan large amounts of data quickly. Although optimized for scanning text, Perl also has many excellent tools for slicing and dicing binary data.

But wait, there's more...

Begun in 1993 (see *perlhst*), Perl version 5 is nearly a complete rewrite that provides the following additional benefits:

- modularity and reusability using innumerable modules  
Described in *perlmod*, *perlmodlib*, and *perlmodinstall*.

- embeddable and extensible  
Described in *perlembed*, *perlxsut*, *perlxs*, *perlxsypemap*, *perllcall*, *perlguts*, and *xsubpp*.
- roll-your-own magic variables (including multiple simultaneous DBM implementations)  
Described in *perltie* and *AnyDBM\_File*.
- subroutines can now be overridden, autoloaded, and prototyped  
Described in *perlsub*.
- arbitrarily nested data structures and anonymous functions  
Described in *perlreftut*, *perlref*, *perldsc*, and *perllol*.
- object-oriented programming  
Described in *perlobj* and *perlootut*.
- support for light-weight processes (threads)  
Described in *perlthrtut* and *threads*.
- support for Unicode, internationalization, and localization  
Described in *perluniintro*, *perllocale* and *Locale::Maketext*.
- lexical scoping  
Described in *perlsub*.
- regular expression enhancements  
Described in *perlre*, with additional examples in *perlop*.
- enhanced debugger and interactive Perl environment, with integrated editor support  
Described in *perldebtut*, *perldebug* and *perldebguts*.
- POSIX 1003.1 compliant library  
Described in *POSIX*.

Okay, that's *definitely* enough hype.

## AVAILABILITY

Perl is available for most operating systems, including virtually all Unix-like platforms. See "*Supported Platforms*" in *perlport* for a listing.

## ENVIRONMENT

See *perlrun*.

## AUTHOR

Larry Wall <larry@wall.org>, with the help of oodles of other folks.

If your Perl success stories and testimonials may be of help to others who wish to advocate the use of Perl in their applications, or if you wish to simply express your gratitude to Larry and the Perl developers, please write to [perl-thanks@perl.org](mailto:perl-thanks@perl.org).

## FILES

"@INC"    locations of perl libraries

## SEE ALSO

<a href="http://www.perl.org/">http://www.perl.org/</a>	the Perl homepage
<a href="http://www.perl.com/">http://www.perl.com/</a>	Perl articles (O'Reilly)
<a href="http://www.cpan.org/">http://www.cpan.org/</a>	the Comprehensive Perl Archive

## DIAGNOSTICS

The use `warnings` pragma (and the `-w` switch) produces some lovely diagnostics.

See *perldiag* for explanations of all Perl's diagnostics. The use `diagnostics` pragma automatically turns Perl's normally terse warnings and errors into these longer forms.

Compilation errors will tell you the line number of the error, with an indication of the next token or token type that was to be examined. (In a script passed to Perl via `-e` switches, each `-e` is counted as one line.)

Setuid scripts have additional constraints that can produce error messages such as "Insecure dependency". See *perlsec*.

Did we mention that you should definitely consider using the `-w` switch?

## BUGS

The `-w` switch is not mandatory.

Perl is at the mercy of your machine's definitions of various operations such as type casting, `atof()`, and floating-point output with `sprintf()`.

If your stdio requires a seek or eof between reads and writes on a particular stream, so does Perl. (This doesn't apply to `sysread()` and `syswrite()`.)

While none of the built-in data types have any arbitrary size limits (apart from memory size), there are still a few arbitrary limits: a given variable name may not be longer than 251 characters. Line numbers displayed by diagnostics are internally stored as short integers, so they are limited to a maximum of 65535 (higher numbers usually being affected by wraparound).

You may mail your bug reports (be sure to include full configuration information as output by the `myconfig` program in the perl source tree, or by `perl -V`) to `perlbug@perl.org`. If you've succeeded in compiling perl, the *perlbug* script in the *utils/* subdirectory can be used to help mail in a bug report.

Perl actually stands for Pathologically Eclectic Rubbish Lister, but don't tell anyone I said that.

## NOTES

The Perl motto is "There's more than one way to do it." Divining how many more is left as an exercise to the reader.

The three principal virtues of a programmer are Laziness, Impatience, and Hubris. See the Camel Book for why.