

NAME

perl5213delta - what is new for perl v5.21.3

DESCRIPTION

This document describes differences between the 5.21.2 release and the 5.21.3 release.

If you are upgrading from an earlier release such as 5.21.1, first read *perl5212delta*, which describes differences between 5.21.1 and 5.21.2.

Core Enhancements

defined(@array = LIST) is no longer fatal

In 5.21.1, `defined(@array)` was made fatal. This has been relaxed to not die if the argument is assigning to an array.

Floating point parsing has been improved

Parsing and printing of floating point values has been improved.

As a completely new feature, hexadecimal floating point literals (like `0x1.23p-4`) are now supported, and they can be output with `printf %a`.

Security

The Safe module could allow outside packages to be replaced

Critical bugfix: outside packages could be replaced. *Safe* has been patched to 2.38 to address this.

Incompatible Changes

use UNIVERSAL '...' is now a fatal error

Importing functions from `UNIVERSAL` has been deprecated since v5.12, and is now a fatal error. "`use UNIVERSAL`" without any arguments is still allowed.

Modules and Pragmata

Updated Modules and Pragmata

- *B::Debug* has been upgraded from version 1.19 to 1.21.
- *Config::Perl::V* has been upgraded from version 0.20 to 0.22.
- *CPAN::Meta* has been upgraded from version 2.141520 to 2.142060.
- *CPAN::Meta::Requirements* has been upgraded from version 2.125 to 2.126.
- *ExtUtils::CBuilder* was moved from *dist* to *cpan*.
- *ExtUtils::CBuilder* has been upgraded from version 0.280216 to 0.280217.
- *ExtUtils::Install* was moved from *dist* to *cpan*.
- *ExtUtils::Manifest* has been upgraded from version 1.64 to 1.65. It was also moved from *dist* to *cpan*.
- *HTTP::Tiny* has been upgraded from version 0.043 to 0.047.
- *IPC::Open3* has been upgraded from version 1.17 to 1.18.
- *Module::CoreList* has been upgraded from version 5.021002 to 5.021003.
- *Opcode* has been upgraded from version 1.27 to 1.28.
- *perl5db.pl* has been upgraded from version 1.45 to 1.46.
- *perlfaq* has been upgraded from version 5.0150044 to 5.0150045.

- *POSIX* has been upgraded from version 1.41 to 1.42.
- *Safe* has been upgraded from version 2.37 to 2.38.
- *Socket* has been upgraded from version 2.014 to 2.015.
- *Sys::Hostname* has been upgraded from version 1.18 to 1.19
- *UNIVERSAL* has been upgraded from version 1.11 to 1.12.

Documentation

Changes to Existing Documentation

perlexperiment

- Added reference to *feature*.

perlguts

- Details on C level symbols and *libperl.t* added.

perlhacktips

- Recommended replacements for *tmpfile*, *atoi*, *strtol*, and *strtoul* added.

perlop

- ASCII v. EBCDIC clarifications added.

perlsec

- Comments added on algorithmic complexity and tied hashes.

perlvars

- Updated documentation on environment and shell interaction in VMS.

Diagnostics

The following additions or changes have been made to diagnostic output, including warnings and fatal error messages. For the complete list of diagnostic messages, see *perldiag*.

New Diagnostics

New Errors

- *Hexadecimal float: internal error*
(F) Something went horribly bad in hexadecimal float handling.
- *Hexadecimal float: unsupported long double format*
(F) You have configured Perl to use long doubles but the internals of the long double format are unknown, therefore the hexadecimal float output is impossible.

New Warnings

- *Hexadecimal float: exponent overflow*
(W overflow) The hexadecimal floating point has larger exponent than the floating point supports.
- *Hexadecimal float: exponent underflow*
(W overflow) The hexadecimal floating point has smaller exponent than the floating point supports.
- *Hexadecimal float: mantissa overflow*
(W overflow) The hexadecimal floating point literal had more bits in the mantissa (the part between the 0x and the exponent, also known as the fraction or the significand) than the floating point supports.

- *Hexadecimal float: precision loss*

(W overflow) The hexadecimal floating point had internally more digits than could be output. This can be caused by unsupported long double formats, or by 64-bit integers not being available (needed to retrieve the digits under some configurations).

Changes to Existing Diagnostics

- `require` with no argument or `undef` used to warn about a Null filename; now it dies with `Missing or undefined argument to require`.

Configuration and Compilation

- `MurmurHash64A` and `MurmurHash64B` can now be configured as the internal hash function.

Platform Support

Platform-Specific Notes

Android

Build support has been improved for cross-compiling in general and for Android in particular.

Solaris

`c99` options have been cleaned up, hints look for `solstudio` as well as `SUNWspro`, and support for native `setenv` has been added.

VMS

`finite`, `finitel`, and `isfinite` detection has been added to `configure.com`, environment handling has had some minor changes, and a fix for legacy feature checking status.

Windows

`%I64d` is now being used instead of `%lld` for MinGW.

Internal Changes

- Added *"sync_locale" in perlapi*. Changing the program's locale should be avoided by XS code. Nevertheless, certain non-Perl libraries called from XS, such as `Gtk` do so. When this happens, Perl needs to be told that the locale has changed. Use this function to do so, before returning to Perl.
- Added *"grok_atou" in perlapi* as a safer replacement for `atoi` and `strtol`.

Selected Bug Fixes

- Failing to compile `use Foo` in an eval could leave a spurious `BEGIN` subroutine definition, which would produce a "Subroutine BEGIN redefined" warning on the next use of `use`, or other `BEGIN` block. [perl #122107]
- `method { BLOCK } ARGS` syntax now correctly parses the arguments if they begin with an opening brace. [perl #46947]
- External libraries and Perl may have different ideas of what the locale is. This is problematic when parsing version strings if the locale's numeric separator has been changed. Version parsing has been patched to ensure it handles the locales correctly. [perl #121930]
- A bug has been fixed where zero-length assertions and code blocks inside of a regex could cause `pos` to see an incorrect value. [perl #122460]

Acknowledgements

Perl 5.21.3 represents approximately 4 weeks of development since Perl 5.21.2 and contains approximately 21,000 lines of changes across 250 files from 25 authors.

Excluding auto-generated files, documentation and release tools, there were approximately 18,000

lines of changes to 160 .pm, .t, .c and .h files.

Perl continues to flourish into its third decade thanks to a vibrant community of users and developers. The following people are known to have contributed the improvements that became Perl 5.21.3:

Aaron Crane, Abigail, Alberto Simões, Andy Dougherty, Brian Fraser, Chad Granum, Chris 'BinGOs' Williams, Craig A. Berry, Dagfinn Ilmari Mannsøker, Daniel Dragan, David Mitchell, Father Chrysostomos, H.Merijn Brand, James E Keenan, Jan Dubois, Jarkko Hietaniemi, Karen Etheridge, Karl Williamson, Lukas Mai, Peter Martini, Rafael Garcia-Suarez, syber, Tony Cook, Vladimir Marek, Yves Orton.

The list above is almost certainly incomplete as it is automatically generated from version control history. In particular, it does not include the names of the (very much appreciated) contributors who reported issues to the Perl bug tracker.

Many of the changes included in this version originated in the CPAN modules included in Perl's core. We're grateful to the entire CPAN community for helping Perl to flourish.

For a more complete list of all of Perl's historical contributors, please see the *AUTHORS* file in the Perl source distribution.

Reporting Bugs

If you find what you think is a bug, you might check the articles recently posted to the comp.lang.perl.misc newsgroup and the perl bug database at <https://rt.perl.org/>. There may also be information at <http://www.perl.org/>, the Perl Home Page.

If you believe you have an unreported bug, please run the *perlbug* program included with your release. Be sure to trim your bug down to a tiny but sufficient test case. Your bug report, along with the output of `perl -V`, will be sent off to perlbug@perl.org to be analysed by the Perl porting team.

If the bug you are reporting has security implications, which make it inappropriate to send to a publicly archived mailing list, then please send it to perl5-security-report@perl.org. This points to a closed subscription unarchived mailing list, which includes all the core committers, who will be able to help assess the impact of issues, figure out a resolution, and help co-ordinate the release of patches to mitigate or fix the problem across all platforms on which Perl is supported. Please only use this address for security issues in the Perl core, not for modules independently distributed on CPAN.

SEE ALSO

The *Changes* file for an explanation of how to view exhaustive details on what changed.

The *INSTALL* file for how to build Perl.

The *README* file for general stuff.

The *Artistic* and *Copying* files for copyright information.