

State of TCL

- TCL 9 is OUT !
- TCL 8.6 plan
- TCL 9.0 maintenance
- Porting to 9
- TCL 9.1 development
- Documentation
- Orphaned packages
- TCT



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TCL 9.0 is RELEASED !!!

Why do you want TCL9?



- Full unicode support – no more surrogates -> string length 🤝 = 1
- Larger strings, lists, file sizes due to 63bit size instead 31
- Buildin Starkit functionality: TCL/Tk Library is now appended to libtcl/libtk as zip
- Annoying pitfalls removed: `expr {08+09}` is ok, `-eof` default
- Calculated pattern replacement: `regsub -command`
- Abstract lists+sequence data type: `lseq 3 -> 0 1 2`
No memory consumption if not shimmered to other types
- OO refinements
- Encoding profiles allow to replace or break on encoding issues
- Performance: `lrange`, `linsert` without copy, `clock`
- Many packages adopted
- TCL 8.6 support ends in one year

TIP 713: release calender 8.6



2024-09-13 8.6.15

2025-12-11 8.6.16

- Segfault in OO with coroutines

2025-08 8.6.17

- scan "1.[string repeat 1 191]e-321" %g

2026-04 8.6.18 Last 8.6 release

TIP 713: release calender 9.0.x

2024-10-25 9.0.0 released

- TIP 430 modified: `zifps` syntax

2024-12-21 9.0.1 released

- TIP 701: C interface for ~ expansion

2025-07-02 9.0.2 Just released

- TIP 716: `encoding user, exec -encoding`

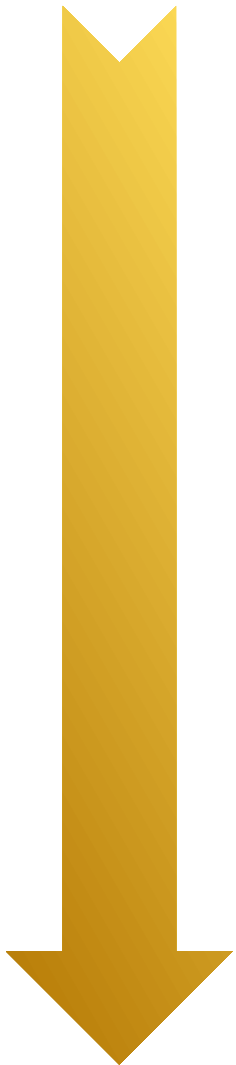
2025-09 9.0.3

2026-01 9.0.4

2026-05 9.0.5

2026-09 9.0.6

2026-12 9.0.7 Last 9.0 release



Bundled packages

- > Released with Tcl/Tk releases
- > Current versions in 9.0.2
 - Itcl 4.3.3
 - Sqlite3 3.49.1 (new version 3.50 not yet in TCL)
 - Tdbc 1.1.11
 - Thread: 3.0.2

TCLTLS package got great improvements by Brian O'Hagan et al

Ashok wrote great TCL/Tk 9.0 migration tool

Script migration to 9.0

Migration core wiki page:

<https://core.tcl-lang.org/tcl/wiki?name=Migrating+scripts+to+Tcl+9>

Two step Migration toolkit by Ashok:

- Static script analyser using nagelfar
- Run-time analyser

Script migration to 9.0

Main pitfalls:

- Strict encoding (of tcl files etc), encoding may fail, default: utf-8
- No tilde substitution
- "08" is now decimal, not octal
- Integer is bignum and not word-size long
- Namespace variables do not resolve to global

Extension migration to 9.0

<https://core.tcl-lang.org/tcl/wiki?name=Migrating+C+extensions+to+Tcl+9>

Main pitfalls:


- `Tcl_InitStubs(interp, "8.6-10", 0)`
- 64 bit everything on 64 bit platform
signed type "`Tcl_Size`", available in 8.6 and 9
- Unicode codepoint changed from 16 to 32 bit
- Very hard to test big string/list situations

Migrated extensions

<https://wiki.tcl-lang.org/page/Porting+extensions+to+Tcl+9>

- All major packages ported
- Maintainers in the conference:
 - Andreas: Tcllib
 - Rolf: tdom
 - Brian: TclX (WIP), tclvfs (WIP)
 - Gustaf: NaviServer
 - Harald: tclws, tksvg
- > Quick migration was surprising
- > Compatibility project TCL 8.7 was stopped

TIP 713: release calender 9.1



2025-07 9.1.0a0 First alpha

2025-09 9.1a1

2026-01 9.1a2

2026-05 9.1b1 Feature freeze

2026-09 9.1.0 Productive

TCL 9.1 features

- TIP715: Requires C11, Win 10, Mac-OS 10.13, licence (TIP709)
- TIP712: `subst -variables`
- Reform to fail instead of panic on memory shortage:
 - TIP717:
`Tcl_AttemptCreateHashEntry()`
 - More commands fail with memory error
- Bytecode compiler for many recent commands
`try, uplevel, lseq, ledit, lpop, ensemble`

TCL 9.1 features

Use more abstract (list) interface:

- `lreverse`, `lrepeat` & `lrange` are implemented without copy as own abstract list object types
- TIP649: adds efficient API for those functions
- TIP711: `Tcl_IsEmpty()`: Empty check without shimmering side effect

TCL 9.1 potential features

- TIP722: Return loaded packages by "package present"
- TIP726: Unicode normalization: "^a" -> "â"
- TIP723: timer ensemble for monotonic "after"
- Execute dll from memory (MemoryModule)

TIP700: Markdown documentation

- Switch from nroff to markdown.
- nroff -> markdown: all command documentation finished, API to do
- markdown -> nroff mostly working
- parallel with Tcl/Tk development
- will update online documentation first
- will be in next Tcl and/or Tk release when ready

One file executable

- TCL library and DLL in a ZIP file
- May be stand alone or attached to a library or executable
- By default, the distribution TCL files are attached to the TCL library.
- Create a one file executable with scripts and dlls attached:
zipfs mking out.exe myfo myfo "" wish90s.exe
-> wrapps "myfo/*" and executes "myfo/main.tcl"
<https://wiki.tcl-lang.org/page/Single+file+applications+in+Tcl+9>
- Issue: copied out DLLs are not deleted on program end
- Supports code signing on Windows and MacOS

Orphaned package GITHUB

- Github group for orphaned packages:
<https://github.com/tcltk-depot>
- Current projects: tkpath, tktreectrl, tclx, tksvg, tclvisa (Instrument interface library)
- Organisation people: Ashok, Emiliano, Harald, Brian
- Only works when people contribute: you may get a contributor!
- Ashok has assembled tkpath from many sources (bawt, Androwish, ...) and Mark provided the essential MacOS patch.
- Brian has added tclX

TCT

- Release manager: Donald Porter
 - Current TCT: Rolf Ade, Marc Culler, Jos Decoster , Mo Dejong, Donal Fellows, Alexandre Ferrieux, Brian Griffin, Jeffrey Hobbs, Andreas Kupries, Steve Landers, Ashok P. Nadkarni, Jan Nijtmans, Harald Oehlmann, François Vogel, Kevin Walzer
 - New member: Reinhard Max
- > Thank you all !