

Enhancing Tcl/Tk Documentation

From nroff to *Markdown* and further

Torsten Berg

OpenACS and Tcl/Tk Conference 2024, 11–12 JULY 2024, VIENNA

Introduction

About me

- using Tcl since roughly 1998
- background in marine biology
- now it's time to give something back having benefitted for so long
- Already once tried modernizing www.tcl.tk back in 2006 but failed due to lack of time (there's a wiki page still on that)

Tcl and Tk manual pages

- initiative by Steve Landers started on last year's Tcl conference
- ultimate goal: improve the whole public perception and image of Tcl/Tk

Current state of Tcl and Tk manual pages

nroff

- obscure syntax
- 31 different nroff "commands"/macros (including some 21 custom Tcl macros)
- designed for terminals and line printers
- only two outline levels (.SH .SS)
- mostly direct and inflexible visual markup (indentation, bullets, ...)

Current state of Tcl and Tk manual pages

```
'\"
\" Copyright (c) 1993-1994 The Regents of the University of California.
\" Copyright (c) 1994-1996 Sun Microsystems, Inc.
\"
\" See the file "license.terms" for information on usage and redistribution
\" of this file, and for a DISCLAIMER OF ALL WARRANTIES.
\"
.TH array n 8.7 Tcl "Tcl Built-In Commands"
.so man.macros
.BS
\" Note: do not modify the .SH NAME line immediately below!
.SH NAME
array \- Manipulate array variables
.SH SYNOPSIS
\fBarray \fIoption arrayName\fR ?\fIarg arg ... \fR?
.BE
.SH DESCRIPTION
.PP
This command performs one of several operations on the
variable given by \fIarrayName\fR.
Unless otherwise specified for individual commands below,
\fIarrayName\fR must be the name of an existing array variable.
The \fIoption\fR argument determines what action is carried
out by the command.
The legal \fIoptions\fR (which may be abbreviated) are:
.\" METHOD: anymore
.TP
\fBarray anymore \fIarrayName searchId\fR
.
Returns 1 if there are any more elements left to be processed
in an array search, 0 if all elements have already been
returned.
```

Current state of Tcl and Tk manual pages

array(n)

Tcl Built-In Commands

array(n)

NAME

array - Manipulate array variables

SYNOPSIS

array option arrayName ?arg arg ...?

DESCRIPTION

This command performs one of several operations on the variable given by arrayName. Unless otherwise specified for individual commands below, arrayName must be the name of an existing array variable. The option argument determines what action is carried out by the command. The legal options (which may be abbreviated) are:

array anymore arrayName searchId

Returns 1 if there are any more elements left to be processed in an array search, 0 if all elements have already been returned. SearchId indicates which search on arrayName to check, and must have been the return value from a previous invocation of **array**

Current state of Tcl and Tk manual pages

[Tcl8.6.12/Tk8.6.12 Documentation](#) > [Tcl Commands](#) > [array](#)

[Tcl/Tk Applications](#) | [Tcl Commands](#) | [Tk Commands](#) | [\[incr Tcl\] Package Commands](#) | [SQLite3 Package Commands](#) | [TDBC Package Commands](#) | [tdbc::mysql Package Commands](#) | [tdbc::odbc Package Commands](#) | [tdbc::postgres Package Commands](#) | [tdbc::sqlite3 Package Commands](#) | [Thread Package Commands](#) | [Tcl C API](#) | [Tk C API](#) | [\[incr Tcl\] Package C API](#) | [TDBC Package C API](#)

NAME

array — Manipulate array variables

SYNOPSIS

DESCRIPTION

[array anymore](#) *arrayName searchId*
[array donesearch](#) *arrayName searchId*
[array exists](#) *arrayName*
[array get](#) *arrayName ?pattern?*
[array names](#) *arrayName ?mode? ?pattern?*
[array nextelement](#) *arrayName searchId*
[array set](#) *arrayName list*
[array size](#) *arrayName*
[array startsearch](#) *arrayName*
[array statistics](#) *arrayName*
[array unset](#) *arrayName ?pattern?*

EXAMPLES

SEE ALSO

KEYWORDS

NAME

array — Manipulate array variables

SYNOPSIS

array *option arrayName ?arg arg ...?*

DESCRIPTION

This command performs one of several operations on the variable given by *arrayName*. Unless otherwise specified for individual commands below, *arrayName* must be the name of an existing array variable. The *option* argument determines what action is carried out by the command. The legal *options* (which may be abbreviated) are:

array anymore *arrayName searchId*

Returns 1 if there are any more elements left to be processed in an array search, 0 if all elements have already been returned. *SearchId* indicates which search on *arrayName* to check, and must have been the return value from a previous invocation of **array startsearch**. This option is particularly useful if an array has an element with an empty name, since the return value from **array nextelement** will not indicate whether the search has been completed.

TIP 700

- Markdown as easy-to-learn, easy-to-read and easy-to-write markup, widely used and adopted, many good editors around (syntax highlighting), mostly semantic markup (visual appearance can be flexibly decided during rendering)
- most Markdown can be directly viewed inside Fossil
- doctools and AsciiDoc (and possibly others) as alternative formats ... [doctools is much more verbose, not so easy to read, only two outline levels, no links]

From nroff to Markdown

- convert all 427 pages under "doc" folders of Tcl (249 pages) and Tk (178 pages)
- conversion script written in Tcl (from nroff to Pandoc's Markdown)
- use YAML metadata to store information not rendered (copyrights, keywords, links, manual section, ...) as part of the page body
- enhance Markdown with links within and across pages
- remove nroff files from Tcl/Tk repos and put Markdown files there instead (also remove HTML production scripts)

From nroff to Markdown

```
\"
\" Copyright (c) 1993-1994 The Regents of the University of California.
\" Copyright (c) 1994-1996 Sun Microsystems, Inc.
\"
\" See the file "license.terms" for information on usage and redistribution
\" of this file, and for a DISCLAIMER OF ALL WARRANTIES.
\"
.TH array n 8.7 Tcl "Tcl Built-In Commands"
.so man.macros
.BS
\" Note: do not modify the .SH NAME line immediately below!
.SH NAME
array \- Manipulate array variables
.SH SYNOPSIS
\fBarray \fIoption arrayName\fR ?\fIarg arg ... \fR?
.BE
.SH DESCRIPTION
.PP
This command performs one of several operations on the
variable given by \fIarrayName\fR.
Unless otherwise specified for individual commands below,
\fIarrayName\fR must be the name of an existing array variable.
The \fIoption\fR argument determines what action is carried
out by the command.
The legal \fIoptions\fR (which may be abbreviated) are:
.\" METHOD: anymore
.TP
\fBarray anymore \fIarrayName searchId\fR
.
Returns 1 if there are any more elements left to be processed
in an array search, 0 if all elements have already been
returned.
```

```
---
CommandName: array
ManualSection: n
Version: 8.7
TclPart: Tcl
TclDescription: Tcl Built-In Commands
Links:
- list(n)
- string(n)
- variable(n)
- trace(n)
- foreach(n)
Keywords:
- array
- element names
- search
Copyright:
- Copyright (c) 1993-1994 The Regents of the University of California.
- Copyright (c) 1994-1996 Sun Microsystems, Inc.
---

# Name

array - Manipulate array variables

# Synopsis

array option arrayName ?arg arg ...?

# Description

This command performs one of several operations on the variable given by arrayName. Unless otherwise specified for individual commands below, arrayName must be the name of an existing array variable. The option argument determines what action is carried out by the command. The legal options (which may be abbreviated) are:

array anymore arrayName searchId
: Returns 1 if there are any more elements left to be processed in an array search, 0 if all elements have already been returned. SearchId indicates which search on arrayName to
```

... and further

- produce HTML from Markdown (using Pandoc initially)
- produce nroff from Markdown (using Pandoc initially; convenience for terminal lovers)
- distribute the produced HTML and nroff in the source distributions (for convenience)
- Shaun Kulesa & Maksym Zinchenko are working on the HTML output

Original nroff vs. new nroff output

array(n)

Tcl Built-In Commands

array(n)

NAME

array - Manipulate array variables

SYNOPSIS

array option arrayName ?arg arg ...?

DESCRIPTION

This command performs one of several operations on the variable given by arrayName. Unless otherwise specified for individual commands below, arrayName must be the name of an existing array variable. The option argument determines what action is carried out by the command. The legal options (which may be abbreviated) are:

array anymore arrayName searchId

Returns 1 if there are any more elements left to be processed in an array search, 0 if all elements have already been returned. SearchId indicates which search on arrayName to check, and must have been the return value from a previous invocation of **array startsearch**. This option is particularly useful if an array has an element with an empty name, since the return value from **array nextelement** will not indicate whether the search has been completed.

()

Name

array - Manipulate array variables

Synopsis

array option arrayName ?arg arg ...?

Description

This command performs one of several operations on the variable given by arrayName. Unless otherwise specified for individual commands below, arrayName must be the name of an existing array variable. The option argument determines what action is carried out by the command. The legal options (which may be abbreviated) are:

array anymore arrayName searchId

Returns 1 if there are any more elements left to be processed in an array search, 0 if all elements have already been returned. SearchId indicates which search on arrayName to check, and must have been the return value from a previous invocation of **array startsearch**. This option is particularly useful if an array has an element with an empty name, since the return value from **array nextelement** will not indicate whether the search has been completed.

()

nd.

(Outdated) HTML output example

- Tcl/Tk syntax
- Tcl
 - tclsh application
 - Tcl commands
 - after
 - append
 - apply
 - ...
 - Tcl variables
 - argc
 - argv
 - ...
 - Tcl math functions
 - Tcl math operators
 - Tcl filename conventions ('filename' markers)
- Tk
 - wish application
 - Tk commands
 - bell
 - bind
 - bindtags
 - ...
 - Tk variables
 - tk_library
 - tk_patchLevel
 - ...
 - Tk widgets
 - button
 - canvas
 - entry
 - ...
 - ttk widgets
 - ttk::button

Tcl 8.6 Documentation > Tcl Commands > array



NAME

array — Manipulate array variables

SYNOPSIS

DESCRIPTION

array anymore *arrayName searchId*
array donesearch *arrayName searchId*
array exists *arrayName*
array get *arrayName ?pattern?*
array names *arrayName ?mode? ?pattern?*
array nextelement *arrayName searchId*
array set *arrayName list*
array size *arrayName*
array startsearch *arrayName*
array statistics *arrayName*
array unset *arrayName ?pattern?*

EXAMPLES

SEE ALSO

KEYWORDS

NAME

array — Manipulate array variables

SYNOPSIS

array *option arrayName ?arg arg ...?*

DESCRIPTION

This command performs one of several operations on the variable given by *arrayName*. Unless otherwise specified for individual commands below, *arrayName* must be the name of an existing array variable. The *option* argument determines what action is carried out by the command. The legal *options* (which may be abbreviated) are:

array anymore *arrayName searchId*

Returns 1 if there are any more elements left to be processed in an array search, 0 if all elements have already been returned. *SearchId* indicates which search on *arrayName* to check, and must have been the return value from a previous invocation of **array startsearch**. This option is particularly useful if an array

... and even further (beyond TIP 700)

- best practice "howto write a manual page"
- convert 'definition lists' to subsections so every subcommand has its own place in the outline of the manual
- link to TIPs
- 'History' section with version information and saying when which subcommand/options was introduced
- enhance manual pages content-wise
- user terms consistently
- get rid of Pandoc and make HTML/nroff production part of Tcl core again

... and even further (beyond TIP 700)

From the *Markdown* sources ...

- produce cheatsheets
- make updated Pocket guide (Paul Reines)
- translate manual pages into other languages?

And finally ...

- update and revive www.tcl-lang.org (.. the 2024 conference is not even mentioned there)