

kitgen build system

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Introduction

History

Usage

Packages

Alternatives

Option variables

-pkgfile=		...
-builddir=	/home/rene/kbs.sf/buildLinux	...
-CC=	gcc	...
-cvs=	/usr/bin/cvs	...
-doxygen=	/home/rene/local/bin/doxygen	...
-gzip=	/usr/bin/gzip	...
-make=	/usr/bin/gmake	...
-svn=	/usr/bin/svn	...
-tar=	/bin/tar	...
-unzip=	/usr/bin/unzip	...
-wget=	/usr/bin/wget	...

Select options

☐ -ignore ☐ -recursive ☐ -verbose

Toggle options

-shared= <input type="checkbox"/>	-symbols= <input type="checkbox"/>
-64bit= <input type="checkbox"/>	-64bit-vis= <input type="checkbox"/>
-xft= <input type="checkbox"/>	-corefoundation= <input type="checkbox"/>
-aqua= <input type="checkbox"/>	-framework= <input type="checkbox"/>

Kit build options

'kit' vq

-bi=

set '-bi' with selected packages

Available Packages

- expect5.45
- gridplus2.6
- icons1.2
- img1.4
- itcl3.4
- itk3.4
- iwidgets4.0.2
- kbskit0.4
- kbskit8.5
- kbskit8.6

Commands

sources	configure	make	install
test	clean	distclean	EXIT

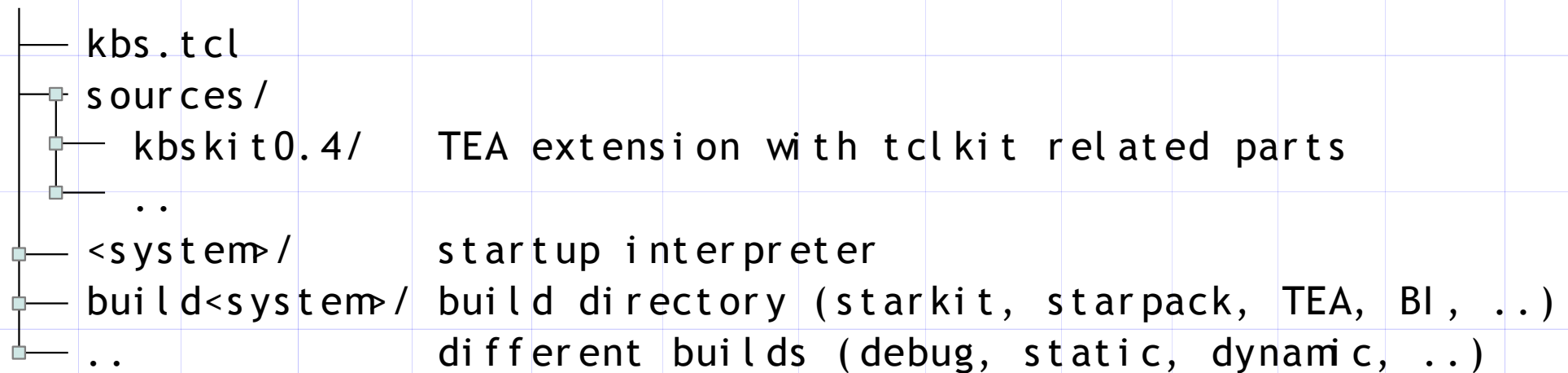
Status messages

Command:

Package:

Running:

kbs - kitgen build system



Build requirements

- C-compiler, C++ compiler for metakit based programs
- make with handling of VPATH variables (gmake)
- wget, cvs, svn, tar, gzip, unzip to get and extract sources

Sources & binaries at <http://sourceforge.net/projects/kbskit>

Online documentation at <http://wiki.tcl.tk/18146>

BSD license

Development history

Date	Version	Remarks
20070524		first release, tcl/tk 8.4, vlerq, Linux and Windows
20070602		tcl/tk 8.4 and 8.5, IRIX, gui
20070715		use of "kbskit" name, SunOS
20071126	0.1	kbskit.sourceforge.net
20080104	0.2	tcl/tk 8.5.0
20080228	0.2.1	tcl/tk 8.5.1
20080402	0.2.2	tcl/tk 8.5.2
20080702	0.2.3	tcl/tk 8.5.3 & 8.6a1, starpack, robodoc
20080827	0.2.4	tcl/tk 8.5.4 & 8.6a2
20081016	0.2.5	tcl/tk 8.5.5 & 8.6a3
20090111	0.2.6	tcl/tk 8.5.6 & 8.6b1
20090217	0.3	metakit, package format and internal procs, options
20090509	0.3.1	tcl/tk 8.5.7, initialization
20091121	0.4	tcl/tk 8.5.8, packages in kbs.tcl
20101119	0.4.1	tcl/tk 8.5.9, date usage
20120116	0.4.2	tcl/tk 8.5.11 & 8.6b2, doxygen

Usage: ./kbs.tcl ?options? command ?args?

Option	Value/Meaning	Configuration variable [Get ..]
-pkgfile=?file?	none	
-builddir=?dir?	./build\$tcl_platform(os) / <builddir>/package> / ./sources / TEA platform (win, unix)	builddir, builddir-sys makedir, makedir-sys srcdir, srcdir-sys sys
-i -ignore	disabled	
-r -recursive	disabled	
-v -verbose	disabled	
-CC=?command?	gcc or env(CC)	CC
-bi=?package ..?	none	bi
--enable-*	From 'configure'	-*
--disable-*		
-make=?command?	First found gmake or make	exec-make
-cvs svn tar gzip unzip wget=?command?	Result of 'auto_execok ..'	exec-..
-doxygen=?command?	'auto_execok doxygen'	exec-doxygen
	From tclConfig.sh	TCL_*
	From tkConfig.sh	TK_*

Usage: ./kbs.tcl ?options? command ?args?

Opt i on	Val ue/ Meani ng	Confi gurati on variabl e [Get ...]
<i>Used interpreter</i>		
- ki t cl i dyn gui =? command?	[Get bui l ddi r] /bi n/kbs*	ki t cl i , ki t dyn, ki t gui
<i>Vqtcl based tclkit lite</i>		
- vq	Add vq_cl i dyn gui	ki t
- vq- cl i	Add vq- cl i	
- vq- dyn	Add vq- dyn	
- vq- gui	Add vq- gui	
- vq- bi	Add vq- bi	
<i>Mk4tcl based tclkit</i>		
- mk	Add mk_cl i dyn gui	ki t
- mk- cl i	Add mk- cl i	
- mk- dyn	Add mk- dyn	
- mk- gui	Add mk- gui	
- mk- bi	Add mk- bi	
-staticstdcpp	Bui l d wi th li bst dc++	

BI example:

```
./kbs.tcl -r -vq-bi -bi="tcllib1.14 tklib0.5" install kbskit8.5
```

Initialization:

```
$(HOME)/.kbsrc → ./kbsrc → $env(KBSRC) → command line
```

Usage: ./kbs.tcl ?options? command ?args?

Common commands:

help	this text
doc	create program documentation
license	display license information
config	display used values of configuration variables
gui	start graphical user interface
list ?pattern? ..	list packages matching pattern (default is *)

Package related commands:

require pkg ..	return call trace of packages
sources pkg ..	get package source files (under sources/)
configure pkg ..	create 'makedir' (in 'builddir') and configure package
make pkg ..	make package (in 'makedir')
install pkg ..	install package (in 'builddir')
test pkg ..	test package
clean pkg ..	remove make targets
distclean pkg ..	remove 'makedir'

Packages

Available:

```
./kbs.tcl list
```

```
bwidget1.8.0 bwidget1.9.5 expect5.45 gridplus2.6 icons1.2 img1.4 itcl3.4 itk3.4  
iwidgets4.0.2 kbskit0.4 kbskit8.5 kbskit8.6 memchan2.2.1 mentry3.5 mk4tcl2.4.9.7  
mk4tcl2.4.9.7-static nap7.0.0 nsf2.0 ral0.9.1 rbc0.1 robodoc4.99.36 sdx.kit  
silicons1.3 snack2.2 sqlite3.7.9 tablelist5.5 tango0.8.90 tcl8.5 tcl8.5-static  
tcl8.6 tcl8.6-static tcllib1.14 tcloo0.6 tclx8.4 tdbc tdom0.8.3 thread2.6.7  
thread2.6.7-static tk8.5 tk8.5-static tk8.6 tk8.6-static tkcon tklib0.5  
tksqlite0.5.8 tktable2.10 tls1.6.1 treectrl2.4.1 trofs0.4.4 udp1.0.8 vfs1.4  
vfs1.4-static vqtcl4.1 vqtcl4.1-static wcb3.4 wikidb wikit.tkd wikitcl wub  
wubwiki xotcl1.6.7 zlib1.2.3 zlib1.2.3-static
```

Definition:

```
Package packagename {  
  Include packagename  
  Require script  
  Source script  
  Configure script  
  Make script  
  Install script  
  Clean script  
  Test script  
}
```

Package helper functions

Where	Command	Remarks
all	Run command args	exec args, use exec-* programs
	Get varname	return variables _(*), check on TCL_* TK_*
	Patch file lineoffset old new	
Require	Use package ..	list of needed packages
Source	Cvs path ...	call 'cvs -d path co -d 'srcdir' ...'
	Svn path	call 'svn co path 'srcdir''
	Http path	call 'http get path', unpack *.tar.gz or *.tgz files
	Wget file	call 'wget file', unpack *.tar.gz or *.tgz files
	Tgz file	call 'tar xzf file'
	Zip file	call 'unzip file'
	Link dir	use sources from 'dir'
	Script text	eval 'text'
Configure	Kit ?code? ?pkg..?	startup code and "package req pkg"
	Config path args	path to configure and additional arguments
Make	Kit name ?pkg..?	name of vfs and used packages
Install	Libdir dirname	dirname is original package library dir
	Kit name args	name of vfs and sdx -runtime argument
	Tcl ?package?	install name of package or [Get srcdir]

Package examples: starpack

```
Package tksqlite0.5.8 {
  Require {Use kbskit8.5 sdx.kit tktable2.10 treectrl2.4.1 sqlite3.7.9}
  Source {Get http://reddog.s35.xrea.com/software/tksqlite-0.5.8.tar.gz}
  Configure {
    Patch [Get srcdir]/tksqlite.tcl 14708\
  {
    Cmd::openDB [file normalize [file join $_startdir $_file]]}\
  {
    Cmd::openDB [file normalize [file join $::starkit::topdir ..
$_file]]}
    Kit {source $::starkit::topdir/tksqlite.tcl} Tk
  }
  Make {Kit tksqlite sqlite3.7.9 tktable2.10 treectrl2.4.1}
  Install {Kit tksqlite -vq-gui}
  Clean {file delete -force tksqlite.vfs}
  Test {Kit tksqlite}
}
```

Package examples: TEA

```
Package tktable2.10 {
  Source {Cvs tktable.cvs.sourceforge.net:/cvsroot/tktable -r tktable-2-10-0 tktable}
  Configure {Config [Get srcdir-sys]}
  Make {Run make binaries}
  Install {
    Run make install-binaries
    Libdir Tktable2.10
  }
  Clean {Run make clean}
}
```

```
Package treectrl2.4.1 {
  Source {Wget
http://prdownloads.sourceforge.net/sourceforge/tktreectrl/tktreectrl-2.4.1.tar.gz}
  Configure {
    Config [Get srcdir-sys] --with-tkinclude=[Get TK_SRC_DIR]/generic
  }
  Make {Run make}
  Install {Run make install-binaries install-libraries}
  Clean {Run make clean}
}
```

Package examples: tcl only

```
Package tablelist5.5 {  
    Source {Wget http://www.nemethi.de/tablelist/tablelist5.5.tar.gz}  
    Configure {}  
    Install {Tcl}  
}
```

Alternatives

ActiveTcl

Wiki: <http://wiki.tcl.tk/1312>

ActiveTcl: <http://wiki.tcl.tk/1875>

Cookit

Wiki: <http://wiki.tcl.tk/28237>

Home: <http://www.endorser.org/en/blog/tcl/cookit>

Dqkit

Wiki: <http://wiki.tcl.tk/10908>

Home: <https://sourceforge.net/projects/dqsoftware/>

Freewrap

Wiki: <http://wiki.tcl.tk/856>

Home: <http://freewrap.sourceforge.net/>

KitCreator

Wiki: <http://wiki.tcl.tk/25819>

Home: <http://kitcreator.rkeene.org/>

Binaries: <http://www.rkeene.org/devel/kitcreator/kitbuild/>

Kitgen

Wiki: <http://wiki.tcl.tk/17463>

Code: <http://github.com/patthoyts/kitgen>

Binaries: <http://tclkit.googlecode.com/>

Finally

Used in own power plant simulation projects:

- instructor station
- numeric and graphical variable display
- drawing tool (process and electric networks)
- simulation control
- special tools: fire detection system, fast data akquisition, online user manual, process computer message display

Open issues:

- cross compile
- mac builds
- package tests
- package doc target

Any questions?

Common tools

```
Package z_c0.1 {  
    Source {Link z0.1/generic}  
    Configure {Config [Get srcdir-sys]}  
    Make {Run make}  
    Install {Run make install-binaries install-libraries}  
    Clean {Run make clean}  
    Test {Run make test}  
}  
  
Package z_tcl0.1 {  
    Source {Link z0.1/library}  
    Configure {}  
    Install {Tcl z_tcl0.1}  
    Test {Run tclsh [Get srcdir-sys]/../tests/all.tcl}  
}
```

Project

```
Package qzl_bin0.1 {
  Require { Use qzl_lib0.1 }
  Source  { Link qzl }
  Configure { set MYAGLIST {--with-aglist=001 002 003 004 005 006 .. 209}
               Config [Get srcdir-sys]/src --disable-shared $MYAGLIST }
  Make     { Run make binaries }
  Install  { #TODO Run make install-bin-binaries }
}

Package qzl_lib0.1 {
  Require { Use kbskit8.65 sdx.kit z_c0.1 z_tcl0.1 }
  Source  { Link qzl }
  Configure { Config [Get srcdir-sys]/src --enable-shared }
  Make     { Run make libraries }
  Install  { Run make install-lib-binaries }
}

Package qzl_vfs0.1 {
  Require { Use qzl_lib0.1 tklib0.5 sqlite3.7.9 tktable2.10 treectrl2.4.1
             Use img1.4 rbc0.1 tablelist5.5 itcl3.4 }
  Source  { Link qzl/vfs }
  Configure { Kit {::qzl $argv} qzl }
  Make     { Kit qzl tklib0.5/autoscroll tklib0.5/tooltip tklib0.5/style\
               z_c0.1 z_tcl0.1 qzl_lib0.1 sqlite3.7.9 tktable2.10\
               treectrl2.4.1 img1.4 rbc0.1 tablelist5.5 itcl3.4 }
  Install  { Kit qzl -vq-gui }
}
```