TCL TK TUTORIAL DEUTSCH pdf

1: About Tcl and Tk

Tcl is a general purpose multi-paradigm system programming language. It is a scripting language that aims at providing the ability for applications to communicate with each other. On the other hand, Tk is a cross platform widget toolkit used for building GUI in many languages. This tutorial covers.

It caters to a large number of users, including the ones involved in development of desktop and web-based applications, software testing, system administration, networking and much more. It has the ability to produce native and rich applications which can run without any alterations across different platforms like Linux, Mac OS X, Windows and more. In what all ways you can effectively use Tcl Tk? The reason why Tcl was created in the first place was to serve as a flexible programming language having a small core, which could be easily adapted in all sorts of ways, something which may have been unforeseen by the original authors. What more, you can even see its usage in the control center of the NBC television network. This flexibility of Tcl also gets reflected in the wide range of fields that the language gets implemented in, not to forget the unique and new Tcl-based applications that keep popping up every now and then. Following are some of the many different areas that developers are actively using Tcl in: In Web based applications As Tcl is a string oriented and dynamic programming language, it serves as an excellent match for the creation of web-based applications. Rather than adopting a one size fits all type of development approach, it provides for a good number of distinct development solutions such as: It is written entirely in Tcl. It is usually paired with the OpenACS community system. It provides a good number of CGI libraries, including the ncgi, which is an integral part of the Tcllib. Rivet is another useful alternative that runs in the form of an Apache module. For testing and automation purposes Long before the test-driven development became the buzzword of software development industry, Tcl had gained good ground in the form of a testing powerhouse, by leveraging its ability of easily interfacing with the other hardware and software. Another very popular testing framework DejaGnu is based on Tcl; and Expect from Don Libes is the first of its kind extension that is used for automation of interactive applications. Then, big software giants like Cisco, Sybase and Oracle have Tcl testing codes spanning across millions of lines. These companies rely heavily on Tcl for ensuring smooth operation of each one of their flagship products. Developers can also make use of many wrapper packages that serve as common interfaces for various kinds of database environments. Tcl also provides solid support for the embedded databases that are ideal for seamless deployment as a part of applications. Metakit and SQLite, the two powerhouses of open source, share and promote Tcl as their most preferred scripting interface. Both the primary authors are highly active within the Tcl community too. In the embedded development As Tcl is a highly compact language, and can also be easily integrated with any special hardware, it becomes the most preferred choice in the field of embedded development. You can find Tcl hidden inside so many different devices, including a large number of networking products that come from the Cisco umbrella and others, including various kinds of set top boxes like Tivo. The embedding of Tcl into other software projects is hugely popular too. Many people often refer to Tcl Tk as the best kept secret of the software industry. Although it is difficult to come up with the accurate figures, the number of Tcl Tk users is very huge. The language is used world over by software developers, right from the one-man shops to research labs, large corporations, universities, government establishments and dark basements housing inspired open source developers. Scientists, system administrators, application programmers and elite hackers all use Tcl Tk or an active basis. Students wanting to learn an easy language for their course requirement use Tcl. Developers of various software applications embed Tcl into their programs, enabling users to make easy changes without going into the nitty-gritties of the programming languages or software. It has been used in programming of the Mars Pathfinder prototype and Hubble space telescope! It lays hidden inside in a large number of Oracle products and almost every TiVo box. Simply put, people belonging to the Tcl community are awestruck by the breadth and depth provided by this amazing language!

2: TCL TK Tutorial: Tool Command Language

Tcl/Tk i About the Tutorial Tcl is a general purpose multi-paradigm system programming language. It is a scripting language that aims at providing the ability for applications to communicate with each.

Safe-Tcl[edit] Safe-Tcl is a subset of Tcl that has restricted features so that Tcl scripts cannot harm their hosting machine or application. It uses a dual interpreter model with the untrusted interpreter running code in an untrusted script. It was designed by Nathaniel Borenstein and Marshall Rose to include active messages in e-mail. A Tcl script consists of several command invocations. A command invocation is a list of words separated by whitespace and terminated by a newline or semicolon. The following words are arguments. Formally, words are either written as-is; with double-quotes around them allowing whitespace characters to be embedded ; or with curly-brace characters around them, which suppresses all substitutions inside except for backslash-newline elimination. In bare and double-quoted words, three types of substitution occur once, in a single left-to-right scan through the word: Command substitution replaces the contents of balanced square brackets with the result of evaluating the script contained inside. Variable substitution replaces a dollar-sign followed by the name of a variable with the contents of the variable. Backslash substitution replaces a backslash followed by a letter with another character. As a consequence of these rules, the result of any command may be used as an argument to any other command. Also, there is no operator or command for string concatenation, as the language concatenates directly. Note that, unlike in Unix command shells , Tcl does not reparse any string unless explicitly directed to do so, which makes interactive use more cumbersome, but scripted use more predictable e. Both of those commands are just part of the standard library; they have no particularly special place in the library and can be replaced, if so desired. The majority of Tcl commands, especially in the standard library, are variadic , and the proc the constructor for scripted command procedures allows one to define default values for unspecified arguments and a catch-all argument to allow the code to process arbitrary numbers of arguments. Tcl is not statically typed: However, values are immutable and operations that appear to change them actually just return a new value instead. Basic commands[edit] The most important commands that refer to program execution and data operations are: If used only with one argument, it returns the value of the given variable it must exist in this case. The usual execution control commands are: It can be followed by additional arguments starting from elseif with the alternative condition and body, or else with the complementary block. For while it means to loop again, for for and foreach, pick up the next iteration. Advanced commands[edit] expr passes the argument to a separate expression interpreter and returns the evaluated value. Note that the same interpreter is used also for "conditional" expression for if and looping commands. The lindex command may be used on the result to re-extract the original arguments. Uplevel[edit] uplevel allows a command script to be executed in a scope other than the current innermost scope on the stack. Because the command script may itself call procedures that use the uplevel command, this has the net effect of transforming the call stack into a call tree. For example, the following Tcl script is a reimplementation of the for command omitting exception handling: The upvar command simplifies the implementation of call-by-name procedure calling and also makes it easier to build new control constructs as Tcl procedures. Object-oriented programming Tcl 8. This is what most programmers expect from OO. Allows per-object customization and dynamic redefinition of classes. Meta-classes Filters Mixins A system for implementing methods in custom ways, so that package authors that want significantly different ways of doing a method implementation may do so fairly simply. They are widespread in existing Tcl source code.

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3: Tcl/TK Tutorial - [PPT Powerpoint]

This tutorial will quickly get you up and running with the latest Tk from Tcl, Ruby, Perl or Python on Mac, Windows or Linux. It provides all the essentials about core Tk concepts, the various widgets, layout, events and more that you need for your application.

The results is returned. You will get the output as below. Any character immediately following the backslash will stand without substitution. In the example below, you can see special character " ", remains after the backslash. All characters after the " " are ignored by tclsh shell command. TCL Variable A variable is an identifier which holds a value. In other words, a variable is a reference to a computer memory, where the value is stored. Variables are created by "set command" and all variable names are case sensitive. Look at some example for case sensitive variable. The unset command is used to destroy a variable. The "info exists" command returns 1 if varName exists as a variable or an array element in the current context, otherwise returns 0. There are various "info" command in TCL like "info exists", "info functions", "info global", and so on. Here we will see an example of "info exists". Characters within braces are passed to a command exactly as written. Simply put, output of one command passed as argument to another command. See below commands to print keys, key value pairs and values of array. The number of command line arguments to a Tcl script is passed as the global variable argc. The name of a Tcl script is passed to the script as the global variable argv0 , and the rest of the command line arguments are passed as a list in argv. Operators are evaluated based on precedence and associativity. TCL language has built-in operators as below Operator Category.

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4: Tcl - Wikipedia

Tcl/Tk Tutorial at Tutorials Point is very methodical, and includes an online interpreter so you can start using Tcl right away; TCLWISE is the first nine chapters of a book on the language, freely available online;.

Drawing in Tk is done on the canvas widget. The canvas is a high level facility for graphics in Tk. It can be used to create charts, custom widgets or to create games. Jan Bodnar last modified: The first four parameters are the x, y coordinates of the two bounding points: With the -outline option we control the colour of the outline of the rectangle. Likewise, the -fill option provides a colour for the inside of the rectangle. Colours Shapes We can draw various shapes on the canvas. The following code example will show some of them. Outlines and insides are drawn in the same gray colour. The first four parameters are the bounding box coordinates of the circle. In other words, they are x, y coordinates of the top-left and bottom-right points of the box, in which the circle is drawn. The coordinates are again the bounding box of the rectangle to be drawn. An arc is a part of the circumference of the circle. We provide the bounding box. The -start option is the start angle of the arc. The -extent is the angle size. It is a shape with multiple corners. To create a polygon in Tk, we provide the list of polygon coordinates to the create polygon command. It takes the size of the image into account. To show the whole image, it is anchored to the north and to the west. The -image option provides the photo image to display. Drawing text In the last example, we are going to draw text on the window. If we anchor the text item to the west, the text starts from this position. The -font option provides the font of the text and the -text option is the text to be displayed.

5: Tcl/Tk Tutorial

TCL is shell application that reads TCL command from its standard input or from a file and gives desired results. TCL is string based scripting language and also a procedural language. It was first created by John Osterhout in The purpose of developing this language is easy embedded inti.

6: Drawing in Tcl/Tk

The tutorial is intended as a companion to the Tcl manual pages which provide a reference for all Tcl commands. It is divided into brief sections covering different aspects of the language. Depending on what system you are on, you can always look up the reference documentation for commands that you are curious about.

7: Some Tcl Tk facts you should know

Tcl is a string based scripting language. The source code is compiled into bytecode, which is later interpreted by the Tcl interpreter. It was created by John Osterhout in The language is commonly used for rapid prototyping, scripted applications, GUIs, and testing. The Tcl stands for tool.

8: Tcl tutorial - Beginner Tcl tutorial

TCL (Tool Command Language) is a scripting language developed for scientific and engineering applications. It is implemented in the command interpreter program "wish" along with the TK (Tool Kit.

9: Evaluation & Substitutions 1: Grouping arguments with ""

Tcl is the short form for 'Tool Command Language' and Tcl Tk is the term used for referring to the toolkit available for this programming language. There are hundreds of thousands of software developers who're actively and productively using the Tcl programming language, and its graphical user interface toolkit (Tk) today.

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