

# Beginning Tcl/TK

## Course 748 – 24 Hours

### Overview

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This three-day course provides the student with an introduction to creating Tcl and Tcl/TK scripts.

### Who Should Attend

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Programmers, testers, and system administrators who wish to use Tcl/TK in their environment.

### Prerequisites

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Programming experience in a structured language, such as C, C++, Java, or COBOL, is required.

### Course Contents

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#### 1. Introduction to Tcl/TK

- Install/Set-up Tcl/TK
- History of Tcl
- Advantages and Disadvantages of Tcl
- Creating a Simple Tcl Program
- Interactive tclsh shell

#### 2. Tcl Basics

- Math in Tcl
- Data Types
- Command Substitution
- Grouping
- Escaping Special Characters
- Special String Characters
- Commenting Your Script
- Receiving Input in Tcl

#### 3. Variables

- Creating Variables
- Referencing Variable's Values
- Unsetting Variables
- Determining if a Variable Exists
- Predefined Variables

#### 4. Lists

- What is a List?
- Creating Lists
- Returning Elements from Lists
- Creating Lists from Strings
- Creating Strings from Lists
- Modifying Lists
- Searching Lists
- Sorting Lists
- The concat Command
- The argv List

#### 5. Arrays

- What is an Array?
- Creating Arrays
- Returning Elements from an Array
- Removing Data from an Array
- The array Command
- The env Array
- The tcl\_platform Array

#### 6. Strings

- String Manipulation
- Finding the Length of a String
- Comparing Two Strings
- Matching a Pattern in a String
- Other String Operations
- Appending to a String

#### 7. Regular Expressions

- What are Regular Expressions?
- The "\*" and "+" Characters
- The "." Character
- Character Sets
- The Anchor Characters
- The "?" Character
- Grouping Patterns
- Alternation
- The Backslash Character
- The regexp Command
- The reesub Command
- Other Commands that Use Regular Expressions

## 8. Flow Control

- Control Statements
- The if Statement
- The switch Statement
- Using while Loops
- Using foreach Loops
- Using for Loops
- Using break to Control Loops
- Using continue to Control Loops
- Catching Errors
- Exiting and Error Messages

## 9. Procedures

- Crating Procedures
- Passing Parameters to Procedures
- Variable Scope
- The return Statement

## 10. File and Process Handling

- Running UNIX or Linux Commands
- Running Commands on PCs
- Checking File Status
- File Handles
- Determining the Host Name

## 11. TK Basics

- Working with Windows
- Types of Widgets
- Geometry Managers
- The Big Picture

## 12. Widgets

- Common Optinos
- Frames & Pack
- Toplevels
- Labels
- Buttons
- Listboxes
- Scrollbars
- Scales
- Entries
- Messages

### 13. Menus

- Creating Menus
- Creating the Menu Options
- Adding Check, Radio, and Separator Entries
- Adding Command Entries
- Adding Cascade Entries

### 14. Pack

- Pack Options
- Managing Widgets
- Binding