# Graphical User Interfaces with Tk

Tk/Tcl has long been an integral part of Python. It provides a robust and platform independent windowing toolkit, that is available to Python programmers using the `tkinter` package, and its extension, the `tkinter.tix` and the `tkinter.ttk` modules.

The `tkinter` package is a thin object-oriented layer on top of Tcl/Tk. To use `tkinter`, you don't need to write Tcl code, but you will need to consult the Tk documentation, and occasionally the Tcl documentation. `tkinter` is a set of wrappers that implement the Tk widgets as Python classes. In addition, the internal module `_tkinter` provides a threadsafe mechanism which allows Python and Tcl to interact.

`tkinter`'s chief virtues are that it is fast, and that it usually comes bundled with Python. Although its standard documentation is weak, good material is available, which includes: references, tutorials, a book and others. `tkinter` is also famous for having an outdated look and feel, which has been vastly improved in Tk 8.5. Nevertheless, there are many other GUI libraries that you could be interested in. For more information about alternatives, see the Other Graphical User Interface Packages section.


- `tkinter` — Python interface to Tcl/Tk
  - Tkinter Modules
  - Tkinter Life Preserver
    - How To Use This Section
    - A Simple Hello World Program
  - A (Very) Quick Look at Tcl/Tk
  - Mapping Basic Tk into Tkinter
  - How Tk and Tkinter are Related
  - Handy Reference
    - Setting Options
    - The Packer
    - Packer Options
    - Coupling Widget Variables
    - The Window Manager
    - Tk Option Data Types
    - Bindings and Events
    - The index Parameter
    - Images
  - File Handlers
- `tkinter.ttk` — Tk themed widgets
  - Using Ttk
  - Ttk Widgets
  - Widget
    - Standard Options
    - Scrollable Widget Options
    - Label Options
    - Compatibility Options

        - Widget States
        - ttk.Widget
    - Combobox
        - Options
        - Virtual events
        - ttk.Combobox
    - Spinbox
        - Options
        - Virtual events
        - ttk.Spinbox
    - Notebook
        - Options
        - Tab Options
        - Tab Identifiers
        - Virtual Events
        - ttk.Notebook
    - Progressbar
        - Options
        - ttk.Progressbar
    - Separator
        - Options
    - Sizegrip
        - Platform-specific notes
        - Bugs
    - Treeview
        - Options
        - Item Options
        - Tag Options
        - Column Identifiers
        - Virtual Events
        - ttk.Treeview
    - Ttk Styling
        - Layouts
- `tkinter.tix` — Extension widgets for Tk
    - Using Tix
    - Tix Widgets
        - Basic Widgets
        - File Selectors
        - Hierarchical ListBox
        - Tabular ListBox
        - Manager Widgets
        - Image Types
        - Miscellaneous Widgets
        - Form Geometry Manager
    - Tix Commands
- `tkinter.scrolledtext` — Scrolled Text Widget
- IDLE
    - Menus
        - File menu (Shell and Editor)

        - Edit menu (Shell and Editor)
        - Format menu (Editor window only)
        - Run menu (Editor window only)
        - Shell menu (Shell window only)
        - Debug menu (Shell window only)
        - Options menu (Shell and Editor)
        - Window menu (Shell and Editor)
        - Help menu (Shell and Editor)
        - Context Menus
    - Editing and navigation
        - Editor windows
        - Key bindings
        - Automatic indentation
        - Completions
        - Calltips
        - Code Context
        - Python Shell window
        - Text colors
    - Startup and code execution
        - Command line usage
        - Startup failure
        - Running user code
        - User output in Shell
        - Developing tkinter applications
        - Running without a subprocess
    - Help and preferences
        - Help sources
        - Setting preferences
        - IDLE on macOS
        - Extensions
- Other Graphical User Interface Packages