

# Swing Module

FEST's Swing module is a Java library that provides a [fluent interface](#) for functional Swing GUI testing. This library provides an easy-to-use API that makes creation and maintenance of GUI tests easy.

## Why do we need to test GUIs?

Testing GUIs can make the entire system safer and more robust. Any GUI, even one providing only the simplest capabilities, likely encloses some level of complexity. Any complexity in software must be tested because code without tests is a potential source of bugs. A well-tested application has a greater chance of success.

GUI testing is also essential during application maintenance. During this phase, code might be refactored frequently to improve design, and this code often encloses great portions of the user interface. Having a solid test suite that includes GUI code can give us confidence that we are not inadvertently introducing bugs.

Reference: [Test-Driven GUI Development with TestNG and Abbot](#) by Alex Ruiz and Yvonne Wang Price ([IEEE Software](#) May/June 2007 issue)

## Feature Overview

1. [Simulation of user interaction](#) with a GUI (e.g. mouse and keyboard input, drag 'n drop)
2. Reliable [GUI component lookup](#) (by type, by name or custom search criteria)
3. Support for all Swing components included in the JDK
4. Compact and powerful API for creation and maintenance of functional GUI tests
5. Support for regular expression matching
6. Supports [Applet testing](#)
7. Ability to [embed screenshots of failed GUI tests](#) in HTML test reports
8. Can be used with either [TestNG](#) or [JUnit](#)
9. Supports [testing violations of Swing's threading rules](#)
10. Experimental [Groovy](#) Builder support (coming soon!)

FEST-Swing requires [Java SE 5.0](#) or later.

It can be downloaded [here](#). For Maven 2 users, details about the project's repository can be found at [here](#).

## Examples

The following example shows a test verifying that an error message is displayed if the user forgets to enter her password when trying to log in an application:

```
dialog.comboBox("domain").select("Users");
dialog.textBox("username").enterText("leia.o
rgana");
dialog.button("login").click();
dialog.optionPane().requireErrorMessage()
                .requireMessage("Please
enter your .*"); // using regular expression
matching
```

## Documentation [\[more\]](#)



### [Getting Started](#)

How to install and begin using FEST-Swing.



### [Input Simulation](#)

Input simulation using the mouse and keyboard, drag 'n drop actions, etc.



### [Basics](#)

Configuration, cell renderers and writers, etc.



### [Running Tests](#)

How to run GUI tests without disrupting your desktop, interrupting GUI tests, etc.



### [Swing's Event Dispatch Thread \(EDT\)](#)

Verifying violations in EDT access and how to prevent them.



### [Continuous Integration](#)

Running and troubleshooting FEST tests in Continuous Integration servers in different environments.



### [Component Lookup](#)

Looking up GUI components to test.



### [Troubleshooting GUI Test Failures](#)

How to figure out what went wrong when GUI tests fail.



### [Launching](#)

Launching and testing applications and applets.



### [Advanced Features](#)

Component formatters, platform-specific behaviour, extending FEST-Swing, assertions with timeouts, etc.