

# Playwright enables reliable end-to-end testing for modern web apps.

GET STARTED

Star

42k+



## Any browser • Any platform • One API

**Cross-browser.** Playwright supports all modern rendering engines including Chromium, WebKit, and Firefox.

**Cross-platform.** Test on Windows, Linux, and macOS, locally or on CI, headless or headed.

**Cross-language.** Use the Playwright API in [TypeScript](#), [JavaScript](#), [Python](#), [.NET](#), [Java](#).

**Test Mobile Web.** Native mobile emulation of Google Chrome for Android and Mobile Safari. The same rendering engine works on your Desktop and in the Cloud.

## Resilient • No flaky tests

**Auto-wait.** Playwright waits for elements to be actionable prior to performing actions. It also has a rich set of introspection events. The combination of the two eliminates the need for artificial timeouts - the primary cause of flaky tests.

**Web-first assertions.** Playwright assertions are created specifically for the dynamic web. Checks are automatically retried until the necessary conditions are met.

**Tracing.** Configure test retry strategy, capture execution trace, videos, screenshots to eliminate flakes.

## No trade-offs • No limits

Browsers run web content belonging to different origins in different processes. Playwright is aligned with the modern browsers architecture and runs tests out-of-process. This makes Playwright free of the typical in-process test runner limitations.

**Multiple everything.** Test scenarios that span multiple **tabs**, multiple **origins** and multiple **users**. Create scenarios with different contexts for different users and run them against your server, all in one test.

**Trusted events.** Hover elements, interact with dynamic controls, produce trusted events. Playwright uses real browser input pipeline indistinguishable from the real user.

**Test frames, pierce Shadow DOM.** Playwright selectors pierce shadow DOM and allow entering frames seamlessly.

## Full isolation • Fast execution

**Browser contexts.** Playwright creates a browser context for each test. Browser context is equivalent to a brand new browser profile. This delivers full test isolation with zero overhead. Creating a new browser

context only takes a handful of milliseconds.

**Log in once.** Save the authentication state of the context and reuse it in all the tests. This bypasses repetitive log-in operations in each test, yet delivers full isolation of independent tests.

## Powerful Tooling

**Codegen.** Generate tests by recording your actions. Save them into any language.

**Playwright inspector.** Inspect page, generate selectors, step through the test execution, see click points, explore execution logs.

**Trace Viewer.** Capture all the information to investigate the test failure. Playwright trace contains test execution screencast, live DOM snapshots, action explorer, test source, and many more.

## Chosen by companies and open source projects

