# Playwright Browser test runner

## CONCEPTS

Test filters are regexes on the file path, so "login" runs every file with login in its path.

**Config** projects, browsers
↓ test
**Workers** parallel files
↓ reporter
**Report** HTML, traces
↓ show-trace
**Trace viewer** timeline, DOM

Each project in the config is one browser or device setup. Select it with --project.

## SETUP

**npm init playwright@latest**
Scaffold config, example tests and CI file

**npx playwright install**
Install the default browsers

**npx playwright install --with-deps**
Install browsers and system libraries

## RUNNING TESTS

**npx playwright test**
Run every test headless

**npx playwright test** *<file>*
Run files matching a path regex

**npx playwright test** *<file>*:*<line>*
Run the test at a line

**npx playwright test -g "***<title>***"**
Run tests whose title matches

**npx playwright test --project=***<name>*
Run one project (browser)

**npx playwright test --headed**
Show the browser window

**npx playwright test --last-failed**
Re-run only the failures

## DEBUGGING

**npx playwright test --ui**
Interactive UI mode with time travel

**npx playwright test --debug**
Run with the Inspector, headed, 1 worker

## DEBUGGING (cont.)

**npx playwright test --trace on**
Record a trace for every test

**npx playwright show-trace** *<trace.zip>*
Open a trace in the viewer

## PARALLELISM AND CI

**npx playwright test --workers** *<N>*
Number of workers or a percent of cores

**npx playwright test --workers=1**
Run serially in one worker

**npx playwright test --fully-parallel**
Run tests of one file in parallel too

**npx playwright test --retries** *<N>*
Retry failed tests N times

**npx playwright test --shard** *<n>*/*<total>*
Run one slice, e.g. 2/4

**npx playwright test --forbid-only**
Fail if test.only is left in

**npx playwright merge-reports** *<dir>*
Merge sharded blob reports

## REPORTS AND OUTPUT

**npx playwright show-report**
Open the last HTML report

**npx playwright show-report** *<dir>*
Open a report folder or zip

**npx playwright test --reporter** *<name>*
Choose reporters: list, line, dot, html, json, junit

## SNAPSHOTS

**npx playwright test -u**
Update snapshots that changed

**npx playwright test -u all**
Rewrite every snapshot

## CODEGEN

**npx playwright codegen** *<url>*
Record actions into test code

**npx playwright codegen --save-storage** *<file>*
Save logged-in state