# 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