**Playwright Setup and Testing for Blazor Web Applications**

Contents

[1. Installation and Setup 2](#_Toc178600788)

[Node.js Requirement 2](#_Toc178600789)

[**Initializing Playwright** 2](#_Toc178600790)

[**Project Structure** 2](#_Toc178600791)

[**2. Running Tests** 2](#_Toc178600792)

[**Running All Tests** 2](#_Toc178600793)

[**Running a Specific Test** 2](#_Toc178600794)

[**Viewing HTML Reports** 3](#_Toc178600795)

[**Interactive Debugging with UI** 3](#_Toc178600796)

[**3. Playwright Management and Updates** 3](#_Toc178600797)

[**Starting Playwright (New Project Setup)** 3](#_Toc178600798)

[**Updating Playwright** 3](#_Toc178600799)

[**Installing Browser Dependencies** 3](#_Toc178600800)

[**Checking Playwright Version** 3](#_Toc178600801)

[**4. Running Tests for Specific Browsers** 3](#_Toc178600802)

[**WebKit (Safari Engine)** 4](#_Toc178600803)

[**Firefox** 4](#_Toc178600804)

[**Chromium (Chrome/Edge)** 4](#_Toc178600805)

[**5. Additional Notes and Useful Commands** 4](#_Toc178600806)

[**Running Tests in Headed Mode** 4](#_Toc178600807)

[**Using Test Filters** 4](#_Toc178600808)

[**Debugging with Breakpoints** 4](#_Toc178600809)

[**Taking Screenshots for Visual Testing** 4](#_Toc178600810)

# 1. Installation and Setup

## Node.js Requirement

* Ensure you have the latest version of **Node.js** installed before starting with Playwright.
* Download it from [Node.js official website](https://nodejs.org/).
* To check if Node.js is installed or verify the version, run the following command in your terminal:

node -v

**Initializing Playwright**

1. Go to your Blazor project’s main folder.
2. Run the following command to initialize Playwright:

npm init playwright@latest

1. This command will:
   * Install Playwright dependencies.
   * Set up a **tests** folder containing .spec.js files (test scripts).
   * Download necessary browser binaries (Chromium, Firefox, WebKit).

**Project Structure**

* Once Playwright is initialized, the default folder structure will look like this:

tests/

├── example.spec.js (\*Sample test file generated by Playwright\*)

└── <your custom test files>

**2. Playwright Management and Updates**

**Starting Playwright (New Project Setup)**

* When setting up a new project or integrating Playwright into an existing Blazor project, initialize Playwright with:

npm init playwright@latest

**Updating Playwright**

* To update Playwright to the latest version, run:

npm install -D @playwright/test@latest

**Installing Browser Dependencies**

* If Playwright requires additional browser dependencies (e.g., for CI environments), install them using:

npx playwright install --with-deps

**Checking Playwright Version**

* To verify the current version of Playwright installed, run:

npx playwright --version

**3. Running Tests**

**Running All Tests**

* To run all tests across multiple browsers (Chromium, Firefox, WebKit), use:

npx playwright test

**Running a Specific Test**

* To run a specific test file (e.g., weather.spec.js), run:

npx playwright test weather.spec.js

**Viewing HTML Reports**

* After running tests, Playwright generates a detailed **HTML report**. To view the report, use:

npx playwright show-report

**Interactive Debugging with UI**

* For an more interactive test/running experience with real-time updates, use:

npx playwright test --ui

* + This will open a UI where you can browse test results, inspect errors, and re-run tests.

**4. Running Tests for Specific Browsers**

Playwright supports testing across multiple browsers, which is essential for cross-browser testing. Below are commands to run tests on specific browsers.

**WebKit (Safari Engine)**

* To run tests on the **WebKit** engine (Safari), use:

npx playwright test --project=webkit

**Firefox**

* To run tests in **Firefox**, use:

npx playwright test --project=firefox

**Chromium (Chrome/Edge)**

* To run tests on the **Chromium** engine (Chrome, Edge), use:

npx playwright test --project=chromium

**5. Additional Notes and Useful Commands**

**Running Tests in Headed Mode**

* Playwright runs in headless mode (no browser UI) by default. If you want to run it with the browser UI visible for debugging purposes, use:

npx playwright test --headed

**Using Test Filters**

* Playwright allows you to filter and run specific tests based on keywords. To run tests that match a particular keyword, use:

npx playwright test --grep "Login"

**Debugging with Breakpoints**

* You can pause test execution at any point using the following command in your test script:

await page.pause();

* + This opens the browser and pauses the test, allowing you to manually inspect the state.

**Taking Screenshots for Visual Testing**

* You can capture screenshots of specific elements or entire pages during your tests:

await page.screenshot({ path: 'example.png' });

\*Screenshots are useful for visual regression testing, ensuring that the UI does not change unexpectedly between releases.\*