Playwright Setup Guide: Basic framework and Write your first test case

What is Playwright?

Playwright is a cross-browser automation framework by Microsoft for end-to-end testing of web applications. It supports major browsers- Chromium (Chrome, Edge), Firefox, and WebKit (Safari)- with a unified API.

Key Features:

- **Cross-Browser Support:** Test across multiple browsers with a single API.
- **Language Flexibility:** Write tests in JavaScript, TypeScript, Python, C#, and Java.
- **Headless Mode:** Run the tests without a GUI for speed and efficiency.
- **Auto-Waiting:** Reduces the flaky tests by waiting for elements to be ready.
- **Screenshots & Videos:** Capture the test execution for better debugging.
- **Network Interception:** Simulate and modify the network conditions.

Playwright simplifies testing, ensures reliability, and integrates seamlessly into CI/CD pipelines, making it a powerful choice for modern web application testing.

Prerequisites:

Before setting up Playwright, ensure you have Node.js and Visual Studio installed.

What is Node.js?

Node.js is a runtime environment that allows you to execute JavaScript code server-side, outside of a web browser.

Install Node:

Installation Instructions (on MacOS)

Run the below mentioned commands or install the commands based on your OS:

 # installs nvm (Node Version Manager)

```
curl -o-
https://raw.githubusercontent.com/nvm-sh/nvm/v0.40.0/install.sh |
bash
```

 # download and install Node.js (you may need to restart the terminal)

```
nvm install 20
```

 # verifies the right Node.js version is in the environment

```
node -v # should print `v20.x.x`
```

 # verifies the right npm version is in the environment

```
npm -v # should print `10.x.x`
```

```
priyankamadanlal@Priyankas-MBP ~ % node -v
v20.8.1
```

```
priyankamadanlal@Priyankas-MBP ~ % npm -v
10.8.1
```

Download and install the Visual Studio from the below website:

Visual Studio Code

Setup Playwright:

1. Create an Empty Folder: Create a new directory for your project.
2. Open the Folder in Visual Studio Code: Open Visual Studio Code and navigate to the created folder.

Install Playwright Dependencies:

Run the below command to install the dependencies:

```
npm init playwright
```

This command sets up the Playwright environment and creates the necessary files for your end-to-end testing framework.

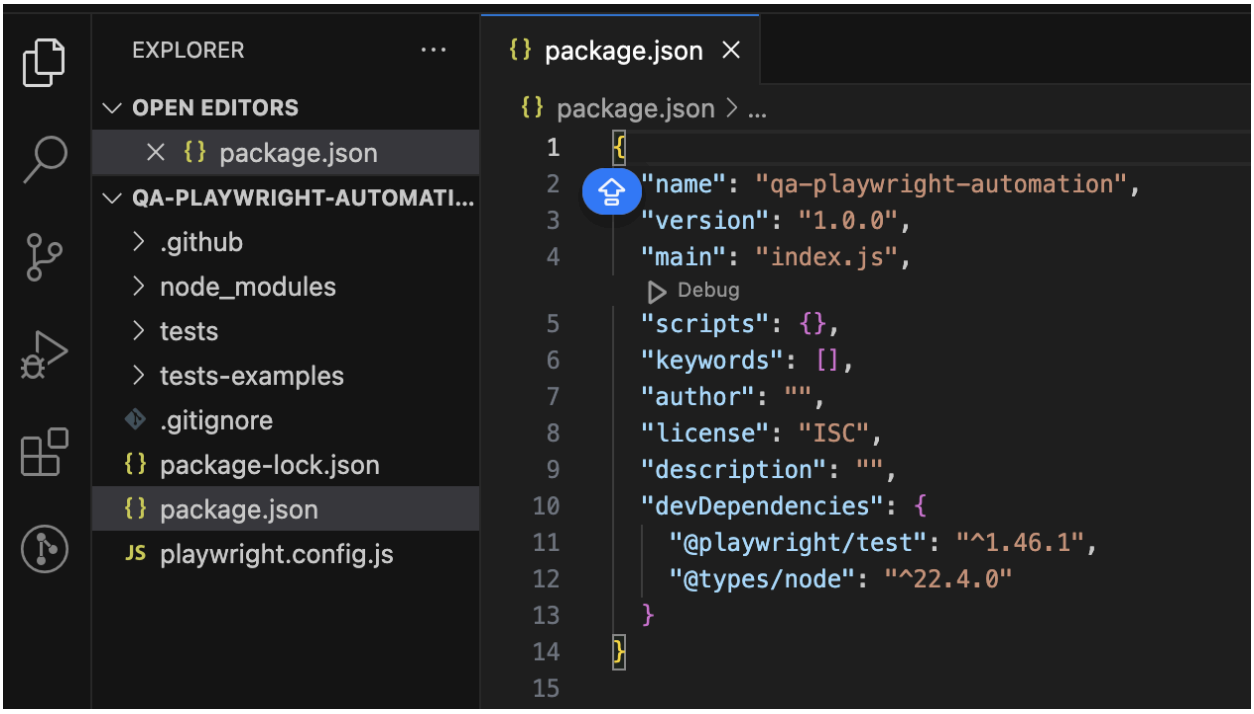
package.json Configuration:

Here's the configuration for your package.json file:

Code to copy:

```
{
 "name": "qa-playwright-automation",
 "version": "1.0.0",
 "main": "index.js",
 "scripts": {},
 "keywords": [],
 "author": "",
 "license": "ISC",
 "description": "",
```

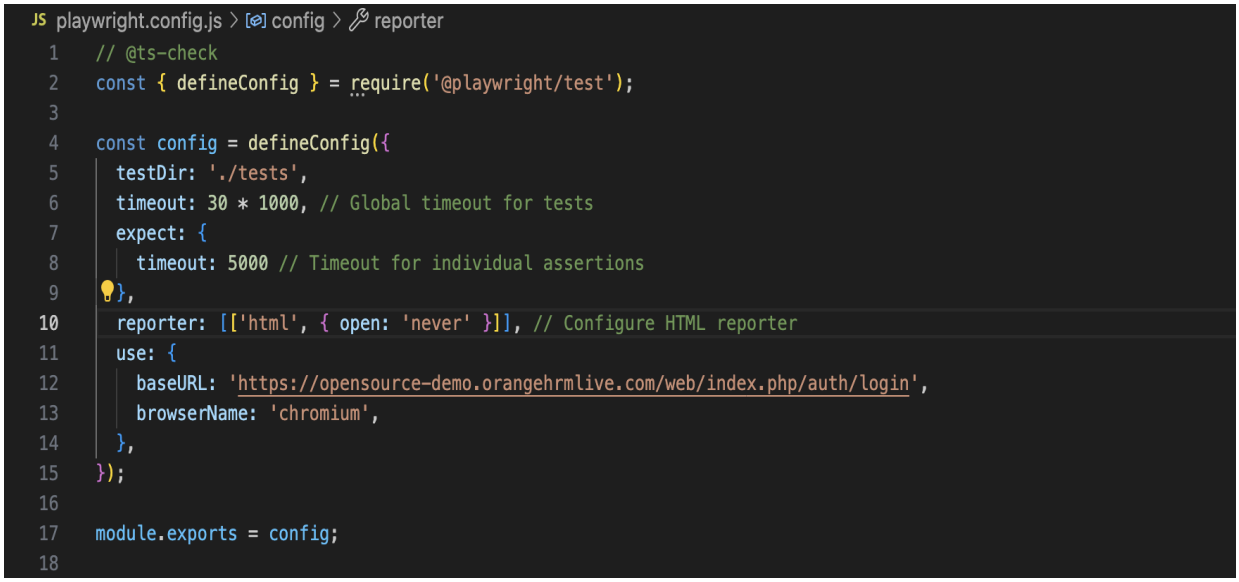
```
"devDependencies": {
  "@playwright/test": "^1.46.1",
  "@types/node": "^22.4.0"
}
```



Note: This configuration includes Playwright and Node.js type definitions.

Playwright Configuration File:

A default playwright.config.js will be created with the following content:



Code to copy

```
// @ts-check
const { defineConfig } = require('@playwright/test');
const config = defineConfig({

 testDir: './tests',
 timeout: 30 * 1000, // Global timeout for tests
 expect: {
   timeout: 5000 // Timeout for individual assertions
 },
 reporter: [['html', { open: 'never' }]], // Configure HTML reporter
 use: {
   baseURL:
'https://opensource-demo.orangehrmlive.com/web/index.php/auth/login',
   browserName: 'chromium',
 },
});
module.exports = config;
```

Write your first test case:

Create a *.spec.js file under /tests folder:

Code to copy

```
const { test, expect } = require('@playwright/test');
test('Verify the page title of OrangeHRM login page', async ({ page
}) => {
    await page.goto('/'); // This uses the baseURL
    console.log(await page.title());
    await expect(page).toHaveTitle("OrangeHRM");
});
```

Running Tests:

Running tests sequentially:

```
npx playwright test
```

Run tests in headed Mode:

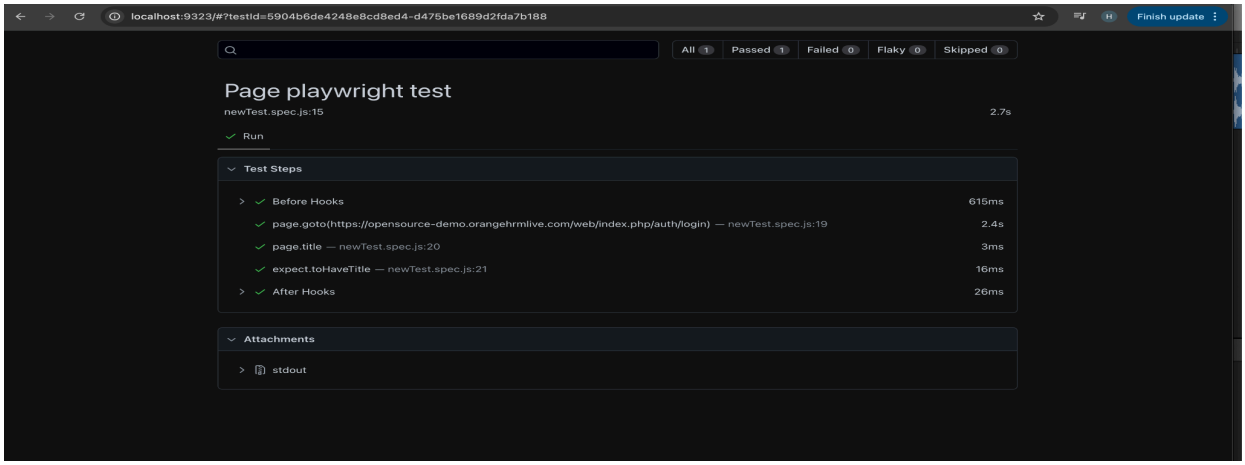
```
npx playwright test --headed
```

Viewing Reports:

Generate and View HTML Report:

```
npx playwright show-report
```

The above command opens the last HTML report showing passed and failed tests along with attachments.



Add Scripts to package.json

To simplify running Playwright commands, add these scripts to your package.json:

```
"scripts": {
   "playwright": "playwright test",
   "playwright:headed": "playwright test --headed",
   "playwright:report": "playwright show-report"
 },
```

Run Playwright:

```
npm run playwright
```

Run in Headed Mode:

```
npm run playwright:headed
```

View Playwright Report:

```
npm run playwright:report
```

Test Passed Successfully!

Git Repo: https://github.com/prgupta1995/playwright-web-test

Next, we'll discuss running the playwright tests in multiple browsers.

Keep learning and keep sharing!

Priyanka

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