

# Playwright Data-Driven Approach - Setup Guide

## Step 1: Create a New Maven Project

- Initialize a fresh Maven project.

## Step 2: Add Required Dependencies

- Add all necessary dependencies to the `pom.xml` file.

## Step 3: Create Package Structure under `src/test/java`

- base - Core framework setup (BaseTest, DriverManager, etc.)
- rough - Experimental or POC (Proof of Concept) code.
- testcases - Actual Playwright test scripts.
- utilities - Helper classes (Excel Reader, DataUtil, etc.)
- listeners - Extent Report Listeners (add while creating BaseTest class).

## Step 4: Create Resource Structure under `src/test/resources`

- excel/ - Excel files for data-driven testing.
- properties/ -
  - OR.properties - Object repository.
  - log4j.properties - Log4j configuration for logging.
- runner/ - TestNG runner files.

## Step 5: Create the Main Project Heart - `BaseTest` Class

This class should:

- Initialize Playwright, Browser, and Page instances.
- Set up Properties files and Logger for logs.
- Implement Playwright-specific thread handling.
- Load configuration properties.
- Add setup method with `@BeforeSuite`.
- Initialize browser, navigate to URL.
- Implement all common keywords/methods.

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- Add teardown methods using `@AfterMethod` or `@AfterSuite`.

## Step 6: Create a Constants File

- Store global variables like Application URL, Excel paths, sheet names, and timeouts.

## Step 7: Create Test Cases

- Write all test scenarios in testcases package.
- Execute tests using runner files (TestNG XML).
- Attach Listeners to testng.xml.

## Step 8: Set Up Runner Files

- Create testng.xml in runner folder.
- Configure parallel or sequential execution.
- Run test cases through this file.

## Step 9: Set Up Data Binding (Excel Reader + DataProvider)

- Initialize Excel Reader in DataUtil class.
- Configure Excel sheets for test case and suite names.
- Create a `@DataProvider` to fetch data.
- Access Excel data within tests using `data.get()`.

## Extra Tips

- Keep Excel sheet names aligned with test method names.
- Use ThreadLocal Playwright Browser/Page instances for parallel execution.