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## Project Folder Structure

bdd-selenium-framework/

```
├── src/
│   ├── main/
│   │   └── java/
│   │       └── com.company.framework/
│   │           ├── base/           # Base classes (e.g., WebDriver setup)
│   │           │   └── BaseTest.java
│   │           ├── pages/         # Page Object Model classes
│   │           │   └── LoginPage.java
│   │           ├── utils/         # Utility classes (e.g., BrowserUtils)
│   │           │   └── BrowserUtils.java
│   └── test/
│       ├── java/
│       │   ├── com.company.tests/
│       │   │   ├── stepdefinitions/ # Cucumber step definitions
│       │   │   │   ├── LoginSteps.java
│       │   │   │   └── PaymentSteps.java
│       │   │   ├── hooks/          # Cucumber Hooks
│       │   │   │   └── TestHooks.java
│       │   └── runners/            # Test runner classes
│       │       └── TestRunner.java
│       └── resources/
│           ├── features/          # Feature files (*.feature)
│           │   ├── Login.feature
│           │   └── Payment.feature
│           ├── config/            # Configuration files (e.g., config.properties)
│           └── data/              # Test data (e.g., testData.json, users.csv)
├── target/
│   ├── cucumber-reports/         # Generated test reports
│   └── screenshots/              # Failure screenshots
├── pom.xml                       # Maven dependencies and plugins
├── testng.xml                    # TestNG suite configuration
└── cucumber.properties           # Cucumber-specific settings
```

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## Feature File (Gherkin Syntax)

Located at src/test/resources/features/amazon\_shopping.feature:

Feature: Amazon Shopping Flow

Scenario: Complete shopping process on Amazon

Given User launches the Amazon application

When User logs in with username "testuser@example.com" and password "password123"

And User searches for "Wireless Mouse"

And User selects the first product from the search results

And User adds the product to the cart

And User proceeds to the payment page

Then User logs out of the application

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## Step Definitions

Located at

src/test/java/com/amazon/tests/stepdefinitions/AmazonShoppingSteps.java:

package com.amazon.tests.stepdefinitions;

import com.amazon.framework.base.BaseTest;

import com.amazon.framework.pages.\*;

import io.cucumber.java.en.\*;

import org.openqa.selenium.WebDriver;

public class AmazonShoppingSteps extends BaseTest {

WebDriver driver = getDriver();

HomePage homePage;

LoginPage loginPage;

SearchResultsPage searchResultsPage;

ProductPage productPage;

CartPage cartPage;

PaymentPage paymentPage;

@Given("User launches the Amazon application")

public void launchApplication() {

driver.get("https://www.amazon.com");

homePage = new HomePage(driver);

}

@When("User logs in with username {string} and password {string}")

```

public void userLogsIn(String username, String password) {
    loginPage = homePage.clickSignIn();
    loginPage.enterUsername(username);
    loginPage.clickContinue();
    loginPage.enterPassword(password);
    loginPage.clickSignIn();
}

@When("User searches for {string}")
public void userSearchesFor(String product) {
    homePage.enterSearchTerm(product);
    searchResultsPage = homePage.clickSearch();
}

@When("User selects the first product from the search results")
public void selectFirstProduct() {
    productPage = searchResultsPage.selectFirstProduct();
}

@When("User adds the product to the cart")
public void addProductToCart() {
    productPage.clickAddToCart();
}

@When("User proceeds to the payment page")
public void proceedToPayment() {
    cartPage = productPage.goToCart();
    paymentPage = cartPage.proceedToCheckout();
}

@Then("User logs out of the application")
public void userLogsOut() {
    homePage.logout();
    driver.quit();
}
}

```

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## Test Runner Class

Located at src/test/java/com/amazon/tests/runners/TestRunner.java:  
package com.amazon.tests.runners;

```

import io.cucumber.testng.AbstractTestNGCucumberTests;
import io.cucumber.testng.CucumberOptions;

```

```
@CucumberOptions(  
    features = "src/test/resources/features",  
    glue = {"com.amazon.tests.stepdefinitions"},  
    plugin = {"pretty", "html:target/cucumber-reports"},  
    monochrome = true  
)  
public class TestRunner extends AbstractTestNGCucumberTests {  
}
```

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- **Parallel Execution:** Configure parallel test execution using TestNG to speed up test runs.
  - **Error Handling:** Implement proper exception handling and logging to make debugging easier.