

## # Selenium Automation Framework

This is a comprehensive Selenium automation framework built with Java, Maven, and TestNG. It demonstrates best practices for web automation, including the Page Object

Model (POM), multi-browser support, parallel execution, and advanced Selenium 4 features.

## ## 🚀 Features

- **Page Object Model (POM)**: Clean, maintainable, and reusable code.
- **TestNG**: Powerful test management with suites, parallel execution, and data-driven testing.
- **Maven**: Easy dependency management and build automation.
- **Multi-Browser Support**: Run tests on Chrome, Firefox, and Edge.
- **Parallel Execution**: Run tests in parallel to save time.
- **ExtentReports**: Beautiful, detailed, and interactive test reports with screenshots.
- **Data-Driven Testing**: Read test data from Excel files.
- **Selenium 4 Features**:
  - Relative Locators
  - Actions Class (hover, double-click, context-click)
  - Browser Console Logs Capture
- **Wait Strategies**:
  - Implicit, Explicit, and Fluent waits.
- **Retry Analyzer**: Automatically retry failed tests to handle flakiness.
- **Excel Writer Utility**: Write test results back to Excel.

## ## 🔧 Tech Stack

- **Java 21**
- **Selenium WebDriver 4.38.0**
- **TestNG 7.11.0**
- **Maven 3.x**

- **WebDriverManager 6.1.0**

- **ExtentReports 5.1.2**

- **Apache POI 5.4.1**

- **SLF4J**

## ## 📁 Project Structure

```
...
.
.
.
└── pom.xml
└── src
    └── main
        └── java
            └── selenium
                └── automation
                    └── framework
                        ├── App.java
                        └── core
                            ├── ExcelReader.java
                            ├── ExtentManager.java
                            ├── ExtentTestManager.java
                            └── WebdriverUtil.java
                        └── pages
                            ├── BasePage.java
                            ├── CartPage.java
                            ├── CheckoutPage.java
                            └── HomePage.java
```

```
| | |     |   └─ LoginPage.java  
| | |     |   └─ ProductsPage.java  
| | |     └─ utils  
| | |         ├─ ExcelWriterUtil.java  
| | |         └─ RetryAnalyzer.java  
| | └─ resources  
| |     └─ log4j2.xml  
| └─ test  
|     ├─ java  
|     |   └─ selenium  
|     |       └─ automation  
|     |           └─ framework  
|     |               ├─ listeners  
|     |               |   └─ TestListener.java  
|     |               └─ tests  
|     |                   ├─ BaseTest.java  
|     |                   └─ Cart  
|     |                       └─ TestCase13.java  
|     |                   └─ Checkout  
|     |                       ├─ TestCase14.java  
|     |                       ├─ TestCase15.java  
|     |                       ├─ TestCase16.java  
|     |                       └─ TestCase23.java  
|     |                   └─ Features  
|     |                       ├─ ActionsClassDemo.java  
|     |                       ├─ BrowserConsoleLogsDemo.java  
|     |                       └─ RelativeLocatorsDemo.java
```

```
|   |       |   └── WaitsDemo.java  
|   |       └── Login  
|   |           ├── TestCase02.java  
|   |           ├── TestCase03.java  
|   |           └── TestCase04.java  
|   └── SignUp  
|       └── TestCase01.java  
|   └── TestCase05.java  
└── resources  
    └── testdata  
        └── testdata.xlsx  
└── testng.xml  
└── target  
└── test-output  
````
```

## ## 🚀 Getting Started

### ### Prerequisites

- **Java 21** or higher
- **Maven 3.x**

### ### Installation

1. Clone the repository:

```
``` bash  
git clone <repository-url>
```

```
```
```

2. Navigate to the project directory:

```
```bash
```

```
cd selenium.automation.framework
```

```
```
```

3. Install dependencies:

```
```bash
```

```
mvn clean install
```

```
```
```

## ## 🧪 Running Tests

### ### Run all tests:

```
```bash
```

```
mvn clean test
```

```
```
```

### ### Run a specific test suite:

```
```bash
```

```
mvn test -DsuiteXmlFile=src/test/resources/testng.xml
```

```
```
```

### ### Run tests on a specific browser:

```
```bash
```

```
# Run on Chrome
```

```
mvn test -Dbrowser=chrome
```

```
# Run on Firefox
```

```
mvn test -Dbrowser=firefox
```

```
# Run on Edge
```

```
mvn test -Dbrowser=edge
```

```
```
```

### **### Run a specific test class:**

```
```bash
```

```
mvn test -Dtest=ActionsClassDemo
```

```
```
```

### **## Reports**

After running the tests, you can find the Extent Report in the `test-output/reports` directory.

### **## License**

This project is licensed under the MIT License - see the [LICENSE](LICENSE) file for details.

The screenshot shows a test execution interface with a sidebar on the left and a main content area on the right. The sidebar has a search bar at the top and a 'Tests' section below it. In the 'Tests' section, there is a card for 'REG-01' with the status 'Pass'. The main content area has a header bar with the date 'Nov 20, 2025 09:33:28 AM'. Below the header is a summary table with columns 'STATUS', 'TIMESTAMP', and 'DETAILS'. The table contains the following log entries:

| STATUS | TIMESTAMP  | DETAILS                                                                         |
|--------|------------|---------------------------------------------------------------------------------|
| Info   | 9:33:29 AM | ===== Starting Test Case: REG-01 - Verify Navigation to Signup/Login Page ===== |
| Info   | 9:33:29 AM | WebDriver initialized successfully                                              |
| Info   | 9:33:29 AM | Test Objective: Verify user can navigate from home page to signup/login page    |
| Info   | 9:33:29 AM | Step 1: Opening Home Page                                                       |
| Info   | 9:33:35 AM | Home page opened successfully                                                   |
| Info   | 9:33:35 AM | Step 2: Clicking on Signup/Login link                                           |
| Info   | 9:33:38 AM | Step 3: Verifying navigation to Signup/Login page                               |
| Pass   | 9:33:38 AM | ✓ Successfully navigated to Signup/Login page                                   |
| Info   | 9:33:38 AM | Navigation result: SUCCESS                                                      |
| Info   | 9:33:38 AM | ===== Test Case REG-01 Completed =====                                          |
| Pass   | 9:33:38 AM | Test passed                                                                     |

Figure 1 REG-01

The screenshot shows a test execution interface with a sidebar on the left and a main content area on the right. The sidebar has a search bar at the top and a 'Tests' section below it. In the 'Tests' section, there is a card for 'REG-02' with the status 'Pass'. The main content area has a header bar with the date 'Nov 20, 2025 10:10:07 AM'. Below the header is a summary table with columns 'STATUS', 'TIMESTAMP', and 'DETAILS'. The table contains the following log entries:

| STATUS | TIMESTAMP   | DETAILS                                                                 |
|--------|-------------|-------------------------------------------------------------------------|
| Info   | 10:10:09 AM | ===== Starting Test Case: REG-02 - Verify Elements on Signup Page ===== |
| Info   | 10:10:09 AM | WebDriver initialized successfully                                      |
| Info   | 10:10:09 AM | Test Objective: Verify all signup form elements are displayed correctly |
| Info   | 10:10:09 AM | Step 1: Opening Signup Page                                             |
| Info   | 10:10:15 AM | Signup page loaded successfully                                         |
| Info   | 10:10:15 AM | Step 2: Verifying Name Input Field                                      |
| Info   | 10:10:15 AM | Name input field visibility: true                                       |
| Info   | 10:10:15 AM | Step 3: Verifying Email Input Field                                     |
| Info   | 10:10:15 AM | Email input field visibility: true                                      |
| Info   | 10:10:15 AM | Step 4: Verifying Signup Button                                         |

Figure 2 REG-02

Nov 20, 2025 01:21:48 PM

| Tests         |                         |  |
|---------------|-------------------------|--|
| <b>REG-02</b> | 1:21:51 PM / 000004877  |  |
| <b>REG-01</b> | 1:21:51 PM / 000007561  |  |
| <b>REG-03</b> | 1:21:52 PM / 0000032183 |  |
| <b>REG-04</b> | 1:22:25 PM / 000031400  |  |
| <b>REG-05</b> | 1:22:58 PM / 000108256  |  |
| <b>REG-06</b> | 1:24:08 PM / 000027748  |  |
| <b>REG-07</b> | 1:24:37 PM / 000004214  |  |
| <b>REG-08</b> | 1:24:43 PM / 0000031140 |  |
| <b>REG-09</b> | 1:25:15 PM / 0000032954 |  |
| <b>REG-10</b> | 1:25:49 PM / 000005767  |  |
| <b>REG-11</b> | 1:25:57 PM / 0000031911 |  |
| <b>REG-12</b> | 1:26:30 PM / 000008033  |  |

**REG-03**

11.20.2025 1:21:52 PM | 11.20.2025 1:22:24 PM | 00:00:32:183 | #test-id=3

STATUS    TIMESTAMP    DETAILS

- Info 1:21:52 PM WebDriver initialized for test: REG-03
- Info 1:21:52 PM Filling signup form with Name: John Doe, Email: john.doe+test1@example.com
- Info 1:22:08 PM No validation message displayed, proceeding with signup
- Info 1:22:18 PM Selecting Title: Mr
- Info 1:22:19 PM Entering Password and Date of Birth
- Info 1:22:19 PM Selecting Date of Birth: 1990-05-15
- Info 1:22:19 PM Entering First Name: John and Last Name: Doe
- Info 1:22:19 PM Entering Company, Address, Country, State, City, Zipcode, Mobile Number
- Info 1:22:20 PM Submitting the signup form
- Info 1:22:24 PM Verifying expected result: Success
- Pass 1:22:24 PM Test passed

Figure 3 REG-03

Nov 20, 2025 01:21:48 PM

| Tests         |                         |  |
|---------------|-------------------------|--|
| <b>REG-02</b> | 1:21:51 PM / 000004877  |  |
| <b>REG-01</b> | 1:21:51 PM / 000007561  |  |
| <b>REG-03</b> | 1:21:52 PM / 0000032183 |  |
| <b>REG-04</b> | 1:22:25 PM / 000031400  |  |
| <b>REG-05</b> | 1:22:58 PM / 000108256  |  |
| <b>REG-06</b> | 1:24:08 PM / 000027748  |  |
| <b>REG-07</b> | 1:24:37 PM / 000004214  |  |
| <b>REG-08</b> | 1:24:43 PM / 0000031140 |  |
| <b>REG-09</b> | 1:25:15 PM / 0000032954 |  |
| <b>REG-10</b> | 1:25:49 PM / 000005767  |  |
| <b>REG-11</b> | 1:25:57 PM / 0000031911 |  |
| <b>REG-12</b> | 1:26:30 PM / 000008033  |  |

**REG-04**

11.20.2025 1:22:25 PM | 11.20.2025 1:22:57 PM | 00:00:31400 | #test-id=4

STATUS    TIMESTAMP    DETAILS

- Info 1:22:25 PM WebDriver initialized for test: REG-04
- Info 1:22:25 PM Filling signup form with Name: Priya Sharma, Email: priya.sharma@example.co.in
- Info 1:22:42 PM No validation message displayed, proceeding with signup
- Info 1:22:52 PM Selecting Title: Mrs
- Info 1:22:52 PM Entering Password and Date of Birth
- Info 1:22:52 PM Selecting Date of Birth: 1995-12-01
- Info 1:22:53 PM Entering First Name: Priya and Last Name: Sharma
- Info 1:22:53 PM Entering Company, Address, Country, State, City, Zipcode, Mobile Number
- Info 1:22:53 PM Submitting the signup form
- Info 1:22:57 PM Verifying expected result: Success
- Pass 1:22:57 PM Test passed

Figure 4 REG-04

Tests

| Test ID | Start Time             | End Time               | Status  |
|---------|------------------------|------------------------|---------|
| REG-02  | 12/15/2023 12:15:00 PM | 12/15/2023 12:15:38 PM | Passed  |
| REG-01  | 12/15/2023 12:15:00 PM | 12/15/2023 12:15:56 PM | Passed  |
| REG-03  | 12/15/2023 12:15:52 PM | 12/15/2023 12:15:58 PM | Passed  |
| REG-04  | 12/15/2023 12:15:58 PM | 12/15/2023 12:16:00 PM | Passed  |
| REG-05  | 12/15/2023 12:16:00 PM | 12/15/2023 12:16:08 PM | Passed  |
| REG-06  | 12/15/2023 12:16:08 PM | 12/15/2023 12:16:18 PM | Warning |
| REG-07  | 12/15/2023 12:16:18 PM | 12/15/2023 12:16:26 PM | Passed  |
| REG-08  | 12/15/2023 12:16:26 PM | 12/15/2023 12:16:34 PM | Warning |
| REG-09  | 12/15/2023 12:16:34 PM | 12/15/2023 12:16:42 PM | Passed  |
| REG-10  | 12/15/2023 12:16:42 PM | 12/15/2023 12:16:50 PM | Passed  |
| REG-11  | 12/15/2023 12:16:50 PM | 12/15/2023 12:16:58 PM | Warning |
| REG-12  | 12/15/2023 12:16:58 PM | 12/15/2023 12:17:06 PM | Passed  |

REG-05

11.20.2023 12:23:58 PM | 11.20.2023 12:40:06 PM | 00:01:08:256 | #test-id=5

STATUS    TIMESTAMP    DETAILS

|      |             |                                                                                                                           |
|------|-------------|---------------------------------------------------------------------------------------------------------------------------|
| Info | 12:23:58 PM | WebDriver initialized for test: REG-05                                                                                    |
| Info | 12:23:58 PM | Filling signup form with Name: A User With A Very Long Name That Exceeds Typical Limits, Email: longname.user@example.com |
| Info | 12:24:14 PM | No validation message displayed, proceeding with signup                                                                   |
| Info | 12:24:24 PM | Selecting Title: Mr                                                                                                       |
| Info | 12:24:24 PM | Entering Password and Date of Birth                                                                                       |
| Info | 12:24:24 PM | Selecting Date of Birth: 1980-07-07                                                                                       |
| Info | 12:25:25 PM | Entering First Name: ALUserWithVeryLongFirstNameExceedingLimits and Last Name: LastNameAlsoVeryLong                       |
| Info | 12:25:25 PM | Entering Company, Address, Country, State, City, Zipcode, Mobile Number                                                   |
| Info | 12:25:46 PM | Submitting the signup form                                                                                                |
| Info | 12:25:46 PM | Verifying expected result: Check field truncation/validation                                                              |
| Pass | 12:25:46 PM | Test passed                                                                                                               |

Figure 5 REG-05

Tests

| Test ID | Start Time             | End Time               | Status  |
|---------|------------------------|------------------------|---------|
| REG-02  | 12/15/2023 12:15:00 PM | 12/15/2023 12:15:38 PM | Passed  |
| REG-01  | 12/15/2023 12:15:00 PM | 12/15/2023 12:15:56 PM | Passed  |
| REG-03  | 12/15/2023 12:15:52 PM | 12/15/2023 12:15:58 PM | Passed  |
| REG-04  | 12/15/2023 12:15:58 PM | 12/15/2023 12:16:00 PM | Passed  |
| REG-05  | 12/15/2023 12:16:00 PM | 12/15/2023 12:16:08 PM | Passed  |
| REG-06  | 12/15/2023 12:16:08 PM | 12/15/2023 12:16:18 PM | Warning |
| REG-07  | 12/15/2023 12:16:18 PM | 12/15/2023 12:16:26 PM | Passed  |
| REG-08  | 12/15/2023 12:16:26 PM | 12/15/2023 12:16:34 PM | Warning |
| REG-09  | 12/15/2023 12:16:34 PM | 12/15/2023 12:16:42 PM | Passed  |
| REG-10  | 12/15/2023 12:16:42 PM | 12/15/2023 12:16:50 PM | Passed  |
| REG-11  | 12/15/2023 12:16:50 PM | 12/15/2023 12:16:58 PM | Warning |
| REG-12  | 12/15/2023 12:16:58 PM | 12/15/2023 12:17:06 PM | Passed  |

REG-06

11.20.2023 12:40:09 PM | 11.20.2023 12:41:35 PM | 00:00:27:748 | #test-id=6

STATUS    TIMESTAMP    DETAILS

|         |             |                                                                             |
|---------|-------------|-----------------------------------------------------------------------------|
| Info    | 12:40:09 PM | WebDriver initialized for test: REG-06                                      |
| Info    | 12:40:09 PM | Filling signup form with Name: NoTitle User, Email: noTitleuser@example.com |
| Info    | 12:42:44 PM | No validation message displayed, proceeding with signup                     |
| Info    | 12:43:34 PM | Selecting Title:                                                            |
| Warning | 12:43:34 PM | Invalid title provided:                                                     |
| Info    | 12:43:34 PM | Entering Password and Date of Birth                                         |
| Info    | 12:43:34 PM | Selecting Date of Birth: 2003-01-01                                         |
| Info    | 12:43:44 PM | Entering First Name: NoTitle and Last Name: User                            |
| Info    | 12:43:44 PM | Entering Company, Address, Country, State, City, Zipcode, Mobile Number     |
| Info    | 12:43:55 PM | Submitting the signup form                                                  |
| Info    | 12:43:55 PM | Verifying expected result: Fail - weak password/missing required fields     |
| Pass    | 12:43:55 PM | Test passed                                                                 |

Figure 6 REG-06

The screenshot shows a test execution interface with a sidebar on the left listing tests and a main panel on the right displaying details for a specific test.

**Tests:**

- REG-02: 12:51PM / 000004877 (Passed)
- REG-01: 12:51PM / 000007561 (Passed)
- REG-03: 12:52PM / 000032183 (Passed)
- REG-04: 12:52PM / 000031400 (Passed)
- REG-05: 12:53PM / 000108256 (Passed)
- REG-06: 12:58PM / 000027748 (Warning)
- REG-07: 12:43PM / 000004214 (Failed)
- REG-08: 12:44PM / 000031140 (Warning)
- REG-09: 12:51PM / 000032954 (Passed)
- REG-10: 12:54PM / 000005767 (Failed)
- REG-11: 12:57PM / 000031911 (Warning)
- REG-12: 12:59PM / 000008033 (Failed)

**REG-07 Details:**

Test ID: #test-id=7 | Status: Failed | Duration: 00:00:04:214 | Date: Nov 20, 2025 12:41:48 PM

**Test Log:**

| Status | Timestamp   | Details                                                                                                             |
|--------|-------------|---------------------------------------------------------------------------------------------------------------------|
| Info   | 12:43:37 PM | WebDriver initialized for test: REG-07                                                                              |
| Info   | 12:43:37 PM | Filling signup form with Name: Invalid Email, Email: invalid-email-format                                           |
| Fail   | 12:44:41 PM | Validation message displayed: Please include an '@' in the email address. 'invalid-email-format' is missing an '@'. |
| Pass   | 12:44:41 PM | Test passed                                                                                                         |

Figure 7 REG-07

The screenshot shows a test execution interface with a sidebar on the left listing tests and a main panel on the right displaying details for a specific test.

**Tests:**

- REG-02: 12:51PM / 000004877 (Passed)
- REG-01: 12:51PM / 000007561 (Passed)
- REG-03: 12:52PM / 000032183 (Passed)
- REG-04: 12:52PM / 000031400 (Passed)
- REG-05: 12:53PM / 000108256 (Passed)
- REG-06: 12:58PM / 000027748 (Warning)
- REG-07: 12:43PM / 000004214 (Failed)
- REG-08: 12:44PM / 000031140 (Warning)
- REG-09: 12:51PM / 000032954 (Passed)
- REG-10: 12:54PM / 000005767 (Failed)
- REG-11: 12:57PM / 000031911 (Warning)
- REG-12: 12:59PM / 000008033 (Failed)

**REG-08 Details:**

Test ID: #test-id=8 | Status: Failed | Duration: 00:00:31:140 | Date: Nov 20, 2025 12:43:43 PM

**Test Log:**

| Status  | Timestamp   | Details                                                                    |
|---------|-------------|----------------------------------------------------------------------------|
| Info    | 12:43:43 PM | WebDriver initialized for test: REG-08                                     |
| Info    | 12:43:43 PM | Filling signup form with Name: Unicode 用户, Email: unicode.user@example.com |
| Info    | 12:43:59 PM | No validation message displayed, proceeding with signup                    |
| Info    | 12:50:09 PM | Selecting Title: Mx                                                        |
| Warning | 12:50:09 PM | Invalid title provided: Mx                                                 |
| Info    | 12:50:09 PM | Entering Password and Date of Birth                                        |
| Info    | 12:50:09 PM | Selecting Date of Birth: 1998-09-09                                        |
| Info    | 12:51:09 PM | Entering First Name: 用户 and Last Name: 测试                                  |
| Info    | 12:51:09 PM | Entering Company, Address, Country, State, City, Zipcode, Mobile Number    |
| Info    | 12:51:09 PM | Submitting the signup form                                                 |
| Info    | 12:51:14 PM | Verifying expected result: Success - unicode support                       |
| Pass    | 12:51:14 PM | Test passed                                                                |

Figure 8 REG-08

Nov 20, 2025 01:21:48 PM

**Tests**

| Test ID | Timestamp                  | Status  |
|---------|----------------------------|---------|
| REG-02  | 12:15:11 PM / 00:00:04:877 | Pass    |
| REG-01  | 12:15:11 PM / 00:00:07:561 | Pass    |
| REG-03  | 12:15:12 PM / 00:00:32:183 | Pass    |
| REG-04  | 12:22:59 PM / 00:00:31:400 | Pass    |
| REG-05  | 12:25:58 PM / 00:01:08:256 | Pass    |
| REG-06  | 12:40:08 PM / 00:02:27:748 | Running |
| REG-07  | 12:43:37 PM / 00:00:04:214 | Fail    |
| REG-08  | 12:44:43 PM / 00:00:31:140 | Running |
| REG-09  | 12:51:55 PM / 00:00:32:954 | Pass    |
| REG-10  | 12:54:49 PM / 00:00:05:767 | Fail    |
| REG-11  | 12:57:57 PM / 00:00:31:911 | Running |
| REG-12  | 12:59:30 PM / 00:00:08:033 | Fail    |

**REG-09**

11.20.2025 12:15:15 PM | 11.20.2025 12:25:49 PM | 00:00:32:954 · #test-id=9

**STATUS**   **TIMESTAMP**   **DETAILS**

- Info 12:15:15 PM WebDriver initialized for test: REG-09
- Info 12:15:15 PM Filling signup form with Name: SQLinjection'--. Email: sql.injection@example.com
- Info 12:25:33 PM No validation message displayed, proceeding with signup
- Info 12:25:43 PM Selecting Title: Mr
- Info 12:25:43 PM Entering Password and Date of Birth
- Info 12:25:44 PM Selecting Date of Birth: 1991-11-11
- Info 12:25:44 PM Entering First Name: SQL' and Last Name: Injection
- Info 12:25:44 PM Entering Company, Address, Country, State, City, Zipcode, Mobile Number
- Info 12:25:45 PM Submitting the signup form
- Info 12:25:48 PM Verifying expected result: Fail or sanitized - security test
- Pass 12:25:48 PM Test passed

Figure 9 REG-09

Nov 20, 2025 01:21:48 PM

**Tests**

| Test ID | Timestamp                  | Status  |
|---------|----------------------------|---------|
| REG-02  | 12:15:11 PM / 00:00:04:877 | Pass    |
| REG-01  | 12:15:11 PM / 00:00:07:561 | Pass    |
| REG-03  | 12:15:12 PM / 00:00:32:183 | Pass    |
| REG-04  | 12:22:59 PM / 00:00:31:400 | Pass    |
| REG-05  | 12:25:58 PM / 00:01:08:256 | Pass    |
| REG-06  | 12:40:08 PM / 00:02:27:748 | Running |
| REG-07  | 12:43:37 PM / 00:00:04:214 | Fail    |
| REG-08  | 12:44:43 PM / 00:00:31:140 | Running |
| REG-09  | 12:51:55 PM / 00:00:32:954 | Pass    |
| REG-10  | 12:54:49 PM / 00:00:05:767 | Fail    |
| REG-11  | 12:57:57 PM / 00:00:31:911 | Running |
| REG-12  | 12:59:30 PM / 00:00:08:033 | Fail    |

**REG-10**

11.20.2025 12:15:49 PM | 11.20.2025 12:25:55 PM | 00:00:05:767 · #test-id=10

**STATUS**   **TIMESTAMP**   **DETAILS**

- Info 12:25:49 PM WebDriver initialized for test: REG-10
- Info 12:25:49 PM Filling signup form with Name: Empty Email, Email:
- Fail 12:25:55 PM Validation message displayed: Please fill out this field.
- Pass 12:25:55 PM Test passed

Figure 10 REG-10

Now 20, 2025 01:21:48 PM

| Test ID | Status  | Timestamp               | Details |
|---------|---------|-------------------------|---------|
| REG-02  | Pass    | 12:15:51 PM / 000004877 |         |
| REG-03  | Pass    | 12:15:52 PM / 000007561 |         |
| REG-04  | Pass    | 12:22:55 PM / 000031400 |         |
| REG-05  | Pass    | 12:25:58 PM / 000108256 |         |
| REG-06  | Warning | 12:40:08 PM / 000027748 |         |
| REG-07  | Fail    | 12:43:57 PM / 000004214 |         |
| REG-08  | Warning | 12:44:54 PM / 000031140 |         |
| REG-09  | Pass    | 12:51:51 PM / 000032954 |         |
| REG-10  | Fail    | 12:54:49 PM / 000009767 |         |
| REG-11  | Warning | 12:55:57 PM / 000031911 |         |
| REG-12  | Fail    | 12:56:30 PM / 000008033 |         |

Figure 11 REG-11

Now 20, 2025 01:21:48 PM

| Test ID | Status  | Timestamp               | Details |
|---------|---------|-------------------------|---------|
| REG-02  | Pass    | 12:15:51 PM / 000004877 |         |
| REG-03  | Pass    | 12:15:52 PM / 000007561 |         |
| REG-04  | Pass    | 12:22:55 PM / 000031400 |         |
| REG-05  | Pass    | 12:25:58 PM / 000108256 |         |
| REG-06  | Warning | 12:40:08 PM / 000027748 |         |
| REG-07  | Fail    | 12:43:57 PM / 000004214 |         |
| REG-08  | Warning | 12:44:54 PM / 000031140 |         |
| REG-09  | Pass    | 12:51:51 PM / 000032954 |         |
| REG-10  | Fail    | 12:54:49 PM / 000009767 |         |
| REG-11  | Warning | 12:55:57 PM / 000031911 |         |
| REG-12  | Pass    | 12:56:30 PM / 000008033 |         |

Figure 12 REG-12

## LOGIN TEST SUITE

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| Tests | 11:58:51PM / 00:00:52:867 | REG-06 | 11:59:45 PM / 00:00:09:436 | REG-07 | 11:59:56PM / 00:00:34:274 | REG-08 | 12:00:32 AM / 00:00:37:463 | REG-09 | 12:01:11AM / 00:00:08:905 | REG-10 | 12:01:21AM / 00:00:34:677 | REG-11 | 12:01:57AM / 00:00:10:738 | REG-12 | 12:02:10AM / 00:00:04:638 | LOGIN-02 | 12:02:10AM / 00:00:08:776 | LOGIN-01 | 12:02:10AM / 00:00:08:776 | LOGIN-03 |
|-------|---------------------------|--------|----------------------------|--------|---------------------------|--------|----------------------------|--------|---------------------------|--------|---------------------------|--------|---------------------------|--------|---------------------------|----------|---------------------------|----------|---------------------------|----------|
|       |                           |        |                            |        |                           |        |                            |        |                           |        |                           |        |                           |        |                           |          |                           |          |                           |          |

**LOGIN-01**

11.21.2025 12:02:10 AM | 11.21.2025 12:02:19 AM | 00:00:08:776 · #test-id=14

STATUS    TIMESTAMP    DETAILS

Info 12:02:10 AM ===== Starting Test Case: LOGIN-01 - Verify Navigation to Login Page =====

Info 12:02:10 AM WebDriver initialized successfully

Info 12:02:10 AM Test Objective: Verify user can navigate to login page from home page

Info 12:02:10 AM Step 1: Opening Home Page

Info 12:02:16 AM Home page loaded successfully

Info 12:02:16 AM Step 2: Clicking Signup/Login link

Info 12:02:19 AM Step 3: Verifying navigation result

Pass 12:02:19 AM ✓ Successfully navigated to Signup/Login page

Info 12:02:19 AM User can now access login functionality

Info 12:02:19 AM ===== Test Case LOGIN-01 Completed =====

Info 12:02:19 AM | 11.21.2025 12:02:19 AM | Start record

Figure 13 LOGIN-01

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| Tests | 11:58:51PM / 00:00:52:867 | REG-06 | 11:59:45 PM / 00:00:09:436 | REG-07 | 11:59:56PM / 00:00:34:274 | REG-08 | 12:00:32 AM / 00:00:37:463 | REG-09 | 12:01:11AM / 00:00:08:905 | REG-10 | 12:01:21AM / 00:00:34:677 | REG-11 | 12:01:57AM / 00:00:10:738 | REG-12 | 12:02:10AM / 00:00:04:638 | LOGIN-02 | 12:02:10AM / 00:00:08:776 | LOGIN-01 | 12:02:10AM / 00:00:08:776 | LOGIN-03 |
|-------|---------------------------|--------|----------------------------|--------|---------------------------|--------|----------------------------|--------|---------------------------|--------|---------------------------|--------|---------------------------|--------|---------------------------|----------|---------------------------|----------|---------------------------|----------|
|       |                           |        |                            |        |                           |        |                            |        |                           |        |                           |        |                           |        |                           |          |                           |          |                           |          |

**LOGIN-02**

11.21.2025 12:02:10 AM | 11.21.2025 12:02:15 AM | 00:00:04:638 · #test-id=13

STATUS    TIMESTAMP    DETAILS

Info 12:02:10 AM ===== Starting Test Case: LOGIN-02 - Verify Login Page Elements =====

Info 12:02:10 AM WebDriver initialized successfully

Info 12:02:10 AM Test Objective: Verify all login form elements are displayed and functional

Info 12:02:10 AM Step 1: Opening Login Page

Info 12:02:15 AM Login page loaded successfully

Info 12:02:15 AM Step 2: Verifying Email Input Field

Info 12:02:15 AM Email input field visibility: true

Info 12:02:15 AM Step 3: Verifying Password Input Field

Info 12:02:15 AM Password input field visibility: true

Info 12:02:15 AM Step 4: Verifying Login Button

Info 12:02:15 AM | 11.21.2025 12:02:15 AM | Login button visibility: true

Figure 14 LOGIN-02

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**Tests**

| Test ID         | Timestamp                  | Status  |
|-----------------|----------------------------|---------|
| REG-09          | 12:00:32 AM / 00:00:37:463 | Pass    |
| REG-10          | 12:01:11 AM / 00:00:08:905 | Fail    |
| REG-11          | 12:01:21 AM / 00:00:34:677 | Warning |
| REG-12          | 12:01:57 AM / 00:00:10:738 | Fail    |
| <b>LOGIN-02</b> | 12:02:10 AM / 00:00:04:638 | Pass    |
| LOGIN-01        | 12:02:10 AM / 00:00:08:776 | Pass    |
| <b>LOGIN-03</b> | 12:02:10 AM / 00:00:19:028 | Pass    |
| LOGIN-04        | 12:02:31 AM / 00:00:09:663 | Pass    |
| LOGIN-05        | 12:02:42 AM / 00:00:09:966 | Pass    |
| LOGIN-06        |                            |         |

**LOGIN-03**

11.21.2025 12:02:10 AM | 11.21.2025 12:02:29 AM | 00:00:19:028 | #test-id=15

**STATUS**    **TIMESTAMP**    **DETAILS**

- Info 12:02:10 AM ===== Starting Test Case: LOGIN-03 - Login with Credentials =====
- Info 12:02:10 AM WebDriver initialized successfully
- Info 12:02:10 AM Test Objective: Perform login and verify expected result
- Info 12:02:10 AM Test Data Source: Excel Data Provider
- Info 12:02:10 AM Test Parameters:
- Info 12:02:10 AM - Email: john.doe+test1@example.com
- Info 12:02:10 AM - Password: \*\*\*\*
- Info 12:02:10 AM - Expected Result: Success if REG-01 passed
- Info 12:02:10 AM Step 1: Opening Login Page
- Info 12:02:15 AM Login page loaded successfully
- Info 12:02:15 AM Step 2: Entering Login Credentials

Figure 15 LOGIN-03

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**Tests**

| Test ID  | Timestamp                  | Status |
|----------|----------------------------|--------|
| REG-12   | 12:01:57 AM / 00:00:10:738 | Fail   |
| LOGIN-02 | 12:02:10 AM / 00:00:04:638 | Pass   |
| LOGIN-01 | 12:02:10 AM / 00:00:08:776 | Pass   |
| LOGIN-03 | 12:02:10 AM / 00:00:19:028 | Pass   |
| LOGIN-04 | 12:02:31 AM / 00:00:09:663 | Pass   |
| LOGIN-05 | 12:02:42 AM / 00:00:09:966 | Pass   |
| LOGIN-06 | 12:02:54 AM / 00:00:16:474 | Pass   |
| LOGIN-07 | 12:03:12 AM / 00:00:22:817 | Pass   |
| CART-02  | 12:03:37 AM / 00:00:24:346 | Pass   |
| CART-01  |                            | Pass   |

**LOGIN-04**

11.21.2025 12:02:31 AM | 11.21.2025 12:02:41 AM | 00:00:09:663 | #test-id=16

**STATUS**    **TIMESTAMP**    **DETAILS**

- Info 12:02:31 AM ===== Starting Test Case: LOGIN-04 - Login with Credentials =====
- Info 12:02:31 AM WebDriver initialized successfully
- Info 12:02:31 AM Test Objective: Perform login and verify expected result
- Info 12:02:31 AM Test Data Source: Excel Data Provider
- Info 12:02:31 AM Test Parameters:
- Info 12:02:31 AM - Email: priya.sharma@example.co.in
- Info 12:02:31 AM - Password: \*\*\*\*
- Info 12:02:31 AM - Expected Result: Fail - wrong password
- Info 12:02:31 AM Step 1: Opening Login Page
- Info 12:02:36 AM Login page loaded successfully
- Info 12:02:36 AM Step 2: Entering Login Credentials

Figure 16 LOGIN-04

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Tests

|    | Test Case | Start Time                 | End Time | Duration | Status |
|----|-----------|----------------------------|----------|----------|--------|
| 1  | LOGIN-03  | 12:02:10 AM / 00:00:19:028 |          |          | Pass   |
| 2  | LOGIN-04  | 12:02:31 AM / 00:00:09:663 |          |          | Pass   |
| 3  | LOGIN-05  | 12:02:42 AM / 00:00:09:966 |          |          | Pass   |
| 4  | LOGIN-06  | 12:02:54 AM / 00:00:16:474 |          |          | Pass   |
| 5  | LOGIN-07  | 12:03:12 AM / 00:00:22:817 |          |          | Pass   |
| 6  | CART-02   | 12:03:37 AM / 00:00:24:346 |          |          | Pass   |
| 7  | CART-01   | 12:03:37 AM / 00:00:22:975 |          |          | Pass   |
| 8  | CART-03   | 12:03:37 AM / 00:00:21:580 |          |          | Pass   |
| 9  | CART-04   | 12:03:37 AM / 00:00:38:034 |          |          | Pass   |
| 10 | CART-05   | 12:04:03 AM / 00:00:39:605 |          |          | Pass   |

**LOGIN-05**

11.21.2025 12:02:42 AM | 11.21.2025 12:02:52 AM | 00:00:09:966 · #test-id=17

STATUS    TIMESTAMP    DETAILS

- Info 12:02:42 AM ===== Starting Test Case: LOGIN-05 - Login with Credentials =====
- Info 12:02:42 AM WebDriver initialized successfully
- Info 12:02:42 AM Test Objective: Perform login and verify expected result
- Info 12:02:42 AM Test Data Source: Excel Data Provider
- Info 12:02:42 AM Test Parameters:
  - Email: nonexistent.user@example.com
  - Password: \*\*\*\*
- Info 12:02:42 AM - Expected Result: Fail - unknown user
- Info 12:02:42 AM Step 1: Opening Login Page
- Info 12:02:48 AM Login page loaded successfully
- Info 12:02:48 AM Step 2: Entering Login Credentials

Figure 17 LOGIN-05

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Tests

|    | Test Case | Start Time                 | End Time | Duration | Status |
|----|-----------|----------------------------|----------|----------|--------|
| 1  | LOGIN-03  | 12:02:31 AM / 00:00:09:663 |          |          | Pass   |
| 2  | LOGIN-05  | 12:02:42 AM / 00:00:09:966 |          |          | Pass   |
| 3  | LOGIN-06  | 12:02:54 AM / 00:00:16:474 |          |          | Pass   |
| 4  | LOGIN-07  | 12:03:12 AM / 00:00:22:817 |          |          | Pass   |
| 5  | CART-02   | 12:03:37 AM / 00:00:24:346 |          |          | Pass   |
| 6  | CART-01   | 12:03:37 AM / 00:00:22:975 |          |          | Pass   |
| 7  | CART-03   | 12:03:37 AM / 00:00:21:580 |          |          | Pass   |
| 8  | CART-04   | 12:03:37 AM / 00:00:38:034 |          |          | Pass   |
| 9  | CART-05   | 12:04:03 AM / 00:00:39:605 |          |          | Pass   |
| 10 | CART-06   | 12:04:04 AM / 00:00:37:226 |          |          | Pass   |
| 11 | CART-07   |                            |          |          | Pass   |

**LOGIN-06**

11.21.2025 12:02:54 AM | 11.21.2025 12:03:10 AM | 00:00:16:474 · #test-id=18

STATUS    TIMESTAMP    DETAILS

- Info 12:02:54 AM ===== Starting Test Case: LOGIN-06 - Login with Credentials =====
- Info 12:02:54 AM WebDriver initialized successfully
- Info 12:02:54 AM Test Objective: Perform login and verify expected result
- Info 12:02:54 AM Test Data Source: Excel Data Provider
- Info 12:02:54 AM Test Parameters:
  - Email: invalid-email-format
  - Password: \*\*\*\*
- Info 12:02:54 AM - Expected Result: Fail - invalid email format
- Info 12:02:54 AM Step 1: Opening Login Page
- Info 12:03:00 AM Login page loaded successfully
- Info 12:03:00 AM Step 2: Entering Login Credentials

Figure 18 LOGIN-06

| Tests                                  |      |  |
|----------------------------------------|------|--|
| LOGIN-03<br>12:02:10 AM / 00:00:19:028 | Pass |  |
| LOGIN-04<br>12:02:31 AM / 00:00:09:663 | Pass |  |
| LOGIN-05<br>12:02:42 AM / 00:00:09:966 | Pass |  |
| LOGIN-06<br>12:02:54 AM / 00:00:16:474 | Pass |  |
| LOGIN-07<br>12:03:12 AM / 00:00:22:817 | Pass |  |
| CART-02<br>12:03:37 AM / 00:00:24:346  | Pass |  |
| CART-01<br>12:03:37 AM / 00:00:22:975  | Pass |  |
| CART-03<br>12:03:37 AM / 00:00:21:580  | Pass |  |
| CART-04<br>12:03:37 AM / 00:00:38:034  | Pass |  |
| CART-05<br>12:04:03 AM / 00:00:39:605  | Pass |  |

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| STATUS | TIMESTAMP   | DETAILS                                                           |
|--------|-------------|-------------------------------------------------------------------|
| Info   | 12:03:12 AM | ===== Starting Test Case: LOGIN-07 - Login with Credentials ===== |
| Info   | 12:03:12 AM | WebDriver initialized successfully                                |
| Info   | 12:03:12 AM | Test Objective: Perform login and verify expected result          |
| Info   | 12:03:12 AM | Test Data Source: Excel Data Provider                             |
| Info   | 12:03:12 AM | Test Parameters:                                                  |
| Info   | 12:03:12 AM | - Email: test.user+signup@example.com                             |
| Info   | 12:03:12 AM | - Password: ****                                                  |
| Info   | 12:03:12 AM | - Expected Result: Success                                        |
| Info   | 12:03:12 AM | Step 1: Opening Login Page                                        |
| Info   | 12:03:16 AM | Login page loaded successfully                                    |
| Info   | 12:03:16 AM | Step 2: Entering Login Credentials                                |

Figure 19 LOGIN-07

## CART TEST SUITE

| Tests                                     |      |  |
|-------------------------------------------|------|--|
| LOGIN-06<br>12:02:54 AM / 00:00:16:474    | Pass |  |
| LOGIN-07<br>12:03:12 AM / 00:00:22:817    | Pass |  |
| CART-02<br>12:03:37 AM / 00:00:24:346     | Pass |  |
| CART-01<br>12:03:37 AM / 00:00:22:975     | Pass |  |
| CART-03<br>12:03:37 AM / 00:00:21:580     | Pass |  |
| CART-04<br>12:03:37 AM / 00:00:38:034     | Pass |  |
| CART-05<br>12:04:03 AM / 00:00:39:605     | Pass |  |
| CART-06<br>12:04:04 AM / 00:00:37:226     | Pass |  |
| CART-07<br>12:04:05 AM / 00:00:41:921     | Pass |  |
| CHECKOUT-02<br>12:04:49 AM / 00:00:35:018 | Pass |  |

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| STATUS | TIMESTAMP   | DETAILS                                                             |
|--------|-------------|---------------------------------------------------------------------|
| Info   | 12:03:37 AM | ===== Starting Test Case: CART-01 - Navigate to Products Page ===== |
| Info   | 12:03:37 AM | WebDriver initialized successfully                                  |
| Info   | 12:03:37 AM | Test Objective: Verify navigation from home page to products page   |
| Info   | 12:03:37 AM | Step 1: Opening Home Page                                           |
| Info   | 12:03:55 AM | Home page loaded successfully                                       |
| Info   | 12:03:55 AM | Step 2: Clicking Products Link                                      |
| Info   | 12:04:00 AM | Products link clicked                                               |
| Info   | 12:04:00 AM | Step 3: Verifying Products Page Display                             |
| Pass   | 12:04:00 AM | ✓ Products page is displayed successfully                           |
| Info   | 12:04:00 AM | User can now browse available products                              |
| Info   | 12:04:00 AM | ----- Test Case CART-01 Completed -----                             |

Figure 20 CART-01

**CART-02**

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| Test Case   | Start Time                 | End Time | Duration | Test ID     |
|-------------|----------------------------|----------|----------|-------------|
| LOGIN-06    | 12:02:54 AM / 00:00:16:474 |          |          | #test-id=20 |
| LOGIN-07    | 12:03:12 AM / 00:00:22:817 |          |          |             |
| CART-02     | 12:03:37 AM / 00:00:24:346 |          |          |             |
| CART-01     | 12:03:37 AM / 00:00:22:975 |          |          |             |
| CART-03     | 12:03:37 AM / 00:00:21:580 |          |          |             |
| CART-04     | 12:03:37 AM / 00:00:38:034 |          |          |             |
| CART-05     | 12:04:03 AM / 00:00:39:605 |          |          |             |
| CART-06     | 12:04:04 AM / 00:00:37:226 |          |          |             |
| CART-07     | 12:04:05 AM / 00:00:41:921 |          |          |             |
| CHECKOUT-02 | 12:04:49 AM / 00:00:35:018 |          |          |             |

**Test Log for CART-02**

Nov 20, 2025 12:03:37 AM - Nov 20, 2025 12:04:01 AM | 00:00:24:346 · #test-id=20

| Status | Timestamp   | Details                                                          |
|--------|-------------|------------------------------------------------------------------|
| Info   | 12:03:37 AM | ===== Starting Test Case: CART-02 - Add Product to Cart =====    |
| Info   | 12:03:37 AM | WebDriver initialized successfully                               |
| Info   | 12:03:37 AM | Test Objective: Verify product can be added to cart successfully |
| Info   | 12:03:37 AM | Step 1: Opening Products Page                                    |
| Info   | 12:03:59 AM | Products page loaded successfully                                |
| Info   | 12:03:59 AM | Waiting for page to be fully loaded                              |
| Info   | 12:03:59 AM | Page DOM is ready                                                |
| Info   | 12:03:59 AM | Step 2: Adding First Product to Cart (Product ID: 1)             |
| Info   | 12:04:00 AM | 'Add to Cart' button clicked for Product #1                      |
| Info   | 12:04:00 AM | Step 3: Verifying Product Added to Cart                          |
| Info   | 12:04:01 AM | Product addition confirmation received                           |

Figure 21 CART-02

**CART-03**

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| Test Case   | Start Time                 | End Time | Duration | Test ID     |
|-------------|----------------------------|----------|----------|-------------|
| LOGIN-06    | 12:02:54 AM / 00:00:16:474 |          |          | #test-id=22 |
| LOGIN-07    | 12:03:12 AM / 00:00:22:817 |          |          |             |
| CART-02     | 12:03:37 AM / 00:00:24:346 |          |          |             |
| CART-01     | 12:03:37 AM / 00:00:22:975 |          |          |             |
| CART-03     | 12:03:37 AM / 00:00:21:580 |          |          |             |
| CART-04     | 12:03:37 AM / 00:00:38:034 |          |          |             |
| CART-05     | 12:04:03 AM / 00:00:39:605 |          |          |             |
| CART-06     | 12:04:04 AM / 00:00:37:226 |          |          |             |
| CART-07     | 12:04:05 AM / 00:00:41:921 |          |          |             |
| CHECKOUT-02 | 12:04:49 AM / 00:00:35:018 |          |          |             |

**Test Log for CART-03**

Nov 20, 2025 12:03:37 AM - Nov 20, 2025 12:03:59 AM | 00:00:21:580 · #test-id=22

| Status | Timestamp   | Details                                                                |
|--------|-------------|------------------------------------------------------------------------|
| Info   | 12:03:37 AM | ===== Starting Test Case: CART-03 - Verify Product in Cart =====       |
| Info   | 12:03:37 AM | WebDriver initialized successfully                                     |
| Info   | 12:03:37 AM | Test Objective: Add product to cart and verify it appears in cart page |
| Info   | 12:03:37 AM | Step 1: Opening Products Page                                          |
| Info   | 12:03:53 AM | Products page loaded successfully                                      |
| Info   | 12:03:53 AM | Waiting for page to be fully loaded                                    |
| Info   | 12:03:53 AM | Page DOM is ready                                                      |
| Info   | 12:03:53 AM | Step 2: Adding First Product to Cart (Product ID: 1)                   |
| Info   | 12:03:53 AM | Product added to cart successfully                                     |
| Info   | 12:03:53 AM | Step 3: Navigating to Cart Page                                        |
| Info   | 12:03:53 AM | 'View Cart' link clicked                                               |

Figure 22 CART-03

| Tests       |      |                           |
|-------------|------|---------------------------|
| LOGIN-06    | Pass | 12:02:54AM / 00:00:16:474 |
| LOGIN-07    | Pass | 12:03:12AM / 00:00:22:817 |
| CART-02     | Pass | 12:03:37AM / 00:00:24:346 |
| CART-01     | Pass | 12:03:37AM / 00:00:22:975 |
| CART-03     | Pass | 12:03:37AM / 00:00:21:580 |
| CART-04     | Pass | 12:03:37AM / 00:00:38:034 |
| CART-05     | Pass | 12:04:03AM / 00:00:39:605 |
| CART-06     | Pass | 12:04:04AM / 00:00:37:226 |
| CART-07     | Pass | 12:04:05AM / 00:00:41:921 |
| CHECKOUT-02 | Pass | 12:04:49AM / 00:00:35:018 |

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**CART-04**

11.21.2025 12:03:37 AM | 11.21.2025 12:04:15 AM | 00:00:38:034 · #test-id=23



| STATUS | TIMESTAMP   | DETAILS                                                           |
|--------|-------------|-------------------------------------------------------------------|
| Info   | 12:03:37 AM | ===== Starting Test Case: CART-04 - Remove Item from Cart =====   |
| Info   | 12:03:37 AM | WebDriver initialized successfully                                |
| Info   | 12:03:37 AM | Test Objective: Verify item can be removed from cart successfully |
| Info   | 12:03:37 AM | Step 1: Navigating to Products Page                               |
| Info   | 12:03:57 AM | Products page opened                                              |
| Info   | 12:03:57 AM | Step 2: Adding Product to Cart (Product ID: 2)                    |
| Info   | 12:03:57 AM | Product #2 added to cart                                          |
| Info   | 12:03:57 AM | Step 3: Navigating to Cart Page                                   |
| Info   | 12:04:03 AM | Cart page opened                                                  |
| Info   | 12:04:03 AM | Step 4: Verifying Product in Cart Before Removal                  |
| Info   | 12:04:43 AM | Product ID: 2 found in cart! 1                                    |

Figure 23 CART-04

| Tests       |      |                           |
|-------------|------|---------------------------|
| LOGIN-06    | Pass | 12:02:54AM / 00:00:16:474 |
| LOGIN-07    | Pass | 12:03:12AM / 00:00:22:817 |
| CART-02     | Pass | 12:03:37AM / 00:00:24:346 |
| CART-01     | Pass | 12:03:37AM / 00:00:22:975 |
| CART-03     | Pass | 12:03:37AM / 00:00:21:580 |
| CART-04     | Pass | 12:03:37AM / 00:00:38:034 |
| CART-05     | Pass | 12:04:03AM / 00:00:39:605 |
| CART-06     | Pass | 12:04:04AM / 00:00:37:226 |
| CART-07     | Pass | 12:04:05AM / 00:00:41:921 |
| CHECKOUT-02 | Pass | 12:04:49AM / 00:00:35:018 |

**CART-05**

11.21.2025 12:04:03 AM | 11.21.2025 12:04:43 AM | 00:00:39:605 · #test-id=24



| STATUS | TIMESTAMP   | DETAILS                                                                |
|--------|-------------|------------------------------------------------------------------------|
| Info   | 12:04:03 AM | ===== Starting Test Case: CART-05 - Verify Product Quantity =====      |
| Info   | 12:04:03 AM | WebDriver initialized successfully                                     |
| Info   | 12:04:03 AM | Test Objective: Verify product quantity is displayed correctly in cart |
| Info   | 12:04:03 AM | Step 1: Navigating to Products Page                                    |
| Info   | 12:04:14 AM | Products page loaded successfully                                      |
| Info   | 12:04:14 AM | Step 2: Adding Product to Cart (Product ID: 1)                         |
| Info   | 12:04:15 AM | Product #1 added to cart                                               |
| Info   | 12:04:15 AM | Step 3: Navigating to Cart Page                                        |
| Info   | 12:04:43 AM | Cart page opened                                                       |
| Info   | 12:04:43 AM | Step 4: Retrieving Product Quantity                                    |
| Info   | 12:04:43 AM | Product ID: 1 quantity in cart: 1                                      |

Figure 24 CART-05

| Tests                                    |      |  |
|------------------------------------------|------|--|
| LOGIN-06<br>12:02:54AM / 00:00:16:474    | Pass |  |
| LOGIN-07<br>12:03:12AM / 00:00:22:817    | Pass |  |
| CART-02<br>12:03:37AM / 00:00:24:346     | Pass |  |
| CART-01<br>12:03:37AM / 00:00:22:975     | Pass |  |
| CART-03<br>12:03:37AM / 00:00:21:580     | Pass |  |
| CART-04<br>12:03:37AM / 00:00:38:034     | Pass |  |
| CART-05<br>12:04:03AM / 00:00:39:605     | Pass |  |
| CART-06<br>12:04:04AM / 00:00:37:226     | Pass |  |
| CART-07<br>12:04:05AM / 00:00:41:921     | Pass |  |
| CHECKOUT-02<br>12:04:49AM / 00:00:35:018 | Pass |  |

  

| CART-06 |             |                                                                   |
|---------|-------------|-------------------------------------------------------------------|
| STATUS  | TIMESTAMP   | DETAILS                                                           |
| Info    | 12:04:04 AM | ===== Starting Test Case: CART-06 - Verify Cart Total Price ===== |
| Info    | 12:04:04 AM | WebDriver initialized successfully                                |
| Info    | 12:04:04 AM | Test Objective: Verify cart displays correct pricing information  |
| Info    | 12:04:04 AM | Step 1: Navigating to Products Page                               |
| Info    | 12:04:27 AM | Products page loaded successfully                                 |
| Info    | 12:04:27 AM | Step 2: Adding Product to Cart (Product ID: 1)                    |
| Info    | 12:04:27 AM | Product #1 added to cart                                          |
| Info    | 12:04:27 AM | Step 3: Navigating to Cart Page                                   |
| Info    | 12:04:31 AM | Cart page opened                                                  |
| Info    | 12:04:31 AM | Cart page fully loaded                                            |
| Info    | 12:04:31 AM | Step 4: Retrieving Product Details Information                    |

Figure 25 CART-06

| Tests                                    |      |  |
|------------------------------------------|------|--|
| LOGIN-06<br>12:02:54AM / 00:00:16:474    | Pass |  |
| LOGIN-07<br>12:03:12AM / 00:00:22:817    | Pass |  |
| CART-02<br>12:03:37AM / 00:00:24:346     | Pass |  |
| CART-01<br>12:03:37AM / 00:00:22:975     | Pass |  |
| CART-03<br>12:03:37AM / 00:00:21:580     | Pass |  |
| CART-04<br>12:03:37AM / 00:00:38:034     | Pass |  |
| CART-05<br>12:04:03AM / 00:00:39:605     | Pass |  |
| CART-06<br>12:04:04AM / 00:00:37:226     | Pass |  |
| CART-07<br>12:04:05AM / 00:00:41:921     | Pass |  |
| CHECKOUT-02<br>12:04:49AM / 00:00:35:018 | Pass |  |

  

| CART-07 |             |                                                                    |
|---------|-------------|--------------------------------------------------------------------|
| STATUS  | TIMESTAMP   | DETAILS                                                            |
| Info    | 12:04:05 AM | ===== Starting Test Case: CART-07 - Proceed to Checkout =====      |
| Info    | 12:04:05 AM | WebDriver initialized successfully                                 |
| Info    | 12:04:05 AM | Test Objective: Verify user can proceed from cart to checkout page |
| Info    | 12:04:05 AM | Step 1: Navigating to Products Page                                |
| Info    | 12:04:21 AM | Products page loaded successfully                                  |
| Info    | 12:04:21 AM | Step 2: Adding Product to Cart (Product ID: 1)                     |
| Info    | 12:04:22 AM | Product #1 added to cart                                           |
| Info    | 12:04:22 AM | Step 3: Navigating to Cart Page                                    |
| Info    | 12:04:26 AM | Cart page opened                                                   |
| Info    | 12:04:26 AM | Step 4: Verifying Product in Cart                                  |
| Info    | 12:04:26 AM | Product ID 1 found in cart tree                                    |

Figure 26 CART-07

## CHECKOUT TEST SUITE

The screenshot shows a test management interface with a sidebar on the left and a main content area on the right.

**Left Sidebar:** Contains a search bar and a "Tests" section with a table. The table lists the following test cases:

| Test Case   | Run Date / Duration        | Status |
|-------------|----------------------------|--------|
| CART-03     | 12:03:37 AM / 00:00:21:580 | Pass   |
| CART-04     | 12:03:37 AM / 00:00:38:034 | Pass   |
| CART-05     | 12:04:03 AM / 00:00:39:605 | Pass   |
| CART-06     | 12:04:04 AM / 00:00:37:226 | Pass   |
| CART-07     | 12:04:05 AM / 00:00:41:921 | Pass   |
| CHECKOUT-02 | 12:04:49 AM / 00:00:35:018 | Pass   |
| CHECKOUT-04 | 12:04:49 AM / 00:01:05:414 | Pass   |
| CHECKOUT-03 | 12:04:49 AM / 00:04:37:842 | Pass   |
| CHECKOUT-01 | 12:04:49 AM / 00:00:36:913 | Pass   |

**Main Content Area:** Displays the details for the selected test case, "CHECKOUT-01".

**Test Case Summary:** Nov 20, 2025 11:56:23 PM | #test-id=30 | 11.21.2025 12:04:49 AM - 11.21.2025 12:05:26 AM | 00:00:36:913

**Log Details:**

| STATUS | TIMESTAMP   | DETAILS                                                             |
|--------|-------------|---------------------------------------------------------------------|
| Info   | 12:04:49 AM | ===== Starting Test Case: CHECKOUT-01 - Navigate to Checkout =====  |
| Info   | 12:04:49 AM | WebDriver initialized successfully                                  |
| Info   | 12:04:49 AM | Test Objective: Verify logged-in user can navigate to checkout page |
| Info   | 12:04:49 AM | Test Credentials: Email=john.doe+test1@example.com, Password=****   |
| Info   | 12:04:49 AM | Step 1: Performing User Login                                       |
| Info   | 12:05:02 AM | Login page opened                                                   |
| Info   | 12:05:14 AM | Login completed with provided credentials                           |
| Info   | 12:05:14 AM | Step 2: Navigating to Products Page                                 |
| Info   | 12:05:19 AM | Products page loaded                                                |
| Info   | 12:05:19 AM | Step 3: Adding Product to Cart (Product ID: 1)                      |
| Info   | 12:05:19 AM | Product #1 added to cart                                            |

Figure 27 CHECKOUT-01

Nov 20, 2025 11:56:23 PM

| Tests       |      |                            |
|-------------|------|----------------------------|
| CART-03     | Pass | 12:03:37 AM / 00:00:21:580 |
| CART-04     | Pass | 12:03:37 AM / 00:00:38:034 |
| CART-05     | Pass | 12:04:03 AM / 00:00:39:605 |
| CART-06     | Pass | 12:04:04 AM / 00:00:37:226 |
| CART-07     | Pass | 12:04:05 AM / 00:00:41:921 |
| CHECKOUT-02 | Pass | 12:04:49 AM / 00:00:35:018 |
| CHECKOUT-04 | Pass | 12:04:49 AM / 00:01:05:414 |
| CHECKOUT-03 | Pass | 12:04:49 AM / 00:04:37:842 |
| CHECKOUT-01 | Pass | 12:04:49 AM / 00:00:36:913 |

**CHECKOUT-02**

11.21.2025 12:04:49 AM | 11.21.2025 12:05:24 AM | 00:00:35.018 · #test-id=27

| STATUS | TIMESTAMP   | DETAILS                                                                   |
|--------|-------------|---------------------------------------------------------------------------|
| Info   | 12:04:49 AM | ===== Starting Test Case: CHECKOUT-02 - Add Comment and Place Order ===== |
| Info   | 12:04:49 AM | WebDriver initialized successfully                                        |
| Info   | 12:04:49 AM | Test Objective: Verify user can add order comment and proceed to payment  |
| Info   | 12:04:49 AM | Test Credentials: Email=john.doe+test1@example.com, Password=****         |
| Info   | 12:04:49 AM | Step 1: Performing User Login                                             |
| Info   | 12:05:03 AM | Login page opened                                                         |
| Info   | 12:05:09 AM | User logged in successfully                                               |
| Info   | 12:05:09 AM | Step 2: Adding Product to Cart                                            |
| Info   | 12:05:12 AM | Products page loaded                                                      |
| Info   | 12:05:13 AM | Product #1 added to cart                                                  |
| Info   | 12:05:17 AM | Navigated to cart page                                                    |

Figure 29 CHECKOUT-02

| Tests       |      |                            |
|-------------|------|----------------------------|
| CART-03     | Pass | 12:03:37 AM / 00:00:21:580 |
| CART-04     | Pass | 12:03:37 AM / 00:00:38:034 |
| CART-05     | Pass | 12:04:03 AM / 00:00:39:605 |
| CART-06     | Pass | 12:04:04 AM / 00:00:37:226 |
| CART-07     | Pass | 12:04:05 AM / 00:00:41:921 |
| CHECKOUT-02 | Pass | 12:04:49 AM / 00:00:35:018 |
| CHECKOUT-04 | Pass | 12:04:49 AM / 00:01:05:414 |
| CHECKOUT-03 | Pass | 12:04:49 AM / 00:04:37:842 |
| CHECKOUT-01 | Pass | 12:04:49 AM / 00:00:36:913 |

**CHECKOUT-03**

11.21.2025 12:04:49 AM | 11.21.2025 12:09:27 AM | 00:04:37:842 · #test-id=29

| STATUS | TIMESTAMP   | DETAILS                                                            |
|--------|-------------|--------------------------------------------------------------------|
| Info   | 12:04:49 AM | ===== Starting Test Case: CHECKOUT-03 - Fill Payment Details ===== |
| Info   | 12:04:49 AM | WebDriver initialized successfully                                 |
| Info   | 12:04:49 AM | Test Objective: Verify user can fill payment details in checkout   |
| Info   | 12:04:49 AM | Test Credentials: Email=john.doe+test1@example.com, Password=****  |
| Info   | 12:04:49 AM | Step 1: Performing User Login                                      |
| Info   | 12:05:04 AM | Login page opened                                                  |
| Info   | 12:07:23 AM | User authenticated successfully                                    |
| Info   | 12:07:23 AM | Step 2: Adding Product to Cart                                     |
| Info   | 12:09:13 AM | Products page loaded                                               |
| Info   | 12:09:14 AM | Product #1 added to cart                                           |
| Info   | 12:09:18 AM | Cart page opened                                                   |

Figure 28 CHECKOUT-03

Figure 30 CHECKOUT-04

Figure 31 CHECKOUT-05

## TEST DATA FOR SIGNUP

| TestCaseID | Title                                                       | Name                         | Email                      | Password    | DOB        | FirstName                                | LastName             | Company           | Address1                                                         | Address2  | Country        | State       | City        | Zipcode | Mobile          |
|------------|-------------------------------------------------------------|------------------------------|----------------------------|-------------|------------|------------------------------------------|----------------------|-------------------|------------------------------------------------------------------|-----------|----------------|-------------|-------------|---------|-----------------|
| REG-03     | Mr John Doe                                                 | John Doe                     | john.doe+test1@example.com | PasswOrD!   | 1990-05-15 | John                                     | Doe                  | Acme Corp         | 123 Main St                                                      | Apt 4B    | United States  | California  | Los Angeles | 90001   | +1-310-555-0101 |
| REG-04     | Mrs Priya Sharma                                            | Priya Sharma                 | priya.sharma@example.co.in | P@ss1234    | 1995-12-01 | Priya                                    | Sharma               | 45 MG Road        |                                                                  |           | India          | Maharashtra | Mumbai      | 400001  | +91-9876543210  |
| REG-05     | Mr A User With A Very Long Name That Exceeds Typical Limits | longname.user@example.com    | LongNameUser123            | LongPass123 | 1980-07-07 | UserWithVeryLongFirstNameExceedingLimits | lastNameAlsoVeryLong | BigCompany Inc.   | 100 Long Street Name That Is Unusually Long For An Address Field |           | United Kingdom |             | London      | EC1A1BB | +44-7700-900000 |
| REG-06     | NoTitle User                                                | notitleuser@example.com      | pwd                        | 2003-01-01  | NoTitle    | User                                     |                      |                   |                                                                  |           |                |             |             |         |                 |
| REG-07     | Ms Invalid Email                                            | invalid-email-format@        | ValidPass1!                | 1992-03-03  | Invalid    | Email                                    |                      | 10 Example Ln     |                                                                  |           | Canada         | Ontario     | Toronto     | M5H2N2  | +1-416-555-0202 |
| REG-08     | Mx Unicode 用户                                               | unicode.user@example.com     | Un10de!                    | 1998-09-09  | 用□         | 测试                                       | 测试公司                 | No.1 测试路          |                                                                  |           | China          | Beijing     | Beijing     | 100000  | +86-10-55550000 |
| REG-09     | Mr SQLInjection`:-)                                         | sql.injection@example.com    | P@ssword1                  | 1991-11-11  | SQL`:-)    | Injection                                | Injection            | DROP TABLE users; |                                                                  |           | United States  | New York    | New York    | 100001  | +1-212-555-0803 |
| REG-10     | Mrs Empty Email                                             |                              | SomePass1!                 | 1985-06-06  | Empty      | Email                                    |                      | 500 Sample Rd     |                                                                  |           | Australia      | NSW         | Sydney      | 2000    | +61-2-90000000  |
| REG-11     | Ms Test User                                                | test.user+signup@example.com | Complex1234                | 1975-04-20  | Test       | User                                     | QA Labs              | 77 Test Blvd      |                                                                  | Suite 200 | United States  | Texas       | Austin      | 73301   | +1-512-555-0404 |
| REG-12     | Mr Duplicate Email                                          | john.doe+test1@example.com   | AnotherPass1!              | 1990-05-15  | John       | Duplicate                                | Acme Corp            | 123 Main St       |                                                                  |           | United States  | California  | Los Angeles | 90001   | +1-310-555-0101 |

## TEST DATA FOR LOGIN

| TestCaseID | Email                        | Password     | Expected                    |
|------------|------------------------------|--------------|-----------------------------|
| LOGIN-03   | john.doe@test1@example.com   | PasswOrld    | Success if REG-01 passed    |
| LOGIN-04   | priya.sharma@example.co.in   | WrongPass    | Fail - wrong password       |
| LOGIN-05   | nonexistent.user@example.com | AnyPass1     | Fail - unknown user         |
| LOGIN-06   | invalid-email-format         | pwd          | Fail - invalid email format |
| LOGIN-07   | test.user+signup@example.com | Complex#1234 | Success                     |
|            |                              |              |                             |
|            |                              |              |                             |
|            |                              |              |                             |
|            |                              |              |                             |

# KEY Code Snippets

```
16
17 import com.aventstack.extentreports.ExtentTest;
18
19 import selenium.automation.framework.core.CleanUpRegistered;
20 import selenium.automation.framework.core.WebDriverUtil;
21 import selenium.automation.framework.utils.ScreenShotUtil;
22 import selenium.automation.framework.utils.SetupExtentReportUtil;
23
24 ✓ public class BaseTest extends SetupExtentReportUtil {
25     // Removed driver field - use WebDriverUtil.getDriver() instead for thread safety
26
27
28     @BeforeSuite
29     public void beforeSuite() {
30         // Code to run before the entire test suite
31         System.out.println("Starting Test Suite Execution");
32         setupReport();
33
34     }
35
36
37
38     @BeforeMethod
39     @Parameters("browser")
40     public void beforeMethod(Method method, @Optional("chrome") String browser) {
41         // Code to run before each test method
42         try {
43             // Check system property first (for Maven -Dbrowser=xxx)
44             String browserToUse = System.getProperty(key: "browser", browser);
45             WebDriverUtil.initializeDriver(browserToUse);
46             System.out.println("Browser initialized: " + browserToUse);
47             WebDriverUtil.getDriver().manage().timeouts().implicitlyWait(Duration.ofSeconds(seconds: 10));
48             // Set waits after driver is created
49         } catch (Exception e) {
50             System.out.println("Error initializing browser: " + e.getMessage());
51         }
52     }
53 }
```

*Figure 32 Base Test*

```

package selenium.automation.framework.listeners;

import org.testng.IRetryAnalyzer;
import org.testng.ITestResult;

/**
 * TestNG Retry Analyzer - automatically retries failed tests
 * Implements IRetryAnalyzer to handle flaky tests
 */
public class RetryAnalyzer implements IRetryAnalyzer {
    private int retryCount = 0;
    private static final int MAX_RETRY_COUNT = 2;

    @Override
    public boolean retry(ITestResult result) {
        if (retryCount < MAX_RETRY_COUNT) {
            System.out.println("Retrying test '" + result.getName() +
                "' with status " + getResultStatusName(result.getStatus()) +
                " for the " + (retryCount + 1) + " time(s).");
            retryCount++;
            return true;
        }
        return false;
    }

    private String getResultStatusName(int status) {
        switch (status) {
            case ITestResult.SUCCESS:
                return "SUCCESS";
            case ITestResult.FAILURE:
                return "FAILURE";
            case ITestResult.SKIP:
                return "SKIP";
            default:
                return "UNKNOWN";
        }
    }
}

```

Figure 33 Retry analyser

```

import org.testng.ITestListener;
import org.testng.ITestResult;

/**
 * TestNG Listener for test execution events
 */
public class TestListener implements ITestListener {

    @Override
    public void onStart(ITestContext context) {
        System.out.println(x: "=====");
        System.out.println("Test Suite Started: " + context.getName());
        System.out.println(x: "=====");
    }

    @Override
    public void onFinish(ITestContext context) {
        System.out.println(x: "\n=====");
        System.out.println("Test Suite Finished: " + context.getName());
        System.out.println("total Tests: " + context.getAllTestMethods().length);
        System.out.println("Passed: " + context.getPassedTests().size());
        System.out.println("Failed: " + context.getFailedTests().size());
        System.out.println("Skipped: " + context.getSkippedTests().size());
        System.out.println(x: "=====\\n");
    }

    @Override
    public void onTestStart(ITestResult result) {
        System.out.println("Test Started: " + result.getMethod().getMethodName());
    }

    @Override
    public void onTestSuccess(ITestResult result) {
        System.out.println("/ Test Passed: " + result.getMethod().getMethodName());
    }

    @Override
    public void onTestFailure(ITestResult result) {
        System.out.println("X Test Failed: " + result.getMethod().getMethodName());
    }
}

```

Figure 34 Test Listener

```
public class ExcelExtractorUtil {  
  
    @DataProvider(name = "excelDataProvider")  
    public static Object[][] excelDataProvider(ITestContext context) {  
        String sheet = context.getCurrentXmlTest().getParameter(name: "sheetName");  
        return extractData(sheet);  
    }  
  
    public static Object[][] extractData(String sheetName) {  
        List<Object[]> rows = new ArrayList<>();  
        DataFormatter formatter = new DataFormatter();  
        try (InputStream in = ExcelExtractorUtil.class.getClassLoader().getResourceAsStream(name: "testData.xlsx")) {  
            if (in == null) {  
                throw new IllegalStateException(s: "Resource testData.xlsx not found on classpath");  
            }  
            Workbook workbook = WorkbookFactory.create(in);  
            // for test  
            String sheetName = selenium.automation.framework.utils.ExcelExtractorUtil.extractData(String)  
            sheetName = sheetName != null ? sheetName : "Registrations";  
  
            if ("Registrations".equalsIgnoreCase(sheetName)){  
  
                Sheet sheet = workbook.getSheet(sheetName);  
                if (sheet == null) {  
                    throw new IllegalArgumentException("Sheet '" + sheetName + "' not found");  
                }  
                boolean headerSkipped = false;  
                for (Row row : sheet) {  
                    if (!headerSkipped) { // skip header row  
                        headerSkipped = true;  
                        continue;  
                    }  
                    String TestCaseName = row.getCell(cellnum: 0) != null ? formatter.formatCellValue(row.getCell(cellnum: 0)) : "";  
                    rows.add(new Object[]{TestCaseName});  
                }  
            }  
        } catch (Exception e) {  
            e.printStackTrace();  
        }  
    }  
}
```

Figure 35 Data Provider