

# Test Approaches

For the Buggy Car Rating website, I did both manual and automation testing. The listed defects have been found by both testing approaches. I chose Selenium framework with Java Script along with TestNG and Maven.

## Functional testing by automation and manually

- Register users
- Login (did in api on postman as well)
- Browse different pages
- Vote (did in api on postman as well)
- Total votes and individual votes
- Profile page
- Other details can be seen from the bug report

## Non-functional testing

- Usability and exploratory testing
- Performance testing - with Chrome dev tool and Jmeter
- Load testing - Jmeter
- Security testing

## Deployment of the test framework

- Selenium framework
- JDK
- Java
- Maven
- TestNG  
(Running performance: 9 test cases done within 30s locally and 3 minutes via CI/CI Github Actions)

- Test report is available to download and view in html format after each run
- Errors are recorded on test report
- Every pull & push will trigger to run tests automatically by Github Actions

## Test Results

### CI/CI test result - Snapshot from Github Actions

The screenshot shows the Github Actions interface for a workflow named 'Java CI with Maven and TestNG'. The specific run is 'update readme #25', which has completed successfully. The 'build' job is selected, showing a list of steps that all passed.

Step	Duration
Set up job	3s
Install Chrome	11s
Install Chrome driver	1s
Run actions/checkout@v2	2s
Set CHROMEDRIVER_PATH environment variable	0s
Set up JDK 11	2s
Build with Maven	1m 32s
Run tests in headless mode	1m 20s
Generate TestNG XML report	9s
Publish TestNG report as artifact	0s
Post Set up JDK 11	0s
Post Run actions/checkout@v2	0s
Complete job	1s

### Local test result - Snapshot from Mac OS

(By the way screen recording of automation testing is available in src/test/java/com/buggycar/resource folder)

Test	# Passed	# Skipped	# Retried	# Failed	Time (ms)	Included Groups	Excluded Groups
Surefire suite							
<a href="#">Surefire test</a>	9	0	0	0	28,512		

Class	Method	Start	Time (ms)
Surefire suite			
Surefire test — passed			
com.buggycar.LinkTest	<a href="#">linkModelTest</a>	1682246623066	632
	<a href="#">linkOverallTest</a>	1682246624868	649
	<a href="#">linkTest</a>	1682246621221	668
com.buggycar.LoginTest	<a href="#">correctCredentialTest</a>	1682246626686	1480
	<a href="#">logoutTest</a>	1682246631278	1296
	<a href="#">wrongCredentialTest</a>	1682246629329	766
com.buggycar.ProfileTest	<a href="#">profileTest</a>	1682246633762	2675
com.buggycar.RegisterTest	<a href="#">registerTest</a>	1682246637569	1171
com.buggycar.VoteTest	<a href="#">voteTest</a>	1682246639871	7754

## Future work

- Add more test case
- Get list element
- Run test on different OS in CI/CD