



PROJECT REPORT

“SOFTWARE TESTING ON ONLINE-VOTING WEB APPLICATION “

SUBJECT: SOFTWARE TESTING

SUBJECT CODE: 24CAP-612

SUBMITTED TO,

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- **ACKNOWLEDGEMENT:**

I would like to express my deep gratitude to Assistant Professor Priyanka Ma'am at Chandigarh University, for their invaluable guidance, encouragement, and support throughout the duration of this project. Their insightful feedback and expertise helped me to successfully complete this project on "Software Testing on Online-Voting Web Application".

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- 1. Project Title:** Online - Voting Web Application - Comprehensive Software Testing.
 - 2. Objective:** To test the reliability, functionality, UI responsiveness, and performance of the Voting Web Application using industry-standard tools including Selenium, Postman, and Newman.
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3. Tools & Technologies Used:

Tool/Technology	Purpose
Selenium	UI and Functional Testing
Postman	API Testing
Newman (Postman CLI)	Performance Testing and Report Generation
VS Code	Development and Execution Environment
React, Node.js	Frontend and Backend Stack.

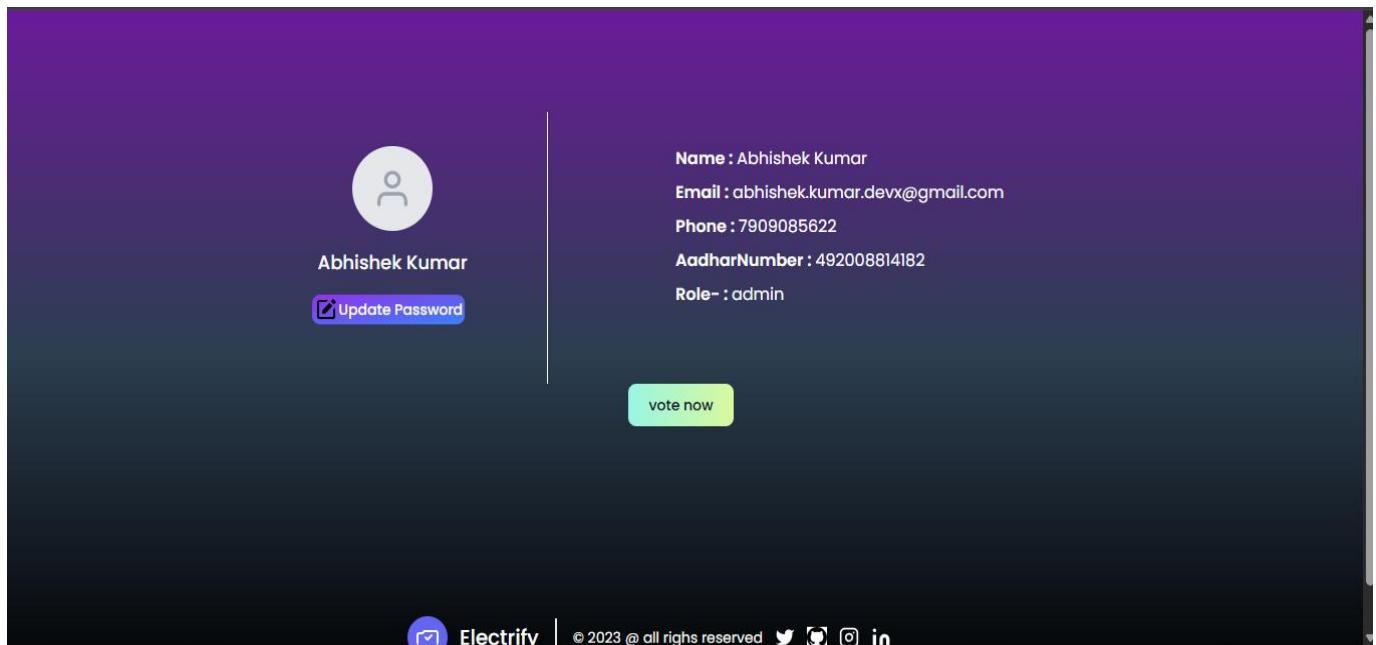
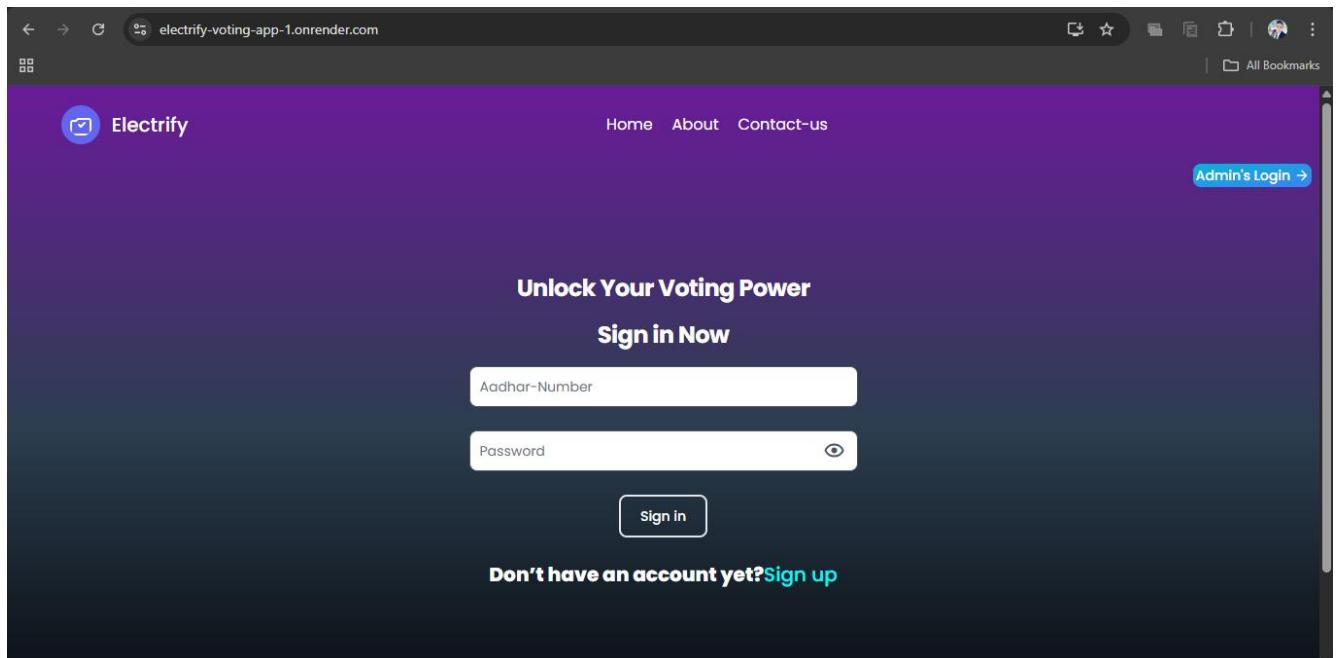
4. Testing Overview:

A. Functional Testing using Selenium

- Automated tests were written using Selenium to validate UI elements and functionalities.
- Focused tests:
 - Login functionality:**
 - Correct password: Successfully logs in.
 - Incorrect password: Displays error message.
 - Registration functionality:**
 - New users can register successfully.
 - Invalid inputs (like mismatched passwords or short fields) show error messages.

- Button clicks and form validations were also tested.
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*** Web Application on Which Testing Is Being Performed***



B. API Testing using Postman

- A total of **9 API endpoints** were tested:
 1. POST / signup
 2. POST / login
 3. GET / candidates
 4. POST / signup_admin
 5. GET / get_user_profile
 6. GET / user/profile
 7. POST / Check_isAdmin
 8. DELETE / user/delete
 9. GET / admin/dashboard
- Each API was tested with various inputs and checked for:
 - Correct HTTP response status
 - JSON structure of responses
 - Authentication handling
 - Error messages for invalid requests

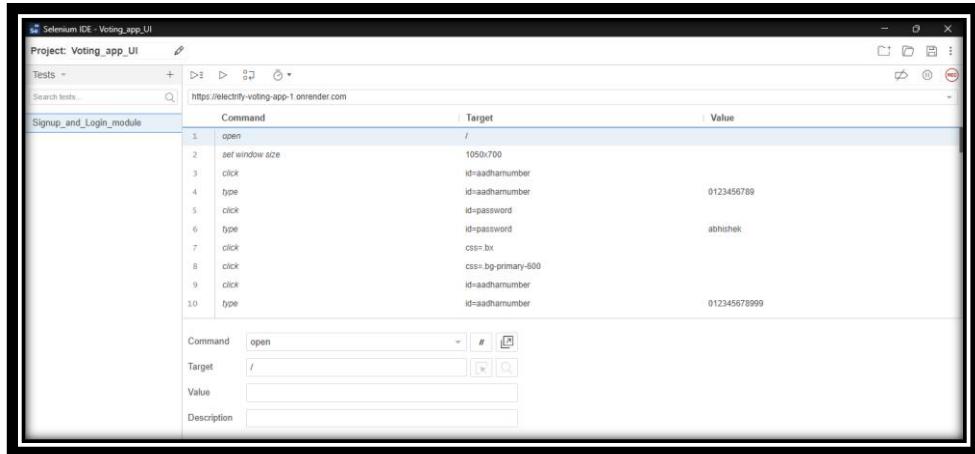
C. Performance Testing using Newman

- Postman collection was exported and run using Newman CLI.
- Command used:
“*newman run VotingApp.postman_collection.json -r html --reporter-html-export ./reports/voting-report.html*”
- Performed test with iterations to simulate load.
- Generated a detailed **HTML report** which includes:
 - Test pass/fail summary
 - Response times

- o Status codes

4. Screenshots Included:

- Selenium test execution



- Postman collection and results:

- Newman CLI and report output:

	executed	failed
iterations	20	0
requests	180	0
test-scripts	140	0
prerequest-scripts	40	0
assertions	400	66
total run duration: 4m 20.5s		
total data received: 34.78kB (approx)		
average response time: 1360ms [min: 500ms, max: 22.4s, s.d.: 1704ms]		

- Generated HTML report preview:

Newman Report		
Collection	Test_Online_Voting_app	
Time	Sun Apr 13 2025 22:35:00 GMT+0530 (India Standard Time)	
Exported with	Newman v6.2.1	
Iterations	Total 1	Failed 0
Requests	9	0
Prerequest Scripts	2	0
Test Scripts	7	0
Assertions	20	2
Total run duration	8s	
Total data received	1.7KB (approx)	
Average response time	801ms	
Total Failures	2	
Requests		
get all candidate		
Method	GET	
URL	https://electrify-voting-app.onrender.com/candidate/getCandidates	
Mean time per request	732ms	
Mean size per request	423B	
Total passed tests	2	
Total failed tests	0	

5. Test Scenarios Overview:

Register with valid user details	User is successfully registered	<input checked="" type="checkbox"/> Passed
Register with missing or invalid inputs	Shows validation error messages	<input checked="" type="checkbox"/> Passed
Login with correct credentials	User is redirected to dashboard	<input checked="" type="checkbox"/> Passed
Login with incorrect password	Displays appropriate error message	<input checked="" type="checkbox"/> Passed
Access protected route without login	Redirects to login page	<input checked="" type="checkbox"/> Passed
Display candidate list	Candidate names and details are fetched and displayed	<input checked="" type="checkbox"/> Passed

Vote for a candidate	Vote is recorded; user can vote only once	<input checked="" type="checkbox"/> Passed
Try to vote again after submission	Displays message: "You have already voted"	<input checked="" type="checkbox"/> Passed
View poll results	Pie chart / result summary shown correctly	<input checked="" type="checkbox"/> Passed
Logout from user dashboard	User session is cleared and redirected to login	<input checked="" type="checkbox"/> Passed
Post-logout navigation (via back button)	Redirects to login page, not dashboard	<input checked="" type="checkbox"/> Passed

6. Conclusion: All the functional, UI, and API tests passed successfully. Performance under load was within acceptable thresholds. The system is stable and meets the quality standards for production deployment. The detailed Newman HTML report serves as evidence of automated testing and performance analysis.

7. Future Work:

- Integrate CI/CD for automatic test runs
 - Expand test coverage for edge cases and UI responsiveness
 - Include cross-browser testing using Selenium Grid
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