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Test Plan for Quizizz Website

1. Test Plan Identifier

Test Plan ID – QUIZ-WEB-MULTI-001-V1.0

Level of Plan:
This is a comprehensive test plan that includes:

1. **Functional Testing:** Verification of core functionalities such as login/logout, quiz creation, quiz participation, scoring, and navigation.
2. **Usability Testing:** Assessment of the ease of navigation, user interface design, and overall user experience.

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Version 1.0: Initial release for functional, performance, usability, and accessibility testing.

2. References

- QUIZIZZ Website: https://quizizz.com/?lng=en
- IEEE 829 Test Plan Template
- Selenium Automation Testing Documentation

3. Introduction

The purpose of this Master Test Plan is to outline the strategy, scope, and objectives for testing the QUIZIZZ website, focusing on functional and usability aspects. Key features like login and quizzes will be evaluated for functionality, while response times and user experience will be assessed under various conditions. The plan aligns with project requirements and ensures compliance through structured change control and coordination processes. Testing will leverage tools like Selenium IDE within the available resources and budget.

4. Test Items (Functions)

1. **Login Functionality:**

- User authentication via email or Google accounts.
- Validation of credentials and error handling for incorrect inputs.

2. **Navigation and Dashboard:**

- Accessibility and smooth navigation across the homepage, dashboard, and quiz categories.
- Verification of user roles (teachers, students) and respective dashboard features.

3. **Quiz Functionality:**

- Creation, assignment, and joining of quizzes.
- Execution of real-time quizzes, self-paced quizzes, and live host sessions.
- Evaluation of timer and leaderboard updates during gameplay.

4. **Logout Functionality:**

- Proper termination of user sessions.
- Error handling for accidental logout and re-login verification.

5. **Performance Under Load:**

- Response time when multiple users join and participate in quizzes.
- Stability under high server load, especially during peak usage.

6. **Usability Testing:**

- Evaluation of the UI/UX for students and teachers.
- Intuitiveness of quiz creation and assignment processes.

7. **Accessibility Testing:**

- Ensuring compliance with accessibility standards (WCAG) for differently-abled users.
- Verification of compatibility across browsers and devices.

8. **Reports and Analytics:**

- Testing the accuracy of performance reports for students and class analytics for teachers.

9. **Integrations:**

- Validation of integrations with Google Classroom and other third-party tools.
- Testing of importing/exporting data to/from external systems.

10. **Payment and Subscriptions (if applicable):**

- Functionality for paid plans (Quizizz Super) such as additional features for educators.
- Validation of payment gateways and subscription management.

Version and Configuration Requirements:

- Supported Browsers: Latest versions of Chrome, Firefox, Edge.
- Operating Systems: Windows 10/11, macOS, Rhel.
- Devices: Desktop, tablets, and mobile browsers.
  This ensures that all critical elements to be delivered to the client are thoroughly tested, with results reflecting real-world usage scenarios.

5. SOFTWARE RISK ISSUES

1. **Critical Areas**:
   - Third-party product dependencies.
   - New software versions or tools.
   - Complex functions and poorly documented modules.
   - Modifications with past failure history.
2. **Inherent Risks**:
   - Safety concerns and multiple interfaces.
   - Client impacts or government regulations.
3. **Common Causes**:
   - Misunderstood or vague requirements.
   - Areas with a history of high defect rates.
4. **Mitigation**:
   - Review past defects and conduct brainstorming sessions to identify risks early.

6. FEATURES TO BE TESTED

Feature	Risk Level (H/M/L)	Reason for Risk Level
Login/Authentication	High (H)	Critical feature; failure could block user access to the platform, impacting usability and overall user experience.
Quiz Creation	Medium (M)	Users rely on creating custom quizzes; issues here could limit functionality, but this is less critical than access-related features.
Quiz Attempt/Submission	High (H)	Core functionality for students and educators; any issue here would significantly impact the platform's usability and purpose.
Scoring and Leaderboard	Medium (M)	Essential for gamification; errors here could frustrate users but may not block primary usage.
Navigation (UI/UX Flow)	Low (L)	Important for user satisfaction, but minor issues (e.g., design inconsistencies) are unlikely to critically impact platform usage.
Logout Functionality	Low (L)	Low complexity and impact; a failure would not block critical platform features.
Performance Under Load	High (H)	High-volume user interactions (e.g., during exams) are critical; any lag or crash could disrupt usage for thousands of users simultaneously.
Usability	Medium (M)	Vital for diverse user groups; non-compliance with accessibility standards or difficult UI could alienate some users, though primary functionality remains intact.

7. FEATURES NOT TO BE TESTED

1. Third-Party Integrations

- **Description**: Integrations with external tools (e.g., Google Classroom, Microsoft Teams).
- **Reason**: These features are not new to this release and have been tested in previous versions, showing stability and low risk.

2. Customization Options

- **Description**: Theme personalization, avatar creation, and other UI customizations.
- **Reason**: Considered non-critical for functionality and doesn’t impact core user workflows.

3. Mobile App Features

- **Description**: Mobile-specific functionalities (e.g., push notifications, offline quiz access).
- **Reason**: Testing is limited to the web application in this plan; mobile app features are part of a separate test plan.

4. Advanced Analytics for Administrators

- **Description**: Detailed reports on quiz performance for teachers and administrators.
- **Reason**: Feature will not be included in this release and is scheduled for future development.

5. Beta Features

- **Description**: Experimental features available to a limited set of users.
- **Reason**: These features are not part of the official release and are excluded from this testing cycle.

6. Accessibility Enhancements

- **Description**: Planned updates for better compliance with WCAG standards.
- **Reason**: Accessibility updates are scheduled for a future release and not included in this version.

Summary Table:

Feature	Reason Not to Test
Third-Party Integrations	Stable from previous releases, low risk.
Customization Options	Non-critical; doesn’t affect core workflows.
Mobile App Features	Out of scope for this test plan; covered in a separate plan.
Advanced Analytics	Not included in this release; planned for future versions.
Beta Features	Experimental and not part of the official release.
Accessibility Enhancements	Scheduled for future releases and not part of the current testing cycle.

8. APPROACH (STRATEGY)

Tools & Training:

- **Selenium IDE** for functional testing automation.
- **Training:** Basic training on these tools will be provided if needed for the team.

Metrics & Configuration Management:

- **Metrics:** Test case pass/fail rates, response times, and user experience scores.
- **Configuration Management:** Version-controlled test scripts, test data, and results. Testing will be conducted across different browser versions and operating systems (Chrome, Firefox, Windows 10, macOS).

Regression Testing:

- Regression testing will be performed after each major update, focusing on high-risk features, based on the severity of previous defects.
- Coverage: Full components will be tested unless otherwise specified for a specific release.

9. ITEM PASS/FAIL CRITERIA

Completion Criteria:

- **Test Completion:** All planned test cases must be executed, and the results documented.

- Defects:
    - **Pass:** The test passes if the feature works as expected, without any critical failures.
    - **Fail:** A test fails if it results in a system crash, incorrect functionality, or a major user-impacting issue.

Pass Criteria:

- **Functional Test:** 100% of core features like login, quizzes, and scoring must work without errors.
- **Usability Test:** The user interface should meet usability guidelines with no major usability issues.

Fail Criteria:

- **Critical Failures:** Any defects causing system crashes, inability to log in, or incorrect scoring.
- **Minor Defects:** Minor issues, like UI misalignment, that don't impede core functionality but should be addressed before release.

Defect Severity:

1. **Critical Defect:** A defect that causes the system to crash or fails to deliver core functionality. Needs immediate attention.
2. **Minor Defect:** A defect that doesn't impact core functionality but should be fixed for optimal user experience.

Overall Completion Metric:

- **Pass Percentage:** At least 95% of test cases must pass with no critical defects.
- **Defect Severity:** Critical defects should be addressed immediately, and minor defects should be resolved in the next release.

10. SUSPENSION CRITERIA AND RESUMPTION REQUIREMENTS

Testing will be paused if a **critical defect** causes the system to fail, or if defects prevent further meaningful testing. The threshold for resumption is when the identified defects are resolved, ensuring the system can proceed with the next phase of testing. If a **fatal error** occurs, subsequent errors may be ignored, leading to incorrect test results. Testing will resume once the underlying issue is fixed.

11. TEST DELIVERABLES

The following deliverables are included in this test plan:

1. Test Plan Document – The comprehensive test plan outlining the strategy, scope, and objectives.
2. Test Cases – Detailed test cases for all critical functionalities, including test steps, expected results, and pass/fail criteria.
3. Test Design Specifications – Documents outlining the test strategy, approach, and configuration requirements.
4. Tools and Their Outputs – Testing tools (e.g., Selenium, JMeter) used for automation and performance testing, along with their generated outputs.
5. Simulators – Any simulators used to mimic the user environment or load conditions during testing.
6. Static and Dynamic Generators – Tools or scripts used to generate test data or simulate interactions.
7. Error Logs and Execution Logs – Logs detailing test execution, errors, and system behaviour during testing.
8. Problem Reports and Corrective Actions – Documentation of defects discovered during testing and the corrective actions taken.

12. REMAINING TEST TASKS

Since this is a multi-phase development process, there may be features or functionalities not addressed in this test plan. These features will be included in future testing phases.

Features Not Covered in This Plan:

1. Third-Party Integrations: Payment gateways, external analytics, or social media integrations are not included in this phase.
2. Mobile Application Version: Testing for the mobile version of the IXL platform will be handled in a separate phase.

Plans for Future Features:

- Additional test plans will be created for features not covered in this release, such as the admin dashboard, mobile app testing, and third-party API integrations.
- The testing efforts for these features will be handled by both internal and external teams, with separate timelines and deliverables.

13. ENVIRONMENTAL NEEDS

1. Special Hardware: No special hardware such as simulators or static generators is required for this test plan. Standard testing environments (laptops/desktops) will suffice.

2.Test Data: Test data will be provided using predefined user accounts, quiz questions, and scores. Specific ranges for test data (e.g., varied user demographics, load testing data) will be created to cover typical usage and edge cases.

3.Testing on Multi-Part Features: For multi-part features, such as the quiz functionality and scoring system, end-to-end testing will be done to ensure full integration. Partial testing will focus on isolated components like the quiz submission and score calculation.

4.Power Requirements: There are no special power requirements for this testing process. The tests will be run on standard office equipment, requiring only a stable power source.

5. Supporting Software Versions: The tests will be executed on the latest versions of Chrome and Firefox browsers. Specific versions of Selenium IDE and JMeter will be used as per the test automation and performance testing needs.

6.Restricted Use of the System During Testing: During testing, the live environment will be restricted to ensure no conflicts between testing and real user activities. Testing will occur in a staging or testing environment that mimics the live setup.

14. STAFFING AND TRAINING NEEDS

1. Training on the Application/System:

- **Audience:** Testers and stakeholders.
- **Content:** Overview of key features like login, quizzes, and navigation.
- **Method**: System walkthroughs focusing on testable features.

2. Training for Test Tools:

- **Tools:** Selenium IDE (automation) and JMeter (performance testing).
- **Content:** Basic usage, script creation, and result interpretation.
- **Method:** Online tutorials and hands-on practice.

15. Responsibilities:

- **Test Manager:** Coordinates testing, ensures training on tools and features.
- **Testers:** Execute tests, log results, and report defects.
- **Developers:** Clarify technical issues and fix defects.

16. Schedule:

- • **From [20/11/2024] to [21/11/2024]**: Prepare test cases and scripts.
- • **From [22/11/2024] to [23/11/2024]**: Execute test cases and document results.
- • **From [24/11/2024] to [25/11/2024]**: Review test results and finalize the report.

17. Planning risks and contingencies:

- Changes in Requirements or Design: Changes in features (like quizzes, user accounts) or updates to functionality may require revisions to test cases.
- Compatibility issues between Selenium IDE and certain website elements can pose significant risks during automation testing.

18. Glossary

1. **Test Plan**: Document outlining the strategy and objectives for testing the IXL website.
2. **Test Cases**: Steps and expected results to verify website functionality.
3. **Selenium IDE**: Tool for automating web application tests.
4. **JMeter**: Tool for performance and load testing the website.
5. **Regression Testing**: Ensuring new changes don’t break existing functionality.
6. **Critical Defect**: Major issues preventing key functionality.
7. **Minor Defect**: Less severe issues that don’t impact core functionality.
8. **Test Deliverables**: Reports, logs, and documents generated during testing.
9. **Usability Testing**: Testing how user-friendly the website is.
10. **Performance Testing**: Measuring website stability under load.
11. **Test Schedule**: Timeline for testing activities.
12. **Test Manager**: Person coordinating and overseeing testing.
13. **Go/No-Go Decision**: Decision on whether to proceed with release based on test results.
14. **Test Environment**: Setup used for testing the website.
15. **Test Execution**: Running tests and recording results.
16. **Stakeholders**: Individuals responsible for requirements and approvals.
17. **Scope**: Defines what will and won’t be tested.
18. **Risk**: Potential events that could affect testing success.
19. **Test Log**: Record of all testing actions and results.

TEST CASE SCRIPT

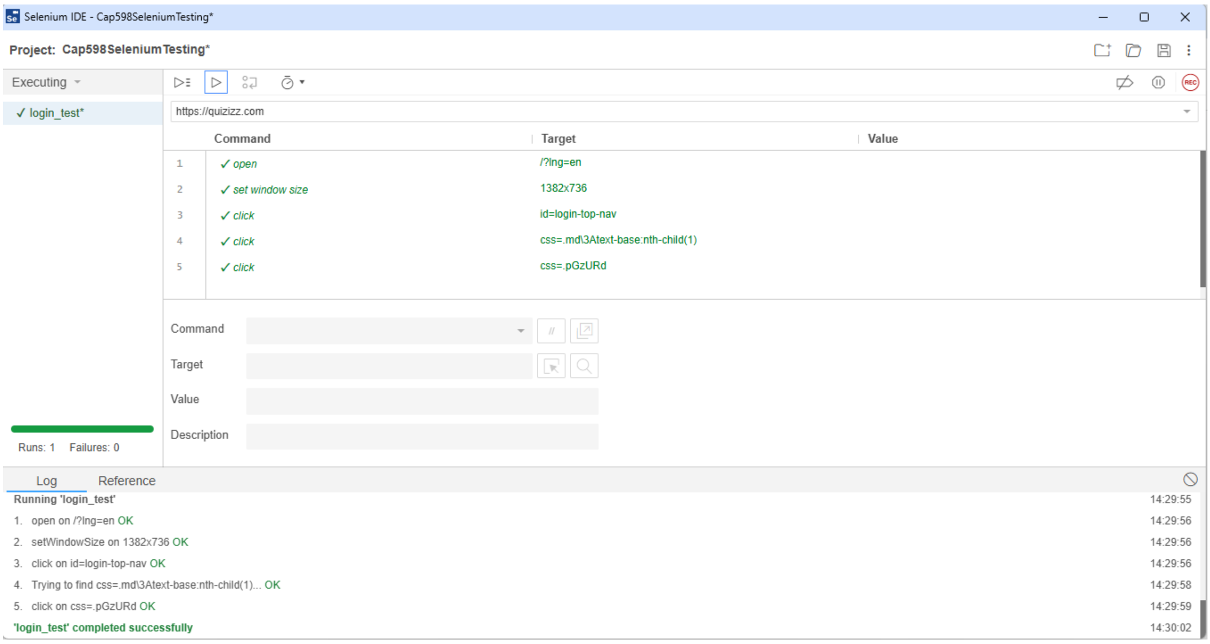
User Login

ID	**Test Case**	**Pre-condition**	**Test Steps**	**Test Data**	**Expected Output**	**Post-condition**	**Actual Output**	**Status**	**Comments**
Login_001	**Verification of Login Page with email id**	**User must have valid email id for login.**	**a. Select Login** **b. Select Google Login** **c. Select your valid registered email id**	**a. Valid email - id** **b. Button clicked**	**Log In Successful**	**User is redirected to the dashboard.**	**Log In Successful**	**Pass**	**Test runs successfully as Dashboard opens.**

Login_002	**Verification of Login Page with valid Username and password**	**User has an invalid username**	**a. Type correct Username** **b. Type correct Password** **c. Press the Log In button**	**a. Valid Username** **b. Valid Password**	**Log In Successful**	**User is redirected to the dashboard.**	**Log In Successful**	**Pass**	**Test Successful as Dashboard appears.**
Login_003	**Verification of Login Page with Invalid Password**	**User has an invalid password**	**a. Type correct Username** **b. Type incorrect Password** **c. Press the Log In button**	**a. Valid Username** **b. Invalid Password**	**Error message: "Invalid password."**	**User stays on the login page.**	**Error message displayed**	**Pass**	**Error message should be displayed for invalid credentials.**
Logout_001	**Verification of Logout process**	**User is logged into the Quizizz platform.**	**a. Click on Logout button from side bar icon** **b. Try accessing restricted areas.**	**N/A**	**Session is cleared; restricted areas are inaccessible.**	**User is logged out successfully.**	**Logout working as expected.**	**Pass**	**Home Page should appear.**

Quiz_creation_001	**Verification of Quiz Creation Process**	**User has permission to create and access quizzes**	**a. Login b. Create a new quiz**	**Quiz title, questions, answers**	**Quiz is created**	**N/A**	**Quiz creation successful.**	**Pass**	

- Login using email.



Project: Cap598SeleniumTesting*

✓ login_test*

https://quizizz.com

	Command	Target	Value
1	✓ open	/?lng=en	
2	✓ set window size	1382x736	
3	✓ click	id=login-top-nav	
4	✓ click	css=.md\3Atext-base:nth-child(1)	
5	✓ click	css=.pGzURd	

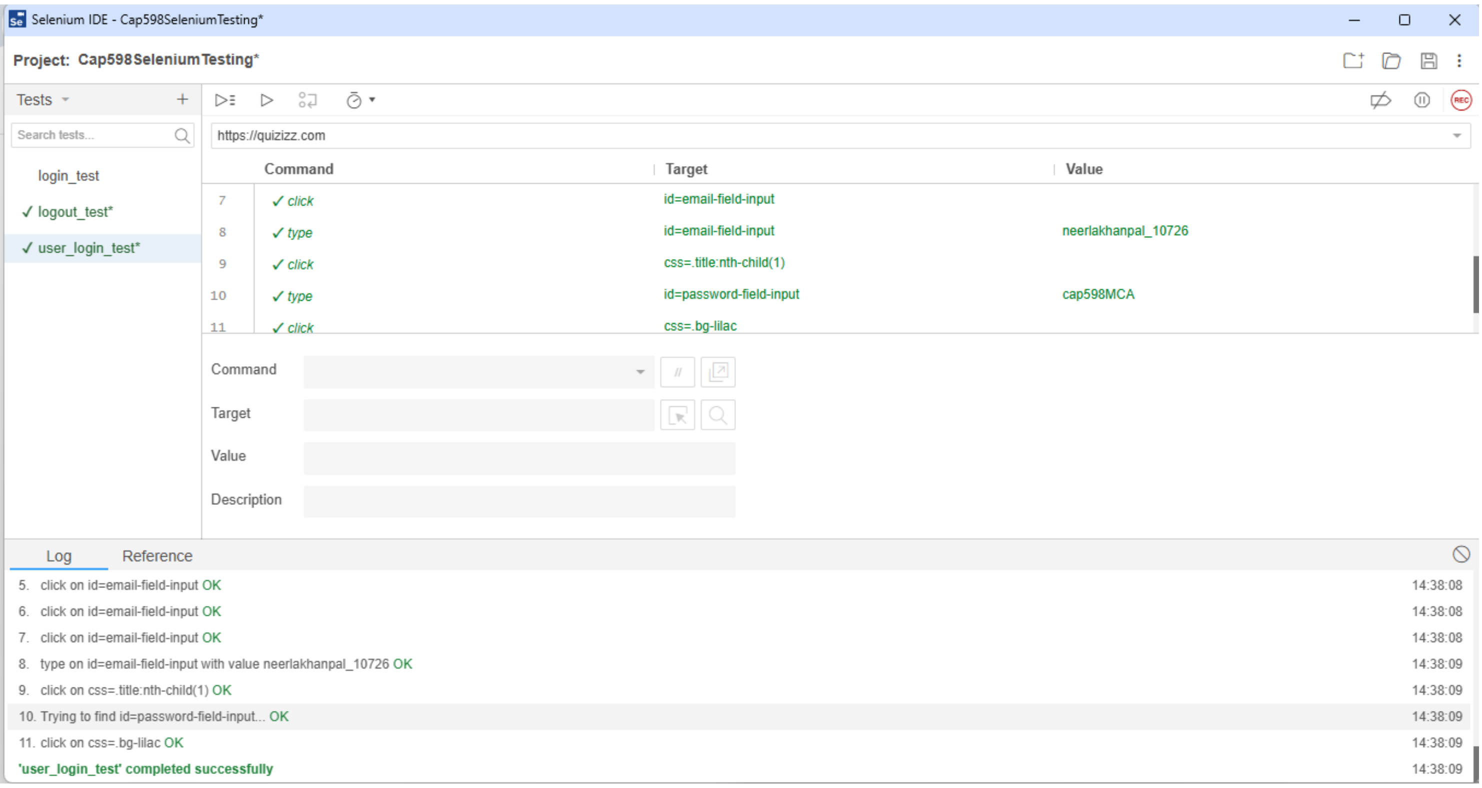
Command
Target
Value
Description

Runs: 1 Failures: 0

Log Reference

```
Running 'login_test'                                        14:29:55
1. open on /?lng=en OK                                      14:29:56
2. setWindowSize on 1382x736 OK                             14:29:56
3. click on id=login-top-nav OK                             14:29:56
4. Trying to find css=.md\3Atext-base:nth-child(1)... OK    14:29:58
5. click on css=.pGzURd OK                                  14:29:59
'login_test' completed successfully                         14:30:02
```

Login using username and password



Project: Cap598SeleniumTesting*

login_test
✓ logout_test*
✓ user_login_test*

https://quizizz.com

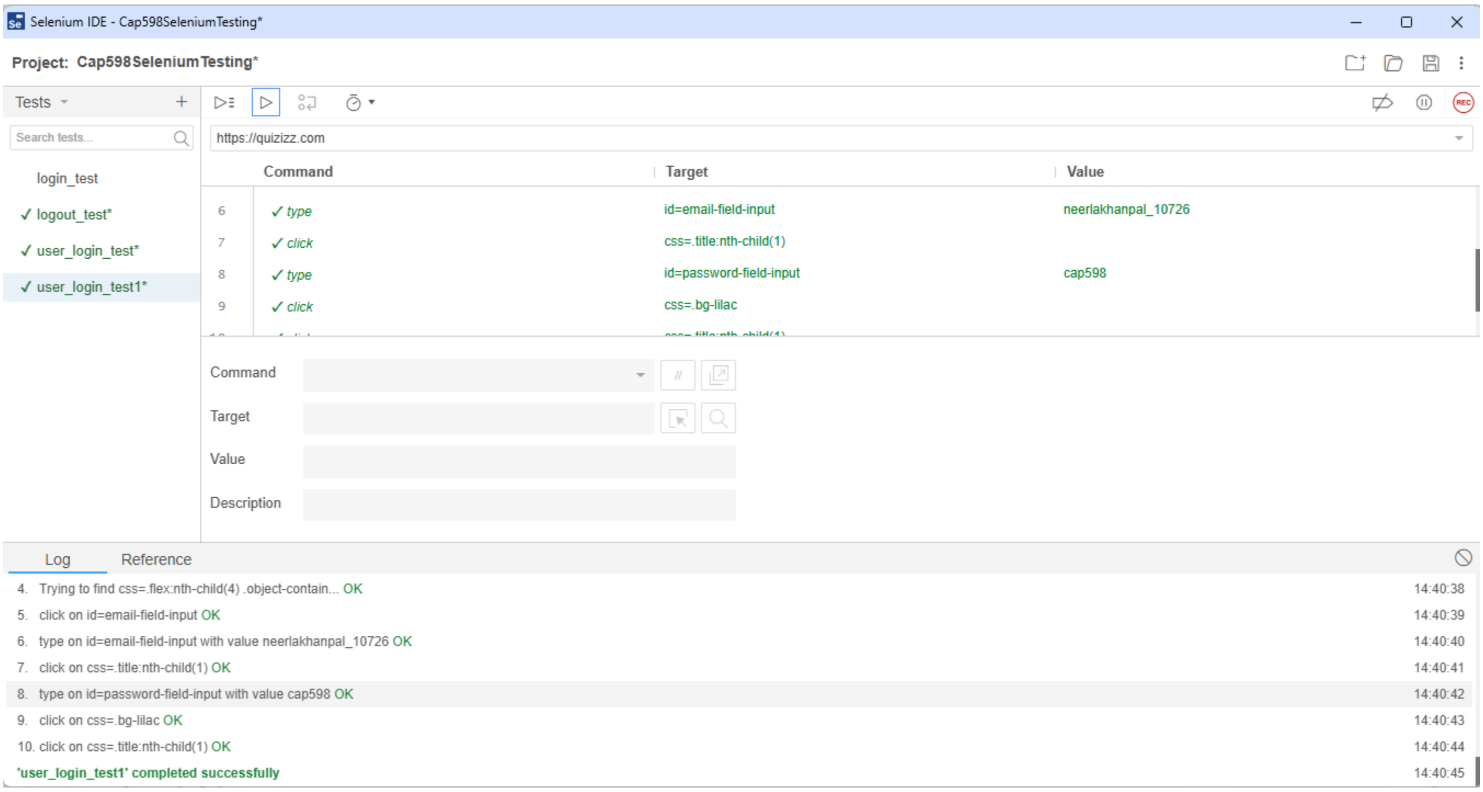
	Command	Target	Value
7	✓ click	id=email-field-input	
8	✓ type	id=email-field-input	neerlakhanpal_10726
9	✓ click	css=.title:nth-child(1)	
10	✓ type	id=password-field-input	cap598MCA
11	✓ click	css=.bg-lilac	

Command
Target
Value
Description

Log Reference

```
5. click on id=email-field-input OK                                   14:38:08
6. click on id=email-field-input OK                                   14:38:08
7. click on id=email-field-input OK                                   14:38:08
8. type on id=email-field-input with value neerlakhanpal_10726 OK     14:38:09
9. click on css=.title:nth-child(1) OK                                14:38:09
10. Trying to find id=password-field-input... OK                      14:38:09
11. click on css=.bg-lilac OK                                         14:38:09
'user_login_test' completed successfully                              14:38:09
```

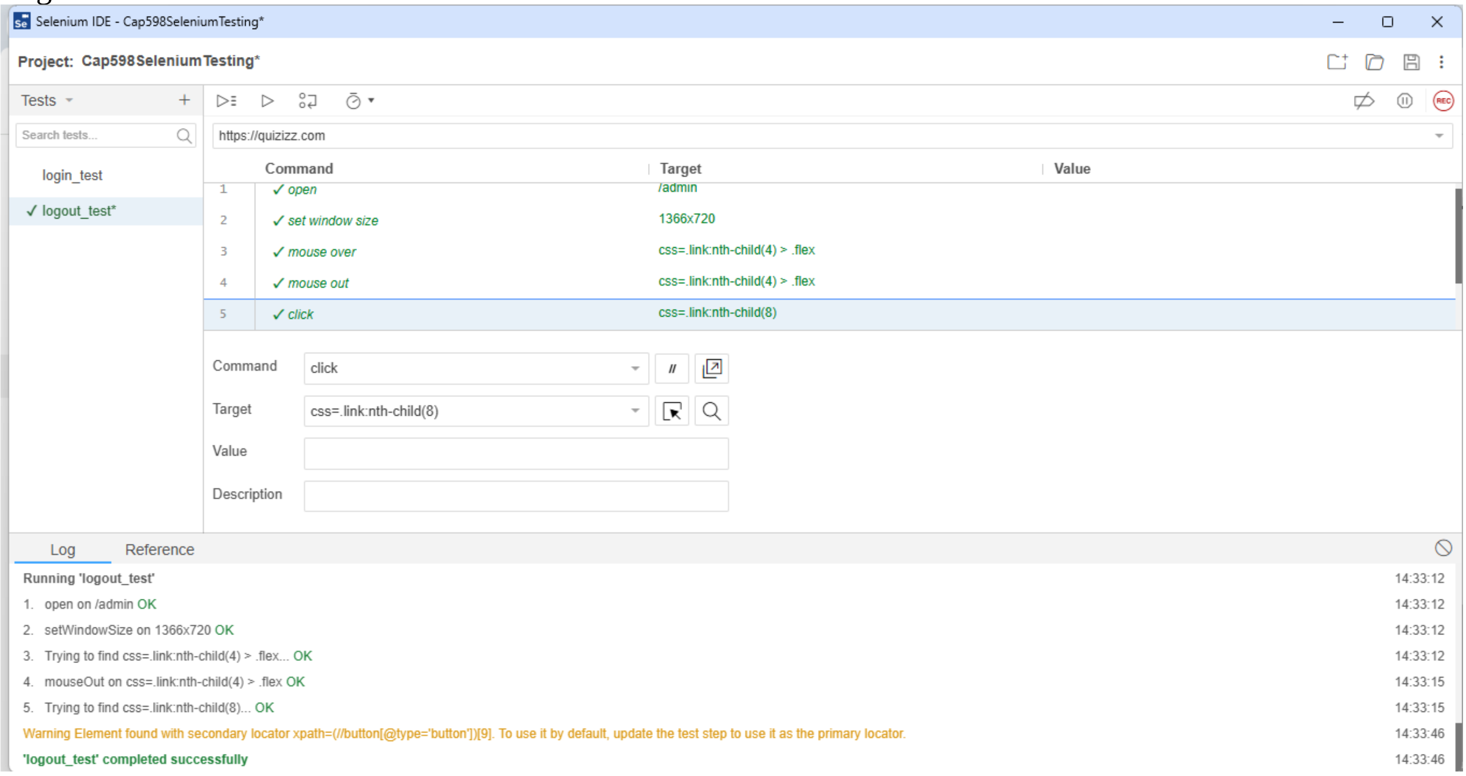
Login using Correct Username and Incorrect Password



	Command	Target	Value
6	✓ type	id=email-field-input	neerlakhanpal_10726
7	✓ click	css=.title:nth-child(1)	
8	✓ type	id=password-field-input	cap598
9	✓ click	css=.bg-lilac	

```
4.  Trying to find css=.flex:nth-child(4) .object-contain... OK                14:40:38
5.  click on id=email-field-input OK                                            14:40:39
6.  type on id=email-field-input with value neerlakhanpal_10726 OK              14:40:40
7.  click on css=.title:nth-child(1) OK                                         14:40:41
8.  type on id=password-field-input with value cap598 OK                        14:40:42
9.  click on css=.bg-lilac OK                                                   14:40:43
10. click on css=.title:nth-child(1) OK                                         14:40:44
'user_login_test1' completed successfully                                       14:40:45
```

Logout Test



	Command	Target	Value
1	✓ open	/admin	
2	✓ set window size	1366x720	
3	✓ mouse over	css=.link:nth-child(4) > .flex	
4	✓ mouse out	css=.link:nth-child(4) > .flex	
5	✓ click	css=.link:nth-child(8)	

Command: click

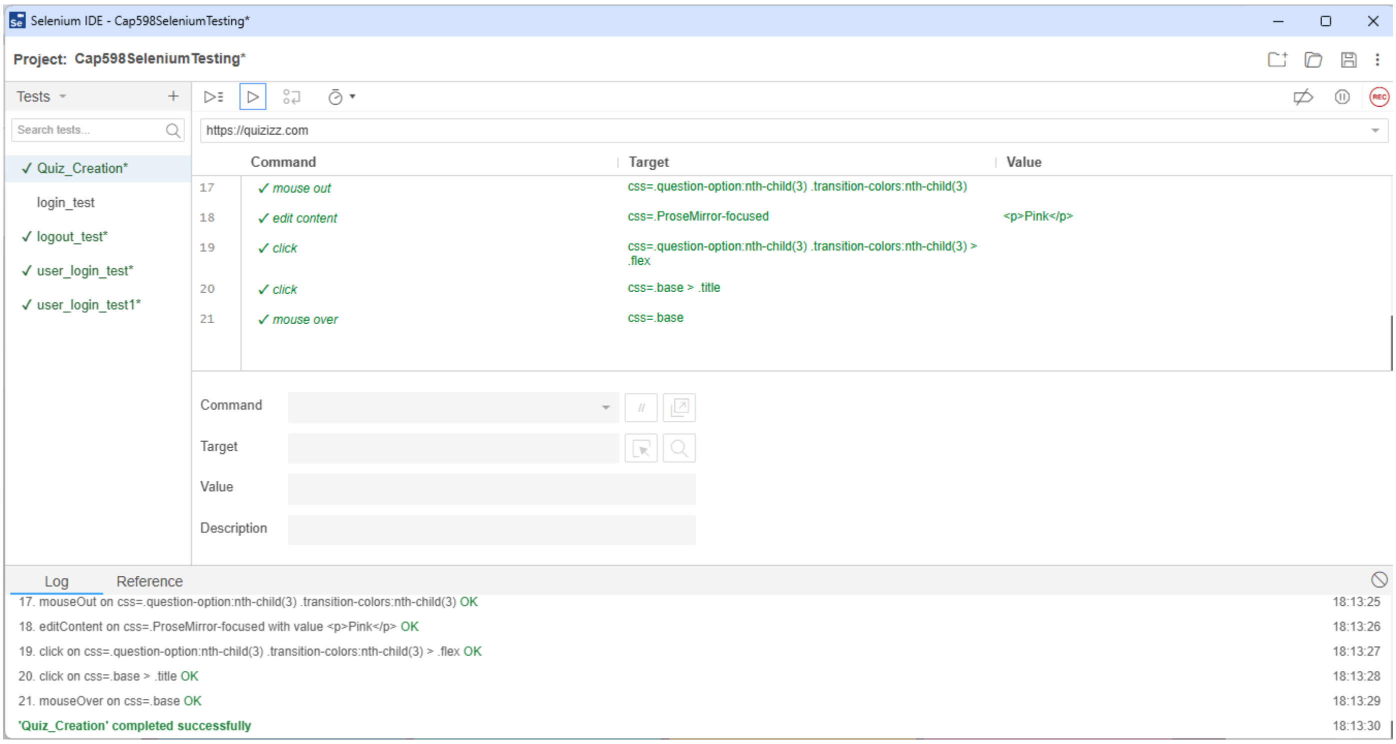
Target: css=.link:nth-child(8)

Value:

Description:

```
Running 'logout_test'                                                           14:33:12
1.  open on /admin OK                                                           14:33:12
2.  setWindowSize on 1366x720 OK                                                14:33:12
3.  Trying to find css=.link:nth-child(4) > .flex... OK                         14:33:12
4.  mouseOut on css=.link:nth-child(4) > .flex OK                               14:33:15
5.  Trying to find css=.link:nth-child(8)... OK                                 14:33:15
Warning Element found with secondary locator xpath=(//button[@type='button'])[9]. To use it by default, update the test step to use it as the primary locator.   14:33:46
'logout_test' completed successfully                                            14:33:46
```

Quiz Creation Test



Project: Cap598SeleniumTesting*

- ✓ Quiz_Creation*
- login_test
- ✓ logout_test*
- ✓ user_login_test*
- ✓ user_login_test1*

https://quizizz.com

	Command	Target	Value
17	✓ *mouse out*	css=.question-option:nth-child(3) .transition-colors:nth-child(3)	
18	✓ *edit content*	css=.ProseMirror-focused	<p>Pink</p>
19	✓ *click*	css=.question-option:nth-child(3) .transition-colors:nth-child(3) > .flex	
20	✓ *click*	css=.base > .title	
21	✓ *mouse over*	css=.base	

```
17. mouseOut on css=.question-option:nth-child(3) .transition-colors:nth-child(3) OK          18:13:25
18. editContent on css=.ProseMirror-focused with value <p>Pink</p> OK                          18:13:26
19. click on css=.question-option:nth-child(3) .transition-colors:nth-child(3) > .flex OK      18:13:27
20. click on css=.base > .title OK                                                             18:13:28
21. mouseOver on css=.base OK                                                                  18:13:29
'Quiz_Creation' completed successfully                                                         18:13:30
```