QUIZICALLY

Load testing test case

Version 1.0
11/07/2025

VERSION HISTORY

Version #	Implemented By	Revision Date	Approved By	Approval Date	Reason
1.0	Team 10	11/06/2025	Khadija	11/07/2025	Initial Load Test

UP Template Version: 12/31/07

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1 INTRODUCTION

1.1 PURPOSE OF THE Load Testing test case DOCUMENT

The Load Testing Test Case document documents the functional requirements of the Quizically test case. The intended audience is the project manager, project team, and testing team. Some portions of this document may on occasion be shared with the client/user and other stakeholder whose input/approval into the testing process is needed.

2 TEST CASE SPECIFICATION

This test verifies that Quizically can handle 100 players simultaneously, load quizzes within 1 second, show scores within 2 seconds, and allow users to rejoin within 30 seconds after disconnection. It confirms that the system meets performance goals for real-time quizzes.

2.1 DESCRIPTION

This test case checks that:

- The app can support up to 100 users joining and playing at once.
- Pages load in 1 second or less
- Quiz results display within 2 seconds
- Disconnected players can rejoin within 30 seconds

Participants include:

- Team Lead: Oversees testing process and approves final report
- QA Lead: Reviews load test results and logs any issues
- Backend Engineer: Performs load test and monitors server performance

2.2 RESOURCES

Role	Responsibility
Backend Engineer (Tester)	Runs load test and records performance data
QA Lead	Reviews load results and identifies performance issues
Team Lead (Khadija)	Oversees testing process, reviews documentation, and approves final results
DevOps Engineer	Monitors servers and ensures environment stability

2.3 PRECONDITIONS

1. Test environment is ready and running

2. Test accounts for 100 users exist
3. Load testing tool is configured
4. Stable network connection available

2.4 POST CONDITIONS

1. Performance results recorded and saved
2. System remains stable after testing
3. Any issues are logged for fixes

2.5 FLOW OF EVENTS

Normal Flow:

Steps	Description	Expected Results
1	Launch Quizically staging environment	Application loads successfully.
2	Open load-testing tool and configure 20 simulated players.	User pool loads with no errors.
3	Simulate 20 players joining a game session using the game.	All 20 players join within ≤ 1 second
4	Measure lobby load time and player response round-trip time.	Round trip ≤ 2 seconds
5	Increase to 50 players and repeat the test.	System remains stable, all 50 join smoothly.
6	Increase to 100 players and run: join → submit action → scoring	All 100 join, system processes actions within thresholds.
7	Disconnect 10 simulated players.	Backend logs disconnects while game continues
8	Attempt rejoin for the 10 players.	Backend logs disconnects while game continues.
9	Inspect server load, CPU, RAM, and Firebase/AWS logs.	No critical failures, error rate ≤ 2%.
10	Export performance results.	Logs saved successfully for QA review.

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- Use stable staging environment with HTTPS
- Ensure test build matches production settings
- Load test must run for at least 10 minutes

Appendix A: References

The following table summarizes the documents referenced in this document.

Document Name and Version	Description	Location
Quizically Requirements Definition v1.0	Defines functional requirements for quiz access and scoring	Requirements Document

Appendix B: Key Terms

The following table provides definitions for terms relevant to this document.

Term	Definition
Load Testing	Testing how the system performs when many users access it at the same time
Concurrent Users	The number of users using the app at once, for Quizically, is up to 100 players
Response Time	How long it takes for the app to react, such as loading quiz or showing scores