

TEST STRATEGY <TS-WA-BB-02>
BLACK BOX TESTING WHATSAPP

DERAY TEAM - STQA 2025

Authors:

Aditya Johansah	(2215061039)
Rey Gavril Naibaho	(2215061067)
Eric Rizky Febrian	(2215061075)
Den M. Wyzdan Alfarizy	(2215061003)
Yosi Arjunita Putri	(2215061095)

Lecturers:

Rio Ariestia Pradipta, S.Kom., M.T.I.
Riski Yuliansyah, S.T., M.T.I..



TEKNIK INFORMATIKA
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FAKULTAS TEKNIK
UNIVERSITAS LAMPUNG
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1. TEST STRATEGY IDENTIFIER

ID: TS-WA-BB-02

The identifier TS-WA-BB-02 is a unique code assigned to this Test Strategy document. It is structured to provide meaningful insight into the document's purpose, target application, methodology, and version.

Component	Description
TS	Test Strategy – indicates the type of document
WA	WhatsApp – the target application under test
BB	Black Box – the testing methodology applied
01	Version number – this is the second version

If future revisions are made, the version number should be incremented accordingly (e.g., TS-WA-BB-03 for the second iteration).

2. INTRODUCTION

WhatsApp is a cross-platform messaging and VoIP service used by millions globally. This test strategy outlines the approach to ensure the quality and reliability of WhatsApp's key features such as messaging, calling, media sharing, and status updates. This strategy is created for the purpose of validating both the mobile applications (Android/iOS) and web application (WhatsApp Web) using black box testing techniques. Testing will include manual and automated approaches using Selenium. The goal is to identify issues from an end-user perspective, without considering the internal code structure.

3. TEST OBJECTIVES

- Test the main features of the application to meet specifications
- Ensure user data is secure and there are no security vulnerabilities
- Measure the app's response time and stability under various conditions
- Test the app on different devices and operating systems
- Ensure the UI matches the design and is user-friendly
- Automate repeatable test cases (especially for WhatsApp Web) using Selenium

4. TEST ITEMS

4.1. Feature to be tested

Feature	
Manually tested	Login & verification using OTP or QR code
	One-on-one voice and video calls
	Status updates: upload and view
	Notifications and quick reply functionality
	Multi-device syncing on WhatsApp Web/Desktop
Automated	Text messaging & media sharing
	Group chat creation and messaging
	End-to-end encryption validation
	File sending with compression or large media
	Tab navigation and responsive UI design

4.2. Feature not to be tested

- End-to-end encryption mechanisms (white-box scope)
- Internal server-side logic
- Backup and cloud restore functionalities
- Payment-related features (if not available in region)
- Performance benchmarking under load

5. TEST SCOPE

5.1. In scope

- Sending and receiving messages, including checkmarks, edits, deletions, and offline behavior
- Sharing images, videos, audio, documents, including multiple files and compression handling
- Basic testing of voice/video calling features: mute, reconnect, and camera switch
- Web/Desktop access: QR login, real-time sync, and multi-device messaging
- Notifications: push alerts, quick reply, mute, background notifications
- End-to-end encryption behavior for messages and media
- Basic group chat operations: create group, add/remove members, admin actions
- UI behavior: responsiveness, dark/light mode, and tab navigation
- Performance under resource-limited and poor network conditions

5.2. Out scope

- Internal server infrastructure
- Data analytics
- Legal compliance aspects
- Integration with other products/services
- Closed beta or unreleased experimental features
- Backend or developer-side issues not visible to end users

6. TEST APPROACH

This test effort follows the Black Box Testing methodology.

- Manual Testing: Functional and exploratory testing by QA on Android, iOS, and web platforms using test cases.
- Automated Testing (Selenium): UI test automation for WhatsApp Web login, messaging, and media sharing workflows.

All test cases will be based on user stories and expected behavior. Selenium scripts will be maintained and executed via local setup. Test coverage includes both positive and negative scenarios. Test artifacts to be produced:

- Test Cases (manual + automated)
- Bug Reports
- Test Summary Report

7. PASS/FAIL CRITERIA

Pass Criteria:

- All critical test scenarios must pass (100%).
- No Severity 1 issues open.
- Up to 2 Severity 2 issues acceptable if mitigated.

Fail Criteria:

- One or more Severity 1 issues remain unresolved.
- Test case pass rate below 90%.

Severity Criteria:

Severity	Description	Max Allowable
S1	App crash, call fail, login fail, etc	0
S2	Major functional error	1
S3	Minor bug, cosmetic issue	Allowed

8. SUSPENSION CRITERIA AND RESUMPTION REQUIREMENTS

Suspension Criteria:

- Critical bugs (Severity 1) block major features (e.g., can't send message or log in)
- Test environment becomes unstable (e.g., server down)
- Automation framework fails to execute consistently

Resumption Requirements:

- Blocking bugs are resolved and verified
- Environment is restored and stable
- Automated tests are debugged and able to run reliably

9. TEST LEVEL AND TYPES

The following test levels and types will be executed during this project:

Test Levels:

- System Testing: Black box validation of the complete app functionality
- Regression Testing: After bug fixes or app updates
- Smoke Testing: Basic functional check before deeper testing
- UI Testing: Verifying the user interface and layout

Test Types:

- Functional Testing: Primary focus, includes all user-interaction workflows
- UI Testing: Ensuring components are displayed properly across devices
- Compatibility Testing: Android & iOS + browser versions for WhatsApp Web
- Automated Testing: Web functionality via Selenium

10. ENVIRONMENTAL AND INFRASTRUCTURE NEEDS

Testing will be conducted across multiple platforms and environments to reflect real-world usage of WhatsApp.

10.1. Hardware

- Android smartphones and iPhones for mobile testing
- Laptop/Desktop for WhatsApp Web and automated tests

10.2. Software

- WhatsApp (Android, iOS, and Web versions)
- Selenium WebDriver with Python bindings

- Browser: Chrome (primary), Firefox (secondary)
- Google Sheets / Microsoft Excel for documentation
- Bug tracking tool (optional): Jira or manual documentation

10.3. Infrastructure

Stable WiFi and mobile data network to simulate user scenarios

10.4. Test Automation Environment

- ChromeDriver
- Test scripts hosted locally
- Test reports generated using Extent Reports or Allure (optional)

10.5. Test Repository (Github)

https://github.com/STQA-DERAY/PSTI-SoftwareQA-Kelompok_DERAY

11. RESPONSIBILITY MATRIX

The table below outlines the main responsibilities in brief for test activities:

Activity	QA Engineer	Test Lead	Development Manager	Project Manager
Provision of Technical Documents			✓	✓
Test Planning and Estimation	✓	✓		
Review and Sign off Test Plan		✓	✓	✓
Testing Documentation	✓	✓		
Test Preparation and Execution	✓	✓		
Test Environment Set-up	✓			

Change Control of Test Environments	✓	✓		
Provision of Unit Tested Test Items			✓	
Bug fixes and return to the Test Team for re-test			✓	
Product Change Control		✓	✓	✓
Ongoing Test Reporting	✓	✓		
Test Summary Reporting		✓		

12. STAFFING AND TRAINING NEEDS

12.1. Staffing

- 1 Test Lead (planning & coordination)
- 2 QA Engineers for manual testing (test design, execution, bug reporting)
- 2 QA Engineers for automation testing (test design, execution, bug reporting)

12.2. Training Needs

- Overview of WhatsApp's major features
- Black Box Testing methodology and techniques
- Selenium WebDriver usage (basic scripting and test execution)
- Test Result Reporting and Documentation
- Bug reporting procedures

13. SCHEDULES AND RESOURCE PLANS

13.1. Test Schedule:

- Week 1: Planning, environment setup, test case writing, Selenium environment setup

- Week 2–3: Manual test execution + Selenium script development & execution
 - Week 4: Bug fixing, Retest after fixes, finalize report
- 13.2. Resource Plans:
- Android phones, iPhone, PC/laptop
 - Selenium setup on local machine
 - Whatsapp accounts
 - Internet connectivity for all devices

14. RISK AND CONTINGENCIES

Risk	Mitigation Strategy	Impact
WhatsApp update during test execution	Lock version; disable auto-update during test period	Medium
Test account blocked due to automated behavior	Use only manual testing and valid interaction flows	High
Unstable network conditions	Use both WiFi and mobile data for backup	Medium
Inconsistent test results across devices	Ensure same app version and synchronize test environment setup	Low
WhatsApp layout changes affect Selenium locators	Use robust XPaths or CSS selectors; keep scripts maintainable	Medium
Selenium environment misconfiguration	Validate ChromeDriver/GeckoDriver setup in advance	Low
Manual and automated test results mismatch	Revalidate test cases and sync logic across both methods	Medium
CAPTCHA or login security blocks automation	Restrict Selenium use to non-authentication flows	High

15. TOOLS

15.1. Manual Testing

- Google Sheets / Excel
- Screenshot tools for documentation

15.2. Automation Testing

- Selenium WebDriver
- ChromeDriver / GeckoDriver
- TestNG / PyTest / JUnit (depending on language)
- Reporting: Allure / ExtentReports (optional)

16. APPROVALS

Approval By	Name	Approval (Signature/checklist)
QA Engineer	Aditya Johansah	Approve ▾
QA Engineer	Den M. Wyzdan Alfarizi	Approve ▾
QA Engineer	Eric Rizky Febrian	Approve ▾
QA Engineer	Yosi Arjunita Putri	Approve ▾
Test Lead	Rey Gavril Naibaho	Approve ▾
Development Manager	Whatsapp team	Pending ▾
Product Owner	Whatsapp team	Pending ▾
Project Manager	Aditya Johansah	Approve ▾