

Software Test Plan (STP) - OTT Streaming Platform

Project: OTT Streaming Platform

Version: 1.0

Authors: Kushal Kumar B, Laasya R, Mohin Nayumsab, Mohammed Sadatullah

Date: 11-09-2025

Status: Draft

1. Introduction

Purpose: This document defines the test plan for the OTT Streaming Platform v1.0. It outlines objectives, scope, strategy, resources, schedule, and responsibilities for testing.

Scope: Testing covers OTT features such as user registration/login, browsing/searching content, video playback, subscription handling, and admin content management. Third-party payment gateway integrations and large-scale video streaming optimizations are excluded.

References: OTT SRS v1.0, Design Specifications v1.0, Web UI standards, security best practices

Definitions: OTT (Over-The-Top), UI (User Interface), API (Application Programming Interface), SRS (Software Requirements Specification), RTM (Requirements Traceability Matrix).

2. Test Items

- Authentication module (Register/Login/Logout, Password reset)
- Content browsing & search module - Balance inquiry module
- Video playback module
- Subscription module (Free vs Premium)
- Admin module (upload, update, delete movies)

3. Features to be Tested

Functional Requirements:

- OTT-F-001: User Registration
- OTT-F-002: User Login
- OTT-F-003: Password Reset
- OTT-F-004: View Profile
- OTT-F-005: Update Profile

- OTT-F-006: Display Content List
- OTT-F-007: Content Categorization
- OTT-F-008: Search by Title
- OTT-F-009: Video Streaming
- OTT-F-010: Playback Controls
- OTT-F-011: Admin Login
- OTT-F-012: Add Content
- OTT-F-013: Update Content
- OTT-F-014: Delete Content
- OTT-F-015: Content Availability Check

Non-Functional Requirements:

- OTT-NF-001: Video Loading Time ($\leq 5s$)
- OTT-NF-002: System Uptime (99.9%)
- OTT-NF-003: Usability (First playback within 30s)
- OTT-NF-004: Scalability (10 concurrent streams)
- OTT-NF-005: Maintainability (Code documentation)

Security Requirements:

- OTT-SR-001: Secure Password Hashing
- OTT-SR-002: TLS 1.2+ Encryption
- OTT-SR-003: Brute-force Attack Prevention
- OTT-SR-004: JWT Session Management
- OTT-SR-005: Input Sanitization (SQL Injection/XSS)

4. Features Not to be Tested

- Real payment gateway integrations (simulated only)
- DRM and adaptive bitrate streaming
- Large dataset scaling beyond demo capacity

5. Test Approach / Strategy

Levels:

- Unit tests (modules: Auth, Content, Admin)
- Integration tests (Frontend ↔ Backend ↔ Database)
- System tests (end-to-end workflows)
- Acceptance tests (UAT with evaluators)

Types:

- Functional testing (core OTT features)
- Regression testing (after updates)
- Performance testing (load time, concurrency)
- Usability testing (navigation, clarity)

Entry Criteria: Stable build delivered, test data prepared.

Exit Criteria: 100% of planned test cases executed, no critical defects open, all acceptance criteria satisfied.

5.1 Security Validation

- Validate password hashing & authentication
- TLS 1.2+ verification for communication
- Brute force attack prevention (lock after 5 failed logins)
- SQL Injection & XSS prevention testing
- Role-based access control validation (User vs Admin)

6. Test Environment

Hardware: PCs/laptops with browsers, test server (backend + DB).

Software: OTT app v1.0, MySQL/PostgreSQL DB, Flask/Node.js backend.

Tools: Selenium (UI automation), Postman (API testing), JMeter (performance), Jira/Bugzilla (defect tracking).

Test Data: Dummy users, sample movies, admin accounts.

7. Test Schedule

Milestones:

- Test case design: 05-Sep-2025
- Environment setup: 07-Sep-2025
- Test execution start: 08-Sep-2025
- Test execution end: 20-Sep-2025
- UAT: 22-Sep-2025 to 25-Sep-2025

8. Test Deliverables

- Test Plan (this document)
- Test Cases (manual & automated)
- Test Scripts
- Test Data
- Test Execution Logs
- Defect Reports
- Test Summary Report

9. Roles and Responsibilities

Role	Name	Responsibility
QA Lead	Kushal Kumar B	Prepare plan, coordinate execution
Test Engineer	Laasya R	Design & execute test cases, log defects

Developer	Mohammed Sadatullah	Support defect fixes and triage
Product Owner	Mohin Nayumsab	Approve test results, sign-off readiness

10. Risks and Mitigation

Risk	Mitigation
Delay in stable build delivery	Request early smoke builds from dev team
Test environment downtime	Maintain backup environment on cloud VM
Database corruption during tests	Keep backup DB snapshots

11. Assumptions & Dependencies

- Test server available during schedule
- Dummy movie/user dataset provided
- All modules (auth, playback, admin) integrated before system testing

12. Suspension & Resumption Criteria

Suspend testing if:

- If build is unstable (blocks >30% test cases)
- Server down >4 hrs.

Resume testing if:

- Blocking defects are resolved
- Environment stabilized

13. Test Case Management & Traceability

RTM ensures mapping of SRS requirements to test cases.

Example:

- OTT-F-001 (User Registration) → TC-Reg-01
- OTT-F-002 (User Login) → TC-Auth-01
- OTT-F-006 (Display Content) → TC-Browse-01
- OTT-F-009 (Video Streaming) → TC-Stream-01
- OTT-NF-001 (Video Load Time) → TC-Perf-01
- OTT-SR-001 (Password Hashing) → TC-Sec-01

14. Test Metrics & Reporting

Metrics collected:

- % test cases executed
- % passed/failed

- Defect density
- Defect aging
- Requirement coverage

Reports:

- Daily execution status
- Final Test Summary Report

15. Approvals

Role	Name	Signature / Date
QA Lead	Kushal Kumar B	11-09-2025
Dev Lead	Mohammed Sadatullah	11-09-2025
Product Owner	Mohin Nayumsab	11-09-2025