## **Purpose of Document**

The purpose of this document is to define the test approach and strategy for the RedBus online bus ticket booking platform. It outlines the scope of testing, test types, test coverage, responsibilities, and timelines associated with validating the system’s functionality.

This test plan ensures that all user-facing features — including bus search, seat selection, ticket booking, payment integration (mocked), and booking confirmation — function correctly and reliably across web and mobile platforms.

The goal is to deliver a smooth, bug-free, and consistent user experience, identifying and addressing any defects before the system goes live for end-users.

## **Table of Contents**

1. Introduction.................................................................................................................3

1.1 Purpose................................................................................................................3

1.2 Project Overview .................................................................................................3

1. Scope.........................................................................................................................4

2.1 In-Scope .............................................................................................................4

2.2 Out-of-Scope ......................................................................................................4

1. Testing Strategy..........................................................................................................5

3.1 Test Objectives ....................................................................................................5

3.2 Test Assumptions ................................................................................................5

3.3 Data Approach ....................................................................................................5

3.4 Level of Testing....................................................................................................5

3.5 Unit Testing .........................................................................................................6

3.6 Functional Testing ...............................................................................................6

3.7 User Acceptance Testing (UAT) ..........................................................................7

3.8 Regression Testing .............................................................................................7

1. Execution Strategy.....................................................................................................8

4.1 Entry Criteria .......................................................................................................8

4.2 ExitCriteria .........................................................................................................8

4.3 Validation and Defect Management .................................................................8

1. Environment Requirements......................................................................................9

5.1 Test Environments ............................................................................................9

1. Test Tools and Resources .......................................................................................09
2. Significantly Impacted Departments.......................................................................10
3. Dependencies........................................................................................................11
4. Task Allocation & Timelines ...................................................................................12

10. Roles & Responsibilities .......................................................................................13

## **1. Introduction**

### **1.1 Purpose**

The purpose of this document is to define the test approach, strategy, and scope for the RedBus online bus ticket booking platform. It outlines what functionalities will be tested, how they will be tested, who will perform the testing, and the timeline for execution.

The primary goal is to ensure that all key user-facing features — from searching buses, selecting seats, booking tickets, to receiving confirmations — work as expected across devices and platforms. This also includes validating the performance, usability, and stability of the platform from an end-user’s point of view.

### **1.2 Project Overview**

RedBus is a popular online bus booking platform that enables users to search for buses, select routes, choose seats, make payments, and receive digital tickets. The system supports both web and mobile interfaces, and includes features like:

* City-to-city bus search
* Real-time seat availability
* User login and booking history
* Multiple payment methods (mocked in test)
* Booking confirmation via email and SMS
* Cancellation and refund handling

This test plan ensures that the RedBus platform functions reliably and delivers a smooth, error-free experience for users. It also covers regression testing, user acceptance testing (UAT), and functional validation.

## **2. Scope**

### **2.1 In-Scope**

The following functionalities of the RedBus platform will be covered in this testing cycle:

* ✅ Homepage: banners, city selection, and date pickers
* ✅ Bus search: source to destination selection, date-based results
* ✅ Bus listing: filters (AC/Non-AC, Sleeper, Ratings), sorting, and pagination
* ✅ Bus details: seat layout, boarding & dropping points
* ✅ Booking flow: seat selection, passenger details, and contact info
* ✅ Payment process (mocked gateway)
* ✅ Booking confirmation: SMS and email ticket delivery
* ✅ User authentication: login, signup, password reset
* ✅ Booking history and ticket download
* ✅ Cancellation and refund (mock flow)
* ✅ Notifications (push/email/SMS)
* ✅ Cross-browser and cross-device (mobile, tablet, desktop) support
* ✅ PWA behavior and mobile app interface consistency

### **2.2 Out-of-Scope**

The following items will not be included in this test plan:

* ❌ Live/production payment gateway integration
* ❌ Backend admin/operator dashboards
* ❌ GPS-based live bus tracking integration
* ❌ Load, stress, and penetration (security) testing
* ❌ Multilingual and localization support
* ❌ Partner/vendor onboarding and internal CRM systems
* ❌ Integration with third-party travel APIs
* ❌ In-app chat or customer support plugins

## **3. Testing Strategy**

### **3.1 Test Objectives**

Ensure:

* ✅ Functional correctness of core features (search, booking, payment, login)
* ✅ High usability and responsive design across devices
* ✅ Bug-free navigation and checkout (seat selection to payment)
* ✅ Stability during real-time interactions like confirmation and ticket generation

### **3.2 Test Assumptions**

* ✅ Latest RedBus staging build is available
* ✅ Test users, cities, and buses are accessible
* ✅ Mock payment gateway and ticket services are functional
* ✅ Web and mobile versions are feature-aligned

### **3.3 Data Approach**

Use a mix of:

* ✔️ Valid/invalid coupon codes
* ✔️ Multiple city pairs and travel dates
* ✔️ Guest and registered user flows
* ✔️ Empty seat layout vs. full capacity
* ✔️ Payment modes: UPI, card, wallet (mocked)

### **3.4 Level of Testing**

| **Test Type** | **Description** | **Responsible** |
| --- | --- | --- |
| Unit Testing | Components (e.g., seat map, location detection, promo validation) | Developers |
| Functional Testing | Features like booking flow, seat selection, payment mock, filters | QA Testers |
| UAT | End-to-end ticket booking flow from user POV | QA + Product Team |
| Regression Testing | Confirm fixes don’t break booking, search, or payment flows | QA Team |

### **3.5 Unit Testing**

Focus:

* City input validation
* Seat map selector
* Coupon/promo validation logic

| **Name** | **Module** | **Role** |
| --- | --- | --- |
| Nikhil | Booking/Payment UI | Frontend Dev |
| Riddhi | Location Search | JS Developer |
| Ravi | Ticket API + Booking Log | Full Stack Dev |
| Isha | Seat Map Rendering | UI Dev |
| Sameer | Promo & Fare Logic | Backend Dev |

### **3.6 Functional Testing**

Focus:

* Guest & login-based flows
* Coupon application
* UI redirects, responsiveness

| **Name** | **Module** | **Role** |
| --- | --- | --- |
| Aisha | Homepage & Banners | UI Tester |
| Parth | Bus Listings & Filters | Functional QA |
| Deep | Seat Selection & Checkout | QA Tester |
| Urmi | Search Form + Suggestions | QA Associate |
| Zain | Promo Code Validation | Backend QA |

### **3.7 User Acceptance Testing (UAT)**

Focus:

* End-to-end booking simulation
* SMS/email ticket validation
* Refund/cancellation mock flow

| **Name** | **Area** | **Role** |
| --- | --- | --- |
| Rahul | Full App Journey | QA Analyst |
| Meena | Guest Booking Flow | UAT Tester |
| Karan | Loyalty Offers & Coupons | QA Lead |
| Nisha | Notification Validations | QA |
| Aryan | Address & Payment Scenarios | UAT Associate |

### **3.8 Regression Testing**

Focus:

* City selector, seat map, ticket history
* Cross-browser and mobile responsiveness

| **Name** | **Module** | **Role** |
| --- | --- | --- |
| Arjun | Booking & Confirmation | QA |
| Manasi | Filters & Sorting | Regression Tester |
| Sahil | Passenger Details Form | QA Associate |
| Shruti | Payment & Offers | QA Engineer |

## **4. Execution Strategy**

### **4.1 Entry Criteria**

| **Entry Criteria** | **Test Team** | **Tech Team** | **Notes** |
| --- | --- | --- | --- |
| Environment Setup Complete | ✅ | ✅ | Staging instance is active and stable |
| Test Data Prepared | ✅ | ✅ | Location-based bus/test user data ready |
| Unit Testing Complete | ❌ | ✅ | Developers will confirm after unit pass |
| Feature Stable & Deployed | ✅ | ✅ | All core flows are available (except refund) |
| Test Plan Reviewed | ✅ | ❌ | Reviewed by QA Lead, pending tech review |

### **4.2 Exit Criteria**

| **Exit Criteria** | **Test Team** | **Tech Team** | **Notes** |
| --- | --- | --- | --- |
| 100% Test Cases Executed | ✅ | ❌ | QA report attached for visibility |
| 90% Pass Rate Achieved | ✅ | ✅ | Meets exit threshold |
| No Open Critical Bugs | ✅ | ✅ | All blocking issues resolved |
| UAT Feedback Addressed | ✅ | ✅ | Test flows updated as per stakeholder input |
| Test Summary Submitted | ✅ | ❌ | Weekly QA summary shared |
| Defects Logged and Tracked | ✅ | ✅ | Bugs tracked in Jira with evidence |
| Regression Cycle Completed | ✅ | ✅ | No new issues introduced |

### **4.3 Validation & Defect Management**

* All defects will be logged in Jira with proper steps, screenshots, and labels.
* Daily triage meetings will be conducted with the dev team to prioritize and assign issues.
* Each fix will go through revalidation before closure.
* Defects will be categorized by severity:

| **Severity** | **Impact** |
| --- | --- |
| 1 (Critical) | Complete booking flow broken or app crash |
| 2 (High) | Major user action fails (e.g., seat selection not working) |
| 3 (Medium) | Functional bug with workaround available |
| 4 (Low) | Cosmetic issue, UI spacing, or alignment problems |

## **5. Environment Requirements**

### **5.1 Test Environments**

| **Environment** | **Details** |
| --- | --- |
| Staging | staging.redbus.com – Includes full test data, mocked payment gateway, and ticket confirmation simulator |
| Production | www.redbus.in – Used only for post-release validation and monitoring |
| Devices | Android 11+, iOS 15+, iPads, desktops/laptops with latest browsers |
| Browsers | Chrome, Firefox, Safari, Edge (latest two versions) |
| Tools | BrowserStack, Postman, Chrome DevTools, Lighthouse, Jira |

### **Environment Ownership and Configuration**

| **Environment** | **Purpose** | **Config** | **Owner** |
| --- | --- | --- | --- |
| Dev | Feature Development | Jenkins + GitHub | Dev Team |
| Staging | QA Execution | Ubuntu, Node.js | QA Team |
| UAT | Business Review | Realistic booking data | Product Team |
| Sandbox | Demos and Showcases | Minimal access | PMO (Project Management Office) |

## **6. Test Tools and Resources**

The following tools will be used during the testing of the RedBus platform. These tools help with test execution, documentation, bug tracking, API validation, and deployment support:

| **Tool** | **Purpose** | **Owner** |
| --- | --- | --- |
| Postman | API testing for endpoints (e.g., booking, search, login) | QA Team |
| BrowserStack | Cross-browser and cross-device testing on real devices | QA Team |
| JIRA | Bug reporting, triaging, and tracking | QA Lead |
| Excel/Sheets | Manual test case writing, execution status, and logs | All Testers |
| GitHub/GitLab | Code repository, version control, deployment tracking | Dev Team |

## **7. Significantly Impacted Departments**

### **Department-Wise Impact**

The following departments are significantly impacted during the QA process for RedBus. Coordination between these teams ensures smooth testing and rollout:

| **Department** | **Reason** | **Impact** |
| --- | --- | --- |
| QA | Validates all functional and UI flows | High |
| Frontend Dev | UI components, seat map, responsiveness | High |
| Backend Dev | API logic, payments, bookings | High |
| Product | Ensures business logic is covered | Medium |
| DevOps | Handles staging environment & rollbacks | Medium |
| Customer Support | Affected by ticketing or booking issues | Medium |
| Marketing | Promotions, coupons, landing pages | Medium |

### **Team-Level Breakdown**

| **Division** | **Area** | **Manager** | **Tester** |
| --- | --- | --- | --- |
| Operations | Fulfillment | Sneha | Mohit |
| Support | Customer Help | Sameer | Anjali |
| Tech | Core Development | Ravi | Deep |
| Logistics | Live Delivery Map/API | Dev | Aryan |
| Sales | Offers & Campaigns | Simran | Parth |
| Infrastructure | Cloud Hosting & Backend | Tej | Adil |

## **8. Dependencies**

The following dependencies are critical for the successful execution of the testing activities for the RedBus platform:

| **Dependency** | **Description** |
| --- | --- |
| Location Service APIs | Required for validating source/destination search and route coverage |
| Payment Gateway (Test) | Simulates the payment process for mock transactions |
| Notification Services | Sends booking confirmation via SMS and email |
| Real Products/Coupons | Required to test live booking scenarios using valid offers or discounts |
| Functional Specs | Finalized and approved feature list for test case creation |
| JIRA Access | Needed for logging, assigning, and tracking bugs and issues |
| Mock Rider App | Used to simulate bus location updates (if applicable) and test ticket statuses |
| Business Sign-off | Required to proceed with UAT and final release approval |

## **9. Task Allocation & Timelines**

The following table outlines the module-wise task distribution, assigned testers, and testing schedule for the RedBus platform:

| **Task / Module** | **Assigned Tester(s)** | **Start Date** | **End Date** | **Duration** | **Notes** |
| --- | --- | --- | --- | --- | --- |
| Homepage UI & Location Selection | Aisha | 22-Jul-25 | 23-Jul-25 | 2 Days | Includes banners, search bar, and location input |
| Category Browsing & Filters | Parth | 22-Jul-25 | 24-Jul-25 | 3 Days | Includes bus type filters, operator selection, and sorting |
| Cart Flow & Add/Remove Seats | Deep | 23-Jul-25 | 25-Jul-25 | 3 Days | Seat selection, passenger info, edge cases |
| Checkout Process & Address Form | Urmi | 24-Jul-25 | 26-Jul-25 | 3 Days | Payment (mock), address input, mobile/email validation |
| Promo Code & Offer Validation | Zain | 24-Jul-25 | 25-Jul-25 | 2 Days | Valid/invalid promo codes, discounts, and edge validations |
| Order Confirmation & Tracking | Rahul | 25-Jul-25 | 26-Jul-25 | 2 Days | Booking success flow, ticket confirmation, SMS/email validation |
| Notifications (Email/SMS) | Nisha | 25-Jul-25 | 27-Jul-25 | 3 Days | Event-based notifications post booking and refund flow |
| Cross-Browser Testing | Arjun | 27-Jul-25 | 28-Jul-25 | 2 Days | Chrome, Firefox, Safari, Edge (latest versions) |
| Regression Testing | Manasi & Shruti | 28-Jul-25 | 30-Jul-25 | 3 Days | Full test case pass after bug fixes |
| UAT Execution | Meena & Karan | 30-Jul-25 | 31-Jul-25 | 2 Days | End-to-end testing from business user perspective |

## **10. Roles & Responsibilities**

This section defines the key roles and their responsibilities throughout the testing lifecycle of the RedBus online ticket booking platform:

| **Role** | **Name** | **Responsibilities** |
| --- | --- | --- |
| Project Manager | Ankit | Planning, team coordination, timeline management, risk mitigation, and project status reporting. |
| QA Lead | Priya | Owns the QA process, defines test strategy, manages the test plan, and reports quality metrics. |
| Senior QA Tester | Deep | Designs and executes test cases, logs defects, verifies fixes, and supports UAT processes. |
| Testers | Multiple | (As per Task Allocation) Executes test cases, reports defects, and performs validation of bug fixes. |
| Dev Team Lead | Arvind | Provides builds, resolves blockers, delivers technical support, and fixes defects. |
| DevOps Engineer | Sandeep | Manages environments (staging, UAT), handles deployments, monitoring, and backup management. |
| CEO | Raghav | Final release approval, ensures product quality and alignment with business expectations. |
| Business Manager | Neelam | Validates that business goals are met, approves UAT, and communicates feedback from stakeholders. |