

Test Plan for ISBN Book Number Checker Services

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1. Objective

This document outlines the test plan for the **ISBN Book number Checker services** application. The objective is to ensure that all features and functionalities of the ISBN verification web service work as expected for the target audience, which includes **publishers, librarians, educators, and developers integrating ISBN validation into their systems.**

2. Scope

- **Features to be tested:**
 - Validation of ISBN-13 numbers via SOAP Web Service endpoint `IsValidISBN13`
 - Correct handling of valid and invalid ISBN numbers
 - SOAP message structure and response correctness
 - Response time under load
- **Types of testing:**
 - Manual testing
 - Automated functional testing (SOAP UI, Postman, etc.)
 - Performance testing (Load Testing)
 - Accessibility testing (where applicable for any UI component)
- **Environments:**
 - Browsers: Chrome, Firefox, Edge (for tools that access service)
 - Operating Systems: Windows 10, macOS, Ubuntu

- Devices: Desktops and laptops
 - Network: Wired, Wi-Fi
 - **Evaluation criteria:**
 - Number of valid ISBNs correctly validated
 - Accuracy in detecting invalid ISBNs
 - Defect density
 - Performance (response time under typical and peak load)
 - Test coverage percentage
 - **Team roles and responsibilities:**
 - **QA Lead (1):** Poonam Prasad – Planning, reviewing, reporting
 - **Test Engineers (4):** Designing test cases, executing tests, defect logging
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3. Inclusions

- Introduction and overview of test goals
 - Test objectives: Identify defects, verify functional compliance, ensure reliable ISBN checking
 - Functional coverage of input validation, output response handling, and error codes
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4. Exclusions

- UI components (no frontend interface provided)
- Database validation and backend logging (as it's a third-party service)
- Other SOAP methods not related to ISBN validation

5. Test Environments

- **Operating Systems:** Windows 10, macOS, Ubuntu
- **Browsers:** Chrome, Firefox, Edge
- **Devices:** Desktop, laptop
- **Connectivity:** Wi-Fi, LAN
- **Software Requirements:** SOAP UI, Postman, JDK 8+, XML Validator, Excel
- **Security Protocols:** N/A (public test endpoint)
- **Access:** All test engineers will use their own environments for execution

6. Defect Reporting Procedure

- **Defect criteria:** Incorrect result for valid/invalid ISBN, response delay, malformed responses
- **Steps for reporting:** Jira ticket with summary, steps, expected vs actual, logs/screenshots
- **Triage:** QA lead assigns severity and priority
- **Tools:** Jira for defect tracking
- **Metrics:** Defects by priority, fix rate, retest pass rate
- **Communication:** Daily standups and Slack for real-time updates

7. Test Strategy

- **Step 1: Test Case Creation**
 - Techniques: Boundary Value, Equivalence Partitioning, Decision Table Testing

- Examples:
 - Valid ISBN-13 (9780470059029)
 - Invalid ISBNs (wrong check digit, wrong format)
 - Empty, null, alphanumeric inputs
- **Step 2: Execution**
 - Smoke Testing: Initial test of endpoint availability
 - Full Functional Testing: Valid and invalid ISBNs
 - Regression Testing: If service updates are introduced
 - Load Testing: Multiple requests per second (JMeter/Postman runner)
- **Step 3: Best Practices**
 - Context-driven approach based on web service limitations
 - Exploratory testing for edge cases (e.g., very large inputs)
 - End-to-End: Integration with sample UI or middleware (if applicable)

8. Test Schedule

Task	Duration	Start Date	End Date
Test Plan Preparation	1 day	1 May	1 May
Test Case Design	2 days	2 May	3 May
Test Execution	6 days	6 May	13 May
Defect Reporting & Retesting	2 days	14 May	15 May
Summary Report & Closure	1 day	16 May	16 May

9. Test Deliverables

- Test Plan Document (this file)
 - Test Case Document (Excel)
 - Daily Test Execution Reports
 - Defect Report (from Jira)
 - Final Test Summary Report
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10. Entry and Exit Criteria

- **Requirement Analysis**
 - Entry: Web service URL shared, WSDL accessible
 - Exit: Test scenarios approved
 - **Test Execution**
 - Entry: Test cases reviewed and signed off
 - Exit: All test cases executed, defects resolved
 - **Test Closure**
 - Entry: Execution complete, reports prepared
 - Exit: Client-approved test summary
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11. Tools

- JIRA – Bug tracking and reporting
- SOAP UI – Manual SOAP requests
- Postman – API request testing

- Excel – Test case documentation
- JMeter – Load testing (optional)

12. Risks and Mitigations

Risk	Mitigation
Service Unavailable	Use mock/stub or raise with provider
High Load Latency	Schedule performance test during off-hours
Short Test Window	Prioritize smoke + functional tests first
Incorrect WSDL or Response Format	Raise clarification early with provider

13. Approvals

Documents to be shared with the client:

- Test Plan
- Test Scenarios
- Test Case Excel Sheet
- Test Summary Report