Test Plan (SOAP Request)

# **Test Plan**

## **Objective**

The goal of this test plan is to ensure the quality, accuracy, and robustness of the **DataFlex ISBN-10 Web Service** hosted at https://webservices.daehosting.com/services/isbnservice.wso.

This web service provides ISBN-10 number validation through a SOAP API endpoint, returning a boolean result based on checksum computation on the provided ISBN-10 string.

## **Scope**

## **Scope of Test Plan for ISBN-10 Web Service**

1. **Functional Testing:**
   * Verify correct functioning of the IsValidISBN10 API operation per published API documentation.
   * Validate service response for a range of correct, invalid, and malformed ISBN-10 inputs.
2. **Data Validation Testing:**
   * Confirm API correctly processes valid inputs and rejects/flags invalid or incorrectly formatted requests.
   * Test boundary values and special cases (e.g., checksum ‘X’).
3. **Error Handling Testing:**
   * Check that error responses are appropriate for invalid/unsupported inputs.
   * Validate absence of sensitive or extraneous information in error messages.
4. **Performance Testing:**
   * Evaluate response time under normal and peak request loads.
5. **Security Testing:**
   * Test for common input vulnerabilities and information leakage.
6. **Integration Testing:**
   * Evaluate end-to-end operation with consumer systems that utilize the ISBN-10 service.
7. **Documentation Review:**
   * Ensure the API documentation is clear, correct, and synchronized with actual endpoint behavior.
8. **Regression Testing:**
   * Execute full test suite after any defect fixes or service updates.
9. **Edge Case Testing:**
   * Include atypical and boundary scenarios, such as numeric + 'X', only numbers, sequence of zeros, and blank/whitespace.
10. **Usability Testing:**
    * Assess developer experience in connecting and consuming the SOAP operation.

## **Inclusions**

* **Valid ISBN-10 number validation:** Various known good ISBN-10s, including those with terminal ‘X’.
* **Invalid ISBN-10 number handling:** Mismatched checksum, incorrect length, symbols/letters in unexpected places.
* **Input boundary testing:** Minimum/maximum accepted lengths and types.
* **Malformed and missing parameter handling:** Null, empty string, and whitespaces.
* **Fault tolerance:** Proper API behavior under unexpected content types or malformed XML/SOAP structures.
* **Automation:** Validate feasibility for automated regression runs.

## **Test Environments**

* **Operating Systems:** Windows 10, Mac OS, Linux (latest versions).
* **SOAP Clients/Browsers:** Postman, SoapUI, and command-line CURL.
* **Devices:** Desktop and laptop.
* **Network:** Wired LAN, Wi-Fi.
* **Test URLs:**
  + QA:<https://webservices.daehosting.com/services/isbnservice.wso>
  + Pre-Prod: (if applicable, else same as above)
* **Access Controls:** Test accounts or IPs as mandated by environment policy.
* **Security Protocols:** HTTPS (where supported).

## **Defect Reporting Procedure**

* **Criteria:** Any response violating functional requirements, unexpected responses, unhandled exceptions, or performance issues.
* **Reporting Steps:**
  + Log defects in defect tracking tool (e.g., JIRA),
  + Include endpoint, input provided, full request/response logs, screenshots, and steps to reproduce.
  + Assign initial severity/priority, and route to integration/service owner.
* **Roles/Responsibilities:**
  + Testers create & assign defects;
  + Developers analyze, propose resolutions;
  + Test Lead reviews and communicates status to stakeholders.
* **Reporting Frequency:**
  + Daily defect status email; weekly summary.

## **Test Strategy**

* **Test Scenario & Case Design:**
  + Employ boundary value, equivalence partitioning, and error guessing techniques.
* **Prioritization:**
  + High-risk and frequently used scenarios prioritized for early validation.
* **Test Execution:**
  + Start with smoke testing; reject build if critical path fails.
  + Use parallel testers/environments for broader coverage.
* **Types of Testing to be Performed:**
  + Smoke, sanity, regression, exploratory, usability, and functional.
* **Best Practices:**
  + Context-driven, shift-left involvement, and exploratory testing beyond formal cases.
  + End-to-end flow coverage (dummy consumer systems if possible).

## **Test Schedule**

| **Task** | **Dates (Indicative)** |
| --- | --- |
| Test Plan Preparation | Sprint 1, Day 1–2 |
| Test Case Design | Sprint 1, Day 2–4 |
| Test Execution | Sprint 1, Day 4–7 |
| Bug Reporting & Verification | Sprint 1, Day 5–end |
| Test Summary Reports | Sprint 1, End |

*(Adjust based on iteration speed and stakeholder feedback)*

## **Test Deliverables**

* Test Plan Document
* Test Case Specifications
* Test Execution Logs & Evidence
* Defect Reports
* Test Summary & Closure Reports

## **Entry and Exit Criteria**

## **Entry Criteria**

* Finalized API documentation is available.
* Test Environments are set up and accessible.
* Test cases have been created and reviewed.
* Required test data is ready.

## **Exit Criteria**

* All planned tests have been executed.
* All critical and high defects are closed or mitigated.
* Test reports are shared with stakeholders.
* Stakeholder sign-off received.

## **Test Execution**

## **Entry Criteria**

* Test Cases signed-off.
* API endpoint live and accepting requests.

## **Exit Criteria**

* Test Case Execution completed and logged.
* All open defects have been addressed as per severity.
* Summary report submitted.

## **Test Closure**

## **Entry Criteria**

* Execution and defect artifacts finalized.

## **Exit Criteria**

* Test Summary Report finalized and approved.

## **Tools**

* **Defect Tracking:** JIRA
* **Test Design/Documentation:** Word, Excel, Mind Map Tool
* **SOAP Automation/Execution:** SoapUI, Postman, CURL
* **Screenshots/Evidence:** Snipping Tool, built-in OS tools

## **Risks and Mitigations**

| **Risk** | **Mitigation Strategy** |
| --- | --- |
| Service Unavailability | Contingency test schedule |
| Documentation/API Discrepancy | Early clarification requests |
| Resource Unavailability | Backup resource assignment |
| Unexpected Downtime | Run tests off-business hours if needed |

## **Approvals**

* Test Plan, Scenarios, Test Cases, Execution, and Closure Reports will be circulated for client and stakeholder approval before progressing between phases.

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 **Date:** 22nd July, 2025  
 **Reviewed by:**

This test plan strictly follows the structure and intent of your shared template, tailored for the DataFlex ISBN-10 SOAP API.