Test Plan for ISBN Checker Web Service

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1. Objective

This document outlines the test plan for the **ISBN Checker Web Service** available at ISBN10 Validator.

The objective is to ensure that the web service correctly validates 10-digit ISBN numbers for developers and businesses integrating book verification services.

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2. Scope

Features to be tested:

- ISBN10 validation functionality.
- Response time and format.
- Error handling for invalid inputs.
- SOAP request/response structure compliance.

Types of Testing:
Manual testing, automated testing, performance testing, and accessibility testing.

Environments:
Different browsers, operating systems, and device types (where applicable for SOAP request testing tools).

Evaluation Criteria:

- Number of defects found.
- Time taken to complete testing.
- Accuracy of response and validation logic.

Team Roles and Responsibilities:

- **Test Lead:** Test planning, progress tracking, defect triage.
- **Testers:** Test execution, bug reporting.
- **Developers:** Bug fixing and integration.

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3. Inclusions

- Introduction to the test plan.
- Functional testing of the ISBN10 validator endpoint.
- Validation with various ISBN inputs: valid, invalid, blank, special characters.
- Performance and response checks.

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4. Exclusions

- Testing ISBN13 or any other book data validation services.
- UI-level testing as this is a backend web service.

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5. Test Environments

- **Operating Systems:** Windows 10, macOS, Linux
- **Browsers:** Not applicable directly, but testing tools like SOAP UI/Postman on these systems.
- **Devices:** Desktop/laptop
- **Network Connectivity:** Wi-Fi, wired connections
- **Hardware/Software Requirements:** Standard development/test machine with SOAP UI/Postman

- **Security Protocols:** Basic authentication/token (if applicable)
- **Access Permissions:** Tester and developer roles for executing and debugging requests

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6. Defect Reporting Procedure

- **Criteria:** Wrong validation, incorrect response, timeout errors.
- **Steps:** Use defect tracking template with steps, input, actual vs expected result, screenshots.
- **Triage and Prioritization:** Based on severity and impact.
- **Tracking Tools:** JIRA
- **Roles:** Testers report, developers resolve, test lead monitors.
- **Communication Channels:** Daily stand-up/status email.
- **Metrics:** Defects by severity, fix time, retest count.

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7. Test Strategy

Step 1: Test Scenarios and Test Case Creation

- **Techniques:**
  - **Equivalence Partitioning:** Valid/invalid ISBN sets.
  - **Boundary Value:** Edge cases like 0000000000 and 9999999999.
  - **Decision Table:** Combinations of input types.
  - **Error Guessing:** Special characters, empty inputs.

Step 2: Testing Procedure

- **Smoke Testing:** API up and responding.
- **In-depth Testing:** Based on created test cases.
- **Multiple Environments:** Local, test, and pre-prod environments if available.
- **Defect Reporting:** Logged in JIRA with clear reproduction steps.
- **Types of Testing:** Functionality, boundary, regression, negative testing.

Step 3: Best Practices

- Context-driven testing and exploratory testing.
- Simulating actual developer usage scenarios.
- Validate WSDL structure and endpoint stability.

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8. Test Schedule

Task	Duration	Dates
Test Plan Creation	2 Days	[Start Date] – [End Date]
Test Case Design	2 Days	[Start Date] – [End Date]
Test Execution	3 Days	[Start Date] – [End Date]
Defect Reporting & Retesting	Ongoing	[Start Date] – [End Date]
Summary Report	1 Day	[Start Date] – [End Date]

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9. Test Deliverables

- Test Plan
- Test Scenarios and Test Cases
- Defect Reports

- Test Summary Report

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10. Entry and Exit Criteria

Requirement Analysis

- **Entry:** Access to service endpoint and documentation
- **Exit:** Requirements understood and documented

Test Execution

- **Entry:** Finalized test cases, ready endpoint
- **Exit:** All test cases executed, defects reported

Test Closure

- **Entry:** All major defects closed
- **Exit:** Summary report shared and signed-off

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11. Tools

- **JIRA** – Bug tracking
- **SOAP UI/Postman** – Web service testing
- **MS Excel/Word** – Documentation
- **Snipping Tool** – Screenshots

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12. Risks and Mitigations

Risk	Mitigation
Endpoint not accessible	Notify devs immediately, verify network
Ambiguous requirements	Clarify with client early
Resource unavailable	Assign backup tester or test lead

13. Approvals

Client Approval Needed for:

- Test Plan
- Test Scenarios & Cases
- Defect Summary & Final Report