



Test Plan for IsValidISBN10 SOAP API



1. Introduction

API Under Test: IsValidISBN10

Service Type: SOAP Web Service

Service Endpoint:

POST /services/isbnservice.wso

Host: webservices.daehosting.com

Purpose of API:

To validate a given ISBN-10 number (10-digit or 9-digit with "X") using checksum logic and return a boolean result indicating validity.



2. Objective

To verify the correctness, robustness, and reliability of the IsValidISBN10 web service by validating:

- Proper functionality for valid and invalid ISBN-10 numbers
 - Handling of boundary and edge cases
 - Proper error handling for malformed or missing input
 - Correctness of responses for all supported content types (SOAP 1.1, SOAP 1.2, JSON)
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3. Scope of Testing

In Scope:

- Functional Testing
- Positive and Negative Test Cases
- Protocol (SOAP 1.1, SOAP 1.2, JSON) Validation
- Schema Validation
- Response Format and Status Code Verification

Out of Scope:

- Performance or Load Testing (unless explicitly required)
- ISBN-13 validation (not part of this API)

4. Test Inputs & Parameters

Parameter	Type	Required	Description
sISBN	string	Yes	The ISBN-10 string to be validated.

5. Sample Requests

SOAP 1.1 Request

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
    <IsValidISBN10 xmlns="http://webservices.daehosting.com/ISBN">
      <sISBN>0471958697</sISBN>
    </IsValidISBN10>
  </soap:Body>
</soap:Envelope>
```

SOAP 1.2 Request

```
<soap12:Envelope xmlns:soap12="http://www.w3.org/2003/05/soap-envelope">
  <soap12:Body>
```

```
<IsValidISBN10 xmlns="http://webservices.daehosting.com/ISBN">
  <sISBN>0471958697</sISBN>
</IsValidISBN10>
</soap12:Body>
</soap12:Envelope>
```

JSON Request

```
{
  "sISBN": "0471958697"
}
```

6. Test Scenarios

A. Positive Test Cases

Test Case ID	Description	Input (sISBN)	Expected Output
TC_POS_01	Valid ISBN-10	0471958697	true
TC_POS_02	Valid ISBN-10 with "X" as checksum	0306406152	true
TC_POS_03	Valid ISBN-10, 8 digits + X	156881111X	true

B. Negative Test Cases

Test Case ID	Description	Input (sISBN)	Expected Output
TC_NEG_01	Invalid ISBN-10 (bad checksum)	0471958696	false
TC_NEG_02	Shorter than 10 digits	1234567	false or error
TC_NEG_03	Longer than 10 digits	12345678901	false or error
TC_NEG_04	Non-numeric characters	ABCDEFGHJIJ	false or error
TC_NEG_05	Empty input	(empty)	Error/Exception
TC_NEG_06	Null input	null	Error/Exception

C. Protocol/Format Test Cases

Test Case ID	Protocol	Content-Type	Expected
TC_FMT_01	SOAP 1.1	text/xml	200 OK + boolean
TC_FMT_02	SOAP 1.2	application/soap+xml	200 OK + boolean
TC_FMT_03	JSON	application/json	200 OK + boolean
TC_FMT_04	Incorrect Content-Type	text/plain	415 Unsupported Media Type or error

D. Edge Test Cases

Test Case ID	Description	Input	Expected Output
TC_EDGE_01	Input with leading zeros	0000000009	true
TC_EDGE_02	Input with lower-case 'x'	156881111x	false or error
TC_EDGE_03	Input with white space	" 0471958697 "	Trim & true or error

7. Validation Points

- Status Code should be **200 OK** for valid requests.
 - Response Body should contain:
 - XML or JSON structure as per the protocol
 - A boolean result under **<IsValidISBN10Result>** or JSON **true/false**
 - No internal server errors (500) on malformed inputs
 - No incorrect status codes (e.g., 200 for bad inputs without proper messaging)
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8. Tools Required

- Postman / SOAP UI for manual testing
 - JMeter / ReadyAPI for automated or load testing (optional)
 - cURL or custom test scripts (Python, Java, etc.)
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9. Non-Functional Checks

- **Response Time:** Should be < 2 seconds
 - **Availability:** Endpoint should be reachable
 - **Security:** Only accepts requests from allowed domains (check for CORS or authentication if present)
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10. Test Data Set (Examples)

ISBN Input	Expected	Note
0471958697	true	Standard valid ISBN-10
0306406152	true	Another valid with checksum
0306406153	false	Invalid checksum
156881111X	true	Valid with 'X' at end
156881111x	false	Lowercase 'x' - should fail

11. Reporting

- Log of all requests/responses

- Pass/Fail status of each test case
 - Defect tracking for failed or unexpected results
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12. Exit Criteria

- All high and medium priority test cases pass
 - No critical or major bugs open
 - All response formats validated
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