

AmlValidationService Technical Documentation

Overview

The **AmlValidationService** evaluates the anti-money laundering (AML) risk of customers by scoring them based on their identity attributes and checking against known watchlists. This is part of the customer onboarding KYC pipeline in a banking context.

API Endpoint

POST /

Request Schema:

- `customerId` (string)
- `fullName` (string)
- `nationalId` (string)
- `birthDate` (date)

Response Fields:

- `status`: PASS or FAIL
 - `riskScore`: Integer (0–100)
 - `riskLevel`: LOW, MEDIUM, HIGH
 - `matchedWatchlists`: Array of matching entries
 - `timestamp`: ISO-8601
-

Common Error Patterns

1. HTTP 400 Bad Request

Symptoms:

- Malformed JSON or missing required fields

Logs:

Unset

```
ERROR [aml-service] - Missing required input: customerId
```

Root Causes:

- Client sends incomplete or improperly formatted payload

Resolution:

- Validate all required fields are included and types are correct
-

2. HTTP 404 Not Found

Symptoms:

- Endpoint returns 404

Logs:

Unset

```
WARN [platform-http] - No consumers available on endpoint:  
platform-http:/
```

Root Causes:

- Camel route not active or incorrectly mapped

Resolution:

- Check YAML DSL route definition, ensure `path: /` matches actual request URL

3. HTTP 500 Internal Server Error

Symptoms:

- Runtime failure during external service dependency failure

Logs:

Unset

```
ERROR [camel] - Error evaluating choice block:  
java.lang.NullPointerException
```

Root Causes:

- Incorrect use of Camel Simple expressions (`random()` or string interpolation)
- Unexpected downstream error

Resolution:

- Add fallback logic for downstream errors

Log Interpretation Guide

Log Pattern	Meaning	Suggested Action
Evaluating AML validation outcome...	Request successfully reached the route	Continue
No consumers available	Route is not registered for that path	Check Camel route URI
NullPointerException in mock logic	Incorrect JSON template or unquoted interpolation	Check indentation and syntax

Contact

Reach the AML Validation engineering team via [#aml-risk-devs](#) Slack channel or log a ticket in the [AML-SVC](#) JIRA project.

OpenAPI Spec

```
openapi: 3.0.0
info:
  title: AML Validation Service
  version: 1.0.0
  description: >
    The AML Validation Service evaluates a customer's anti-money
    laundering (AML)
    risk by scoring their identity details and matching them against
    watchlists.

paths:
  /:
    post:
      summary: Validate a customer's AML risk profile
      requestBody:
        required: true
        content:
          application/json:
            schema:
              $ref: '#/components/schemas/AmlValidationRequest'
      responses:
        '200':
          description: AML check completed successfully
          content:
            application/json:
              schema:
                $ref: '#/components/schemas/AmlValidationResponse'
        '400':
```

```
description: Invalid input data
content:
  application/json:
    schema:
```

IdentityValidationService Technical Documentation

Overview

The **IdentityValidationService** is responsible for validating customer identity documents such as national IDs or passports. It is used in KYC (Know Your Customer) workflows in banking systems. The service exposes a REST endpoint `/validate` that accepts a JSON payload with customer identity details and returns a validation result.

API Endpoint

POST `/validate`

Request Schema:

- `customerId` (string)
- `fullName` (string)
- `nationalId` (string)
- `birthDate` (date)

Response Fields:

- `status`: VERIFIED, FAILED, or REVIEW_REQUIRED
- `verificationScore`: integer (0–100)

- `failureReason`, `reviewComment`: string (optional)
 - `timestamp`: ISO-8601
-

Common Error Patterns

1. HTTP 400 Bad Request

Symptoms:

- Empty or malformed request payload
- Missing required fields

Logs:

Unset

```
ERROR [validation] - Missing field 'nationalId'  
ERROR [json] - Cannot deserialize value...
```

Root Causes:

- Client-side form submission error
- Incorrect JSON formatting (e.g., using single quotes, missing commas)

Resolution:

- Ensure all required fields are populated
 - Validate request body using a linter or Postman before submitting
-

2. HTTP 404 Not Found

Symptoms:

- Service route is unreachable

Logs:

Unset

```
WARN [platform-http] - No consumers available on endpoint:  
platform-http:/validate
```

Root Causes:

- Camel REST route not correctly defined or not deployed
- OpenShift Route misconfigured

Resolution:

- Confirm route configuration in Camel YAML DSL
 - Run `oc get routes` and verify exposed service path
-

3. HTTP 500 Internal Server Error

Symptoms:

- Service returns error with no obvious client fault

Logs:

Unset

```
ERROR [identity-service] - Unexpected exception occurred:  
java.lang.NullPointerException  
ERROR [camel] - Error during route processing
```

Root Causes:

- Backend system (e.g., registry API) unavailable
- Null reference in identity processing logic

Resolution:

- Add null checks and fallback values in route logic
- Ensure downstream services are healthy

Log Interpretation Guide

Log Pattern	Meaning	Suggested Action
Missing field 'X'	Input JSON did not include a required field	Fix client request
No consumers available	No route matching the HTTP call	Check Camel route URI
Error calling downstream service	HTTP call to AML/KYC failed	Check URL, service availability

Contact

For production incidents, contact the Identity Validation Service team via [#kyc-platform-support](#) or raise a JIRA ticket in [BANK-IDVAL](#) project.

IdentityValidationService OpenAPI

```
openapi: 3.0.0
info:
  title: Identity Validation Service
  version: 1.0.0
  description: API for verifying customer identity documents as part of
banking KYC processes.
paths:
  /validate:
```



```
post:
  summary: Validate customer identity document
  requestBody:
    required: true
    content:
      application/json:
        schema:
          $ref: "#/components/schemas/IdentityValidationRequest"
  responses:
    '200':
      description: Identity validated successfully or failed with
reason
      content:
        application/json:
          schema:
            $ref: "#/components/schemas/IdentityValidationResponse"
    '400':
      description: Bad request - malformed JSON or missing fields
      content:
        application/json:
          schema:
            $ref: "#/components/schemas/ErrorResponse"
    '500':
      description: Internal server error
      content:
        application/json:
          schema:
            $ref: "#/components/schemas/ErrorResponse"

components:
  schemas:
    IdentityValidationRequest:
      type: object
      required:
        - customerId
        - fullName
        - nationalId
        - birthDate
      properties:
        customerId:
```

```
    type: string
    example: "CUST-102938"
  fullName:
    type: string
    example: "Alice Smith"
  nationalId:
    type: string
    example: "XYZ987654"
  birthDate:
    type: string
    format: date
    example: "1985-07-15"
```

IdentityValidationResponse:

```
  type: object
  required:
    - customerId
    - status
    - verificationScore
    - timestamp
  properties:
    customerId:
      type: string
    status:
      type: string
      enum: [VERIFIED, FAILED, REVIEW_REQUIRED]
    identityType:
      type: string
      example: "NATIONAL_ID"
    documentNumber:
      type: string
      example: "XYZ1234567"
    expiryDate:
      type: string
      format: date
    fullName:
      type: string
    dateOfBirth:
      type: string
      format: date
```

```
verificationScore:
  type: integer
  format: int32
  minimum: 0
  maximum: 100
failureReason:
  type: string
  nullable: true
reviewComment:
  type: string
  nullable: true
timestamp:
  type: string
  format: date-time
  example: "2025-05-15T07:45:00Z"
```

```
ErrorResponse:
  type: object
  properties:
    error:
      type: string
      example: "Service Unavailable"
    message:
      type: string
      example: "Unable to process the request"
    code:
      type: string
      example: "ID-SERVICE-500"
    timestamp:
      type: string
      format: date-time
```