

Interface Agreement
Biometric NIK Validation

Telkomsel Digital Core

Telkomsel

by Telkom Indonesia

Document History

Revision History

Date	Name	Version	Summary of Changes
19-Mar-24	Vera Debora V	0.1	Initial Draft
22-Aug-24	Muhammad Abidghozi Gerungan	0.2	Update Reference Document

Contents

Table of Contents

Contents	2
Table of Contents	2
List of Figures	2
1. Introduction	3
1.1 Scope	3
1.2 Intended Audience	3
2. Service Design	4
2.1 API – Biometric NIK Validation	4
2.1.1 Resource Specification	4
2.1.2 Request & Response.....	4
2.1.2.1 Request Headers	4
2.1.2.2 Request Query Parameters	4
2.1.2.3 Request Body.....	4
2.1.2.4 Response Headers	5
2.1.2.5 Response Body	6
2.1.3 Sequence Diagram.....	7
2.1.4 Status Code.....	7
2.1.4.1 ESB Status Code.....	7
2.1.5 List of Values	8
2.2 Glossary	8
3. Appendix	9
3.1 References.....	9
3.2 Glossary	9

List of Figures

Figure 1. Biometric NIK Validation Sequence Diagram	7
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1. Introduction

1.1 Scope

This document provides high level interface agreement specification required to validate NIK to Dukcapil based document identify Face Recognition.

1.2 Intended Audience

The intended audiences for this document are as follows:

- Solution Architecture Team
- Functional / Technical Design Team
- Development Team
- Testing Team
- Provider system owner team
- Deployment team
- Consumer system owner team

2. Service Design

2.1 API – Biometric NIK Validation

2.1.1 Resource Specification

Resource Name	nikvalidation-bs
Description	API to validate NIK to Dukcapil based on document identity face recognition.
Resource URL	http://[host]:[port]/esb/v1/face-recognition/nik-validation
Transport Protocol	HTTP(S)
Request Verb	POST
Content Type	application/json
Interaction Type	Synchronous
Security Policy *	<i>API Key & Signature in Request Header</i>

* Security Policy is only applicable for External applications. Please refer to Application Architecture document for further details.

2.1.2 Request & Response

2.1.2.1 Request Headers

Header Field Name	Acceptable Value
Content-Type	application/json
api_key	{api_key}
x-signature	md5(api_key, secret, UNIX timestamp)

Request Headers Example:

```
Content-Type: application/json
Accept: application/json
api_key: ak9j5bxm3yvtyepu5fkv62yq
x-signature: 51b59a34a36d161dee67607f10642ee1
```

2.1.2.2 Request Query Parameters

N/A

2.1.2.3 Request Body

Element Name	Data Type	Repeatable	Length	M/O	Description
transaction	Object	No	N/A	M	Transaction Details.
transaction_id	String	No	20	O	Transaction Identifier.
channel	String	No	N/A	M	Channel Code Identifier.
service	Object	No	N/A	M	Service Details.

service_id	String	No	N/A	O	Subscriber MSISDN. Use format 62.
nik	String	No	N/A	M	NIK to be validated. Value must be encrypted using Dukcapil Public Key file and then encoded with base64.
threshold	Double	No	N/A	O	Dukcapil face recognition match score threshold. If client does not provide value, threshold will follow default value configured in ESB.
document	String	No	N/A	M	Identity document to be recognized using format JPG/PNG (maximum file size is 200kb) then encoded with base64.

*M=Mandatory, O=Optional

Request Body Example:

```
{
    "transaction": {
        "transaction_id": "C0021508101038001990",
        "channel": "k3"
    },
    "service": {
        "service_id": "6281234567890",
        "nik": "vQy968/8YXuzt6UsXqdy5IMoKi1SQmnE6mxspIwnuG+4x8QJFFEJR2i33abnqcmrIThQntok7UPih19J1VAp2p3IOU6hRR0wYTZ9gkHwxOBtVYF918k15VRQHjde0/14iCCLqj1lT8Q+pXEasDVC+u7u5ciz6hGkUY6EKF1xM6573Al8evLP3Cau8d81xPPNseIo55ZTAKTShd3Q37AD7KqUsZA9ny++skqvrTu8TdC9XP4D+vcc9u6ZveT1fGxzFnCXbC+GBj5YAs0i9JKKXzeefP02woCvfUcOpullajfx+qwPzu7JhLBSbxM9T/r6pacq3NkdPf+zI5juOF1nSQ==",
        "threshold": 70.00
    },
    "document": "vQy968/8YXuzt6UsXqdy5IMoKi1SQmnE6mxspIwnuG+4x8QJFFEJR2i33abnqcmrIThQntok7UPih19J1VAp2p3IOU6hRR0wYTZ9gkHwxOBtVYF918k15VRQHjde0/14iCCLqj1lT8Q+pXEasDVC+u7u5ciz6hGkUY6EKF1xM6573Al8evLP3Cau8d81xPPNseIo55ZTAKTShd3Q37AD7KqUsZA9ny++skqvrTu8TdC9XP4D+vcc9u6ZveT1fGxzFnCXbC+GBj5YAs0i9JKKXzeefP02woCvfUcOpullajfx+qwPzu7JhLBSbxM9T/r6pacq3NkdPf+zI5juOF1nSQ=="
}
```

2.1.2.4 Response Headers

Header Field Name	Acceptable Value
Content-Type	application/json

Response Headers Example:

```
{
    "content-type": "application/json"
}
```

2.1.2.5 Response Body

Element Name	Data Type	Repeatable	Length	M/O	Description
transaction	-	No	-	M	
transaction_id	String	No	25	M	Transaction Identifier.
channel	String	No	2	M	Channel Code Identifier.
status_code	String	No	25	M	Status Code. <i>Refer to section 2.6 for status codes.</i>
status_desc	String	No	256	M	Status Description.
match_score	Double	No	N/A	O	Dukcapil face recognition match score result.

*M=Mandatory, O=Optional

Response Body Example - Success:

```
{
    "transaction": {
        "transaction_id": "C0021508101038001990",
        "channel": "k3",
        "status_code": "00000",
        "status_desc": "Success"
    },
    "match_score": 8.331
}
```

Response Body Example – Business Error:

```
{
    "transaction": {
        "transaction_id": "C0021508101038001990",
        "channel": "k3",
        "status_code": "306019",
        "status_desc": "Service Provider Error: Dukcapil - NIK Tidak ditemukan"
    },
    "match_score": 8.331
}
```

Response Body Example – Technical Error:

```
{
    "transaction": {
        "transaction_id": "C0021508101038001990",
        "channel": "k3",
        "status_code": "30500",
        "status_desc": " Service Provider Error: Dukcapil - Sistem Sedang Sibuk"
    }
}
```

2.1.3 Sequence Diagram

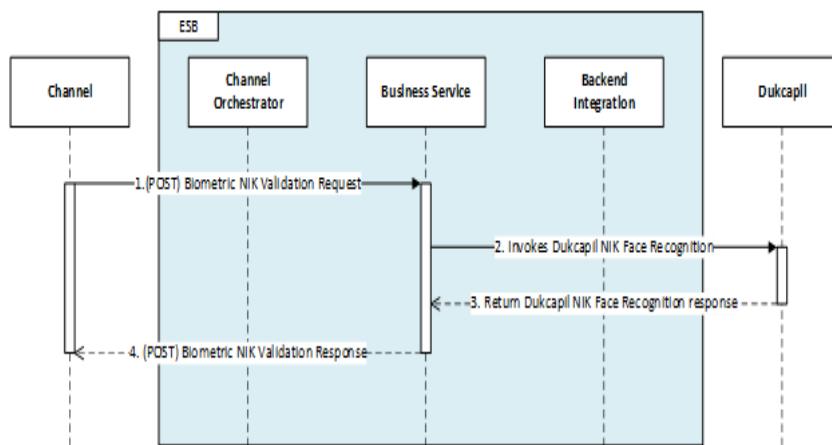


Figure 1. Biometric NIK Validation Sequence Diagram

Seq #	Description
1	ESB receives an incoming (POST) Biometric NIK Validation request from channel.
2	ESB invokes Dukcapil NIK Face Recognition to Dukcapil.
3	ESB receives Dukcapil NIK Face Recognition response from Dukcapil.
4	ESB returns the outgoing (POST) Biometric NIK Validation response to channel.

2.1.4 Status Code

2.1.4.1 ESB Status Code

HTTP Status Code	Error Category	ESB Status Code	Description
200	-	00000	Success
400	BUSINESS	20002	Invalid mandatory parameter
400	BUSINESS	20003	Match score NIK validation is below threshold
500	TECHNICAL	40000	ESB internal error
400 or 502**	BUSINESS/ TECHNICAL	30xx	Service provider error: {provider}-{service provider error description}
503	TECHNICAL	10001	Service provider unreachable
500	TECHNICAL	305001	Service provider error: Dukcapil - Akun tidak ditemukan
500	TECHNICAL	305002	Service provider error: Dukcapil - Kuota Hari Ini Habis, Silahkan Dicoba Esok Hari
500	TECHNICAL	305003	Service provider error: Dukcapil - IP Tidak Sesuai
500	TECHNICAL	305006	Service provider error: Dukcapil - Data gagal di decrypt
500	TECHNICAL	30500	Service provider error: Dukcapil - Sistem Sedang Sibuk
500	TECHNICAL	306006	Service provider error: Dukcapil - Kesalahan Pengiriman Format Base64
500	TECHNICAL	306012	Service provider error: Dukcapil - Sistem Sedang Sibuk
500	TECHNICAL	306014	Service provider error: Dukcapil - Sistem Sedang Sibuk

500	TECHNICAL	306015	Service provider error: Dukcapil - Foto tidak dapat diproses
500	TECHNICAL	309002	Service provider error: Dukcapil - Password Salah
400	BUSINESS	305005	Service provider error: Dukcapil - Threshold tidak sesuai. (1-20)
400	BUSINESS	306019	Service provider error: Dukcapil - Foto tidak sesuai
400	BUSINESS	306020	Service provider error: Dukcapil - NIK tidak ditemukan
400	BUSINESS	305004	Service provider error: Dukcapil - Parameter tidak sesuai

* xxx = {service provider error code}

**400 for business errors, 502 for system errors

2.1.5 List of Values

N/A

2.2 Glossary

Abbreviation	Description
ESB	Enterprise Service Bus
HTTP	Hyper Text Transfer Protocol
JSON	JavaScript Object Notation
REST	Representational State Transfer

3. Appendix

3.1 References

No	Service Name	Service Provider	Referenced Document Name
1	Biometric NIK Validation	ESB	TSEL Digital Core – Business Service – Biometric NIK Validation

3.2 Glossary

Abbreviation	Description
ESB	Enterprise Service Bus
HTTP	Hyper Text Transfer Protocol
JSON	JavaScript Object Notation
REST	Representational State Transfer