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NOMOR DOKUMEN : 01-SMD-BJBVA-BJB37-1.3-0420

DOKUMEN SPESIFIKASI WEB SERVICE VIRTUAL ACCOUNT ONLINE BANK BJB

VERSI : **1.3**

Disiapkan oleh :

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**PT. Bank Pembangunan Daerah Jawa Barat dan Banten, Tbk.**Menara Bank BJB Jl. Naripan No. 12-14 Bandung 40111

2020

# HALAMAN RIWAYAT PERBAIKAN

|  |  |  |  |
| --- | --- | --- | --- |
| **VERSI** | **TANGGAL** | **AUTHOR** | **DESKRIPSI** |
| 1.0 | 17 Januari 2020 | Jamal Saepul Aziz | Dokumen Awal |
| 1.1 | 31 Januari 2020 | Jamal Saepul Aziz | Update Dokumen |
| 1.2 | 07 Februari 2020 | Reza Mutaqin | Update Dokumen |
| 1.3 | 14 April 2020 | Jamal Saepul Aziz | * CREATE BILLING:   + Mengubah va\_number pada request menjadi customer\_code   + Menambahkan va\_type   + Menambahkan kota\_kabupaten\_code   + Memperjelas deskripsi currency   + Menghapus paid\_amount dari response * INQUIRY BILLING:   + Menyamakan response dengan response CREATE BILLING   + Menambahkan unpaid\_amount dan remaining\_amount * Menambahkan spek callback |

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# AUTHENTICATION

## TOKEN REQUEST (POST /oauth/client/token)

Token Request need to be sent as Json Web Token (JWT) with Signature (JWS). For more information about JWT and JWS (including open source JWT libraries) please go to <https://jwt.io/>.

A JWT is composed of three parts: a header, a claim set, and a signature. The header and claim set are JSON objects. These JSON objects are serialized to UTF-8 bytes, then encoded using the Base64url encoding. This encoding provides resilience against encoding changes due to repeated encoding operations. The header, claim set, and signature are concatenated together with a period (.) character.

A JWT is composed as follows:

{Base64url encoded header}.{Base64url encoded claim set}.{Base64url encoded signature}

The base string for the signature is as follows:

{Base64url encoded header}.{Base64url encoded claim set}

and hashed by HMACSHA256 algorithm using client secret as a key.

Tabel 1. JSON JWT Header

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO** | **FIELD** | **REQUIRED** | **FORMAT** | **DESCRIPTION** |
| **1** | alg | M (Mandatory) | an | JWT Signature Algorithm.  Value: HS256 |
| **2** | typ | M | an | Type  Value: JWT |
| **3** | kid | M | an | Client ID, will be given by email when registering as BJB Virtual Account Online client. |

Tabel 2. JSON JWT Claims

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO** | **FIELD** | **REQUIRED** | **FORMAT** | **DESCRIPTION** |
| **1** | sub | M | an | Subject  Value: va-online |
| **2** | aud | M | an | Audience  Value: access-token |
| **3** | iat | M | n | IssuedAt  The time the request was issued, specified as seconds since 00:00:00 UTC, January 1, 1970. |
| **4** | exp | M | n | ExpiredAt  The expiration time of the request, specified as seconds since 00:00:00 UTC, January 1, 1970. This value has a maximum of 1 hour after the issued time. |

Tabel 3. JWT Signature

|  |  |  |
| --- | --- | --- |
| **Base Value** | **Hash Key** | **Hash Algorithm** |
| {Base64URL.encode(Jwt Header)}.{Base64URL.encode(Jwt Claims)} | Client secret ( given by email when registering as BJB Virtual Account Online client) | HMACSHA256 |
| **Example:**  JWT Header:  {  "alg": "HS256",  "typ": "JWT",  "kid": "MNIURSU4"  }  Base64URL encoded JWT Header:  eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCIsImtpZCI6Ik1OSVVSU1U0In0  JWT Claims:  {  "sub": "va-online",  "aud": "access-token",  "iat": 1580375822,  "exp": 1580375922  }  Base64URL encoded JWT Claims:  eyJzdWIiOiJ2YS1vbmxpbmUiLCJhdWQiOiJhY2Nlc3MtdG9rZW4iLCJpYXQiOjE1ODAzNzU4MjIsImV4cCI6MTU4MDM3NTkyMn0  Signature Base Value:  {**Base64URL encoded JWT Header**}.{**Base64URL encoded JWT Claims**}  eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCIsImtpZCI6Ik1OSVVSU1U0In0.eyJzdWIiOiJ2YS1vbmxpbmUiLCJhdWQiOiJhY2Nlc3MtdG9rZW4iLCJpYXQiOjE1ODAzNzU4MjIsImV4cCI6MTU4MDM3NTkyMn0  Base64URL encoded Hashed Signature (using client\_secret):  Us3hfIDPFXBarz6sq1cfbpbbv7YYABRbrE6R3xASK6I | | |

Tabel 4. Token Request (Send as POST Body Raw)

|  |
| --- |
| **Base Value** |
| {Base64URL.encode(Jwt Header)}.{Base64URL.encode(Jwt Claims)}.{Base64URL.encode(signature)} |
| **Example:**  Base64URL encoded JWT Header:  eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCIsImtpZCI6Ik1OSVVSU1U0In0  Base64URL encoded JWT Claims:  eyJzdWIiOiJ2YS1vbmxpbmUiLCJhdWQiOiJhY2Nlc3MtdG9rZW4iLCJpYXQiOjE1ODAzNzU4MjIsImV4cCI6MTU4MDM3NTkyMn0  Base64URL encoded Hashed Signature:  Us3hfIDPFXBarz6sq1cfbpbbv7YYABRbrE6R3xASK6I  Token Request Body:  eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCIsImtpZCI6Ik1OSVVSU1U0In0.eyJzdWIiOiJ2YS1vbmxpbmUiLCJhdWQiOiJhY2Nlc3MtdG9rZW4iLCJpYXQiOjE1ODAzNzU4MjIsImV4cCI6MTU4MDM3NTkyMn0.Us3hfIDPFXBarz6sq1cfbpbbv7YYABRbrE6R3xASK6I |

## TOKEN RESPONSE

Tabel 5. JSON Message Token Response

|  |  |  |  |
| --- | --- | --- | --- |
| **NO** | **FIELD** | **FORMAT** | **DESCRIPTION** |
| **1** | response\_code | n-4 | Response Code |
| **2** | response\_message | an | Response Message |
| **3** | data | ans | Access Token, expired in 1 hour after created |

# REST API (JSON MESSAGE)

## REQUEST HEADER

**Each request** must send following HTTP Headers

Tabel 6. HTTP Headers

|  |  |  |  |
| --- | --- | --- | --- |
| **NO** | **FIELD** | **FORMAT** | **DESCRIPTION** |
| **1** | Authorization | Bearer <access\_token> | Access Token from Token Request |
| **2** | BJB-Timestamp | n | The time the request was issued, specified as seconds since 00:00:00 UTC, January 1, 1970. |
| **3** | BJB-Signature | ans | Signature  HMACSHA256 Hash using client\_secret on combination of path, http method, token, timestamp, and body  **Example (for create billing):**  - path = /billing  - method = POST  - token = aZ-S\_D4jPtD5hCbsjwoj2AaXjbNpxqgq3F8U0mPkmuQ  - timestamp: 1580375822  - body = {“client\_id”: “1234”}  Base Signature:  path=/billing&method=POST&token=aZ-S\_D4jPtD5hCbsjwoj2AaXjbNpxqgq3F8U0mPkmuQ&timestamp=1580375822&body={“client\_id”: “1234”}  Signature (HMACSHA256 using client\_secret):  OC5Sxwnv56vymE-FW\_bn2zmx0Hwq7WG6QkeyI9UiL00 |

## CREATE BILLING REQUEST (POST /billing)

Tabel 7. JSON Message Create Billing Request

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO** | **FIELD** | **REQUIRED** | **FORMAT** | **DESCRIPTION** |
| **1** | cin | M | n | Customer Identification Number (CIN) in BJB  Length:  - VA Offline: 2 digit  - E-Commerce: 3 digit  - Edupay: 4 digit  - Pajak: 3 digit (use Kota/Kabupaten code)  - Rumah Sakit: 3 digit |
| **2** | client\_type | M | n-1 | Client Type Prefix:  0: VA Offline  1: Ecommerce  2: Edupay  3: Pajak 4: Rumah Sakit |
| **3** | product\_code | M | n-2 | Product Code |
| **4** | billing\_type | M | a-1 | Billing type :  o = open payment  f = fixed payment |
| **5** | va\_type | M | a-1 | Virtual account type:  m = manually created by using customer\_code  a = automatically generated by service  For Edupay and Rumah Sakit this field is ignored because it default to type ‘a’ |
| **6** | kota\_kabupaten\_code | C | n-3 | Kota/Kabupaten Code  Only for client\_type:  2: Edupay 4: Rumah Sakit |
| **7** | customer\_code | C | n | Customer Code for virtual number creation.  Length:  - VA Offline: 11 digit  - E-Commerce: 12 digit  - Edupay: 8 digit  - Pajak: do not send, will be generated by service  - Rumah Sakit: do not send, will be generated by service  This is mandatory if va\_type value is m (manual). If va\_type is a (automatic), this key is forbidden. |
| **8** | client\_refnum | M | an-45 | Reference Number for billing identification on the client side |
| **9** | amount | M | n-20 | Billing Amount |
| **10** | currency | M | n-3 | Bill amount currency in ISO 4217 numeric code.  Accepted values:  - 360 = Indonesian Rupiah  - 840 = US Dollar |
| **11** | expired\_date | M | yyyy-MM-dd HH:mm:ss | Billing Expiration Date |
| **12** | customer\_id | C | ans-45 | Customer ID. This is only mandatory for Edupay. |
| **13** | customer\_name | M | ans-255 | Customer Name |
| **14** | customer\_email | O (Optional) | ans-255 | Customer Email |
| **15** | customer\_phone | O | ans-20 | Customer Phone Number |
| **16** | description | O | ans-1000 | Billing Description |

## CREATE BILLING RESPONSE

Tabel 8. JSON Message Create Billing Response

|  |  |  |  |
| --- | --- | --- | --- |
| **NO** | **FIELD** | **FORMAT** | **DESCRIPTION** |
| **1** | cin | n | Customer Identification Number, same as request |
| **2** | client\_type | n-1 | Client type, same as request |
| **3** | product\_code | n-2 | Product Code, same as request |
| **4** | billing\_type | a-1 | Billing Type, same as request |
| **5** | va\_type | a-1 | VA Type, same as request |
| **7** | client\_refnum | an-45 | Client Reference Number, same as request |
| **8** | amount | n-20 | Billing Amount, same as request |
| **9** | currency | n-3 | Billing Currency, same as request or filled by system |
| **10** | expired\_date | yyyy-MM-dd HH:mm:ss | Billing Expiration Date, same as request |
| **11** | customer\_id | Ans-45 | Customer ID, same as request |
| **12** | customer\_name | ans-255 | Customer Name, same as request |
| **13** | status | n-1 | Billing Status :  0 = unpaid  1 = paid partially  2 = paid fully  3 = expired  4 = disabled |
| **14** | response\_code | n-4 | Response Code |
| **15** | response\_message | an | Response Message |

## INQUIRY BILLING REQUEST (GET /billing/<cin>/<va\_number>)

This request has no body

## INQUIRY BILLING RESPONSE

Tabel 9. JSON Message Inquiry Response

|  |  |  |  |
| --- | --- | --- | --- |
| **NO** | **FIELD** | **FORMAT** | **DESCRIPTION** |
| **1** | cin | n | Customer Identification Number |
| **2** | client\_type | n-1 | Client type |
| **3** | product\_code | n-2 | Product Code |
| **4** | billing\_type | a-1 | Billing Type |
| **5** | va\_type | a-1 | VA Type |
| **6** | va\_number | n-16 | VA Number |
| **7** | client\_refnum | an-45 | Client Reference Number |
| **8** | amount | n-20 | Billing Amount |
| **9** | currency | n-3 | Billing Currency |
| **10** | expired\_date | yyyy-MM-dd HH:mm:ss | Billing Expiration Date |
| **11** | customer\_id | Ans-45 | Customer ID |
| **12** | customer\_name | ans-255 | Customer Name |
| **13** | status | n-1 | Billing Status :  0 = unpaid  1 = paid partially  2 = paid fully  3 = expired  4 = disabled |
| **12** | paid\_amount | n-20 | Amount which has been paid by customer |
| **13** | remaining\_amount | n-20 | Remaining unpaid amount |
| **14** | transactions | Json array | List of transactions |
| **14.1** | transaction\_date | yyyy-MM-dd HH:mm:ss | Date of transaction |
| **14.2** | transaction\_amount | n-20 | Paid transaction amount |
| **14.3** | transaction\_currency | n-3 | Transaction amount currency in ISO 4217 format. |
| **15** | response\_code | n-4 | Response Code |
| **16** | response\_message | an | Response Message |  |

## UPDATE BILLING REQUEST (POST /billing/<cin>/<va\_number>)

Tabel 10. JSON Message Update Billing Request

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **NO** | **FIELD** | **REQUIRED** | **FORMAT** | **DESCRIPTION** |
| **1** | amount | M | n-20 | Billing Amount |
| **2** | currency | O | n-3 | Bill amount currency in ISO 4217 format. If this value is not set, it will be default to 360 (Indonesian Rupiah) |
| **3** | expired\_date | O | yyyyMMddhhmmss | Billing Expiration Date |
| **4** | customer\_id | O | ans-45 | Customer ID. This is only mandatory for Edupay. |
| **5** | customer\_name | M | ans-255 | Customer Name |
| **6** | customer\_email | O | ans-255 | Customer Email |
| **7** | customer\_phone | O | ans-20 | Customer Phone Number |
| **8** | description | O | ans-1000 | Billing Description |

## UPDATE BILLING RESPONSE

Tabel 11. JSON Message Update Billing Response

|  |  |  |  |
| --- | --- | --- | --- |
| **NO** | **FIELD** | **FORMAT** | **DESCRIPTION** |
| **1** | amount | n-20 | Billing Amount |
| **2** | currency | n-3 | Bill amount currency in ISO 4217 format. If this value is not set, it will be default to 360 (Indonesian Rupiah) |
| **3** | expired\_date | yyyy-MM-dd HH:mm:ss | Billing Expiration Date |
| **4** | customer\_id | ans-45 | Customer ID. This is only mandatory for Edupay. |
| **5** | customer\_name | ans-255 | Customer Name |
| **6** | customer\_email | ans-255 | Customer Email |
| **7** | customer\_phone | ans-20 | Customer Phone Number |
| **8** | description | ans-1000 | Billing Description |
| **9** | status | n-1 | Billing Status :  0 = unpaid  1 = paid partially  2 = paid fully  3 = expired  4 = disabled |
| **10** | response\_code | n-4 | Response Code |
| **11** | response\_message | an | Response Message |

## CALLBACK REQUEST (Send by BJB Service To Biller)

Tabel 12. JSON Message Callback Request

|  |  |  |  |
| --- | --- | --- | --- |
| **NO** | **FIELD** | **FORMAT** | **DESCRIPTION** |
| **1** | va\_number | n-16 | Virtual Account Number |
| **2** | client\_refnum | an-45 | Client Reference Number |
| **3** | transaction\_time | yyyy-MM-dd HH:mm:ss | Transaction Datetime |
| **4** | transaction\_amount | n-20 | Transaction Amount |
| **5** | unpaid\_amount | n-20 | Remaining unpaid amount from billing |
| **6** | status | n-1 | Billing Status :  1 = paid partially  2 = paid fully |

## CALLBACK RESPONSE (Send by Biller To BJB Service)

Tabel 13. JSON Message Callback Response

|  |  |  |  |
| --- | --- | --- | --- |
| **NO** | **FIELD** | **FORMAT** | **DESCRIPTION** |
| **1** | response\_code | n-4 | Response Code  0000 if biller process callback request successfully.  For non successful response, BJB will try to send callback again two more times. |
| **2** | response\_message | an | Response Message |