

# PIS API

PSD2 interface PIS de Volksbank

July 14 2020

## Colophon

| Label   | Data                                 |
|---------|--------------------------------------|
| Owner   | Service Centre KBS de Volksbank N.V. |
| Authors | ITC VO KWB Open Banking              |
| Status  | PIS BG final                         |
| Domain  | PSD2                                 |

## Version

| Version | Date       | Changes   |
|---------|------------|---|
| 1.0     | 2019-04-04 | Final version   |
| 1.1     | 2019-07-05 | Change log: <ul style="list-style-type: none"><li>- Added the <i>Get Transaction Status Request</i> endpoint;</li><li>- Updated request and response objects and headers (4).</li></ul>   |
| 1.2     | 2019-08-02 | Change log: <ul style="list-style-type: none"><li>- Added error information.</li></ul>  |
| 1.3     | 2019-09-12 | Change log: <ul style="list-style-type: none"><li>- Added information about Android problem in 2.4;</li><li>- Updated path parameters for refresh token call.</li></ul>   |
| 1.4     | 2019-11-21 | Change log: <ul style="list-style-type: none"><li>- Added information about agended payments;</li><li>- Added information about the <i>Cancel Payments</i> endpoint;</li><li>- Updated response headers payment initiation call.</li></ul>  |
| 1.5     | 2020-01-27 | Change log: <ul style="list-style-type: none"><li>- Changed authorization for the <i>Get Payment Status</i> endpoint and added information about the meaning of several payment statuses.</li></ul>   |
| 1.6     | 2020-04-29 | Change log: <ul style="list-style-type: none"><li>- Updated certificates paragraph.</li></ul>   |
| 1.7     | 2020-07-14 | Change log: <ul style="list-style-type: none"><li>- Added the <i>Get Payment</i> endpoint.</li><li>- Added <i>Initiate Payment</i> validations</li><li>- Added missing error messages</li><li>- Removed unnecessary redirect uri paragraph</li><li>- Changed redirect uri in example response to new redirect uri</li></ul> |

## References

| Version | Date          | Description                                     | Author                          | Reference                |
|---------|---------------|---|---------------------------------|--------------------------|
|         | October 2012  | The OAuth 2.0 Authorization Framework           | D. Hardt, Ed.                   | <a href="#">RFC 6749</a> |
|         |               | <a href="#">OAuth 2.0 Servers</a>               | Aaron Parecki                   |                          |
|         | 2014-07-21    | <a href="#">An Introduction to OAuth 2</a>      | Mitchell Anicas                 |                          |
|         | 2015-07-03-07 | OAuth 2.0 Token Introspection                   | J. Richer, Ed.                  | <a href="#">RFC 7662</a> |
| 1.1     | 2009-12-18    | Sepa Requirements For An Extended Character Set | European Payments Council (EPC) | EPC217-08                |

# TABLE OF CONTENTS

|          |   |           |
|----------|---|-----------|
| <b>1</b> | <b>INTRODUCTION</b>   | <b>6</b>  |
| <b>2</b> | <b>PAYMENT INITIATION SERVICES OFFERED BY DE VOLKSBANK</b>                                    | <b>7</b>  |
| 2.1      | CONDITIONS ON THE USE OF DE VOLKSBANK'S PAYMENT INITIATION SERVICES                           | 7         |
| 2.2      | CHARACTER SET   | 9         |
| 2.3      | DATA TYPES  | 9         |
| 2.4      | URLS  | 9         |
| <b>3</b> | <b>ACCESS</b>   | <b>11</b> |
| 3.1      | CERTIFICATES  | 11        |
| 3.2      | AUTHENTICATION BY OAUTH2  | 11        |
| 3.3      | AUTHORIZATION   | 11        |
| <b>4</b> | <b>THE APIS FOR SUBMITTING A PAYMENT REQUEST ON BEHALF OF A PSU</b>                           | <b>12</b> |
| 4.1      | PAYMENT INITIATION REQUEST: PISP REQUESTING PERMISSION TO SUBMIT A PAYMENT ON BEHALF OF A PSU | 12        |
| 4.1.1    | <i>Method and URL</i>   | 13        |
| 4.1.2    | <i>Path parameters</i>  | 13        |
| 4.1.3    | <i>Query parameters</i>   | 13        |
| 4.1.4    | <i>Request header</i>   | 14        |
| 4.1.5    | <i>Request body</i>   | 14        |
| 4.1.6    | <i>Examples payment initiation request</i>  | 17        |
| 4.1.7    | <i>Response code</i>  | 18        |
| 4.1.8    | <i>Response header</i>  | 18        |
| 4.1.9    | <i>Response body</i>  | 18        |
| 4.1.10   | <i>Example payment initiation response</i>  | 19        |
| 4.2      | AUTHORIZE REQUEST: PSU IS REQUESTED TO APPROVE THE EXECUTION OF THE PAYMENT                   | 19        |
| 4.2.1    | <i>Method and URL</i>   | 19        |
| 4.2.2    | <i>Path parameters</i>  | 19        |
| 4.2.3    | <i>Query parameters</i>   | 20        |
| 4.2.4    | <i>Request header</i>   | 20        |
| 4.2.5    | <i>Request body</i>   | 20        |
| 4.2.6    | <i>Example authorize request</i>  | 20        |
| 4.2.7    | <i>Response code</i>  | 20        |
| 4.2.8    | <i>Response header</i>  | 21        |
| 4.2.9    | <i>Response body</i>  | 21        |
| 4.2.10   | <i>Example authorize response</i>   | 21        |
| 4.3      | PSU APPROVING THE PAYMENT REQUEST   | 21        |
| 4.3.1    | <i>Response code</i>  | 21        |
| 4.3.2    | <i>Response parameters</i>  | 21        |
| 4.3.3    | <i>Example authorization response</i>   | 22        |
| 4.4      | ACCESS TOKEN REQUEST: PISP REQUESTING AN ACCESS TOKEN   | 22        |
| 4.4.1    | <i>Method and URL</i>   | 22        |
| 4.4.2    | <i>Path parameters</i>  | 22        |
| 4.4.3    | <i>Query parameters</i>   | 22        |
| 4.4.4    | <i>Request header</i>   | 22        |
| 4.4.5    | <i>Request body</i>   | 23        |

|        |   |    |
|--------|---|----|
| 4.4.6  | <i>Example token request</i>  | 23 |
| 4.4.7  | <i>Response code</i>  | 23 |
| 4.4.8  | <i>Response header</i>  | 23 |
| 4.4.9  | <i>Response body</i>  | 23 |
| 4.4.10 | <i>Example token response</i>   | 24 |
| 4.5    | NEW ACCESS TOKEN REQUEST: PISP REQUESTING A NEW ACCESS TOKEN  | 24 |
| 4.5.1  | <i>Method and URL</i>   | 24 |
| 4.5.2  | <i>Path parameters</i>  | 24 |
| 4.5.3  | <i>Query parameters</i>   | 24 |
| 4.5.4  | <i>Request header</i>   | 25 |
| 4.5.5  | <i>Request body</i>   | 25 |
| 4.5.6  | <i>Example token request</i>  | 25 |
| 4.5.7  | <i>Response code</i>  | 25 |
| 4.5.8  | <i>Response header</i>  | 26 |
| 4.5.9  | <i>Response body</i>  | 26 |
| 4.5.10 | <i>Example token response</i>   | 26 |
| 4.6    | GET TRANSACTION STATUS REQUEST FOR A ONE-TIME DIRECT OR AGENDED PAYMENT                                 | 26 |
| 4.6.1  | <i>Method and URL</i>   | 27 |
| 4.6.2  | <i>Path Parameters</i>  | 27 |
| 4.6.3  | <i>Query Parameters</i>   | 27 |
| 4.6.4  | <i>Request header</i>   | 27 |
| 4.6.5  | <i>Request body</i>   | 27 |
| 4.6.6  | <i>Example transaction status request</i>   | 27 |
| 4.6.7  | <i>Response code</i>  | 27 |
| 4.6.8  | <i>Response header</i>  | 28 |
| 4.6.9  | <i>Response body</i>  | 28 |
| 4.6.10 | <i>Example transaction status response</i>  | 29 |
| 4.7    | PAYMENT EXECUTION REQUEST   | 29 |
| 4.7.1  | <i>Method and URL</i>   | 29 |
| 4.7.2  | <i>Path parameters</i>  | 30 |
| 4.7.3  | <i>Query parameters</i>   | 30 |
| 4.7.4  | <i>Request header</i>   | 30 |
| 4.7.5  | <i>Request body</i>   | 31 |
| 4.7.6  | <i>Examples payment execution request</i>   | 31 |
| 4.7.7  | <i>Response code</i>  | 32 |
| 4.7.8  | <i>Response header</i>  | 32 |
| 4.7.9  | <i>Response body</i>  | 32 |
| 4.7.10 | <i>Example payment execution response</i>   | 32 |
| 4.8    | GET TRANSACTION STATUS REQUEST FOLLOWING A PAYMENT EXECUTION REQUEST FOR DEFERRED OR RECURRING PAYMENTS | 33 |
| 4.8.1  | <i>Method and URL</i>   | 33 |
| 4.8.2  | <i>Path Parameters</i>  | 33 |
| 4.8.3  | <i>Query Parameters</i>   | 33 |
| 4.8.4  | <i>Request header</i>   | 33 |
| 4.8.5  | <i>Request body</i>   | 33 |
| 4.8.6  | <i>Example transaction status request</i>   | 34 |
| 4.8.7  | <i>Response code</i>  | 34 |
| 4.8.8  | <i>Response header</i>  | 34 |
| 4.8.9  | <i>Response body</i>  | 34 |

|         |  |    |
|---------|--|----|
| 4.8.10  | <i>Example transaction status response</i> ..... | 34 |
| 4.9     | GET PAYMENT REQUEST .....                        | 35 |
| 4.9.1   | <i>Method and URL</i> .....                      | 35 |
| 4.9.2   | <i>Path parameters</i> .....                     | 35 |
| 4.9.3   | <i>Query parameters</i> .....                    | 35 |
| 4.9.5   | <i>Request body</i> .....                        | 36 |
| 4.9.6   | <i>Example get payment request</i> .....         | 36 |
| 4.9.7   | <i>Response code</i> .....                       | 36 |
| 4.9.8   | <i>Response header</i> .....                     | 36 |
| 4.9.9   | <i>Response body</i> .....                       | 36 |
| 4.9.10  | <i>Example get payment response</i> .....        | 38 |
| 4.10    | CANCEL PAYMENT REQUEST .....                     | 38 |
| 4.10.1  | <i>Method and URL</i> .....                      | 38 |
| 4.10.2  | <i>Path parameters</i> .....                     | 38 |
| 4.10.3  | <i>Query parameters</i> .....                    | 39 |
| 4.10.5  | <i>Request body</i> .....                        | 39 |
| 4.10.6  | <i>Example cancel payment request</i> .....      | 40 |
| 4.10.7  | <i>Response code</i> .....                       | 40 |
| 4.10.8  | <i>Response header</i> .....                     | 40 |
| 4.10.9  | <i>Response body</i> .....                       | 40 |
| 4.10.10 | <i>Example cancel payment response</i> .....     | 40 |
| 4.11    | ERROR HANDLING .....                             | 41 |
| 4.11.1  | <i>HTTP error codes</i> .....                    | 41 |
| 4.11.2  | <i>Additional error information</i> .....        | 41 |

## 1 Introduction

This document describes the PIS (Payment Initiation Service) interface offered by de Volksbank under PSD2. It explains the process of the consent a PSU (Payment Service User) must give to allow a TPP (Third Party Provider), in its role of PISP (Payment Initiation Service Provider), to submit a payment debiting the PSU's account.

It should be noted that this interface:

- complies with Berlin Group standards (NextGenPSD2 XS2A Framework Implementation Guidelines V1.3);
- supports the initiation of a single SEPA Credit Transfer (SCT).

The remainder of this document will be organized as follows:

- Chapter 2 describes the conditions de Volksbank applies to the use of its payment initiation services, the character set used for the payment information to be exchanged between the PISP and de Volksbank in its role of ASPSP, the datatypes defined for the individual pieces of information and the URLs to be used by the PISPs for the different brands of de Volksbank.
- Chapter 3 sheds some light on the requirements PISPs must meet to access the systems controlled by de Volksbank.
- Chapter 4 not only lays out the fine details of the Berlin Group payment initiation flow, but also describes some payment initiation services specific to de Volksbank.

## 2 Payment Initiation Services offered by de Volksbank

### 2.1 Conditions on the use of de Volksbank's payment initiation services

De Volksbank offers 4 payment services:

1. One-time direct payments. This payment service is referred to as *payments* by the Berlin Group (POST /v1/payments/{payment-product});
2. One-time agended payments. This payment service is referred to as *future dated payments* by the Berlin Group;
3. Deferred payments. In contrast to the Berlin Group requirements, the scheduling of deferred payments lies with the PISPs. With respect to the data structure and most of the process steps, the deferred payment of de Volksbank complies with the Berlin Group standard;
4. Recurring payments. In contrast to the Berlin Group requirements, the scheduling of recurring payments lies with the PISPs. With respect to the data structure and most of the process steps, the recurring payment of de Volksbank complies with the Berlin Group standard.

The following conditions apply to the usage of all of these payment initiation services:

1. The authorization code is valid for a duration of **10** minutes;
2. The access token is valid for a duration of **10** minutes;
3. The refresh token is valid for **90** days.

These services also have their own specific requirements which must be met by the PISP. They are listed below per specific payment service:

#### **One-time direct payments**

1. A one-time direct payment cannot be cancelled by neither the PISP nor the PSU;
2. A one-time direct payment never has an *endDate* in the request body;
3. A one-time direct payment cannot be re-submitted by the PISP with the same paymentId, even if the payment request cannot be processed by the ASPSP for technical reasons or because of insufficient balance.

#### **One-time agended payments**

1. A one-time agended payment can be cancelled by the PISP using the cancel payment endpoint;
2. A one-time agended payment never has an *endDate* in the request body; *endDate* is only used for deferred and recurring payments.
3. A one-time agended payment must have a *requestedExecutionDate* in the request body;
4. The ASPSP is responsible for the execution of the payment on the indicated date;

5. The PSU (customer) can withdraw the permission for the execution of the payment up to the date as recorded in the attribute *requestedExecutionDate* in the original payment request;
6. Withdrawal of the permission by the PSU can only be done in the online banking environment of the ASPSP.

### **Deferred payments**

1. The execution date for a deferred payment as recorded in the mandatory attribute *endDate* cannot be after 13 months counted from and including the month where the payment request was received by the ASPSP and replied to with the status *RCVD* (*RCVD* means *received*);
2. The PISP (not the ASPSP) is responsible for the submission of a deferred payment for execution;
3. The PSU (customer) can withdraw the permission for the execution of a deferred payment up to and including the date as recorded in the attribute *endDate* in the original payment request;
4. Withdrawal of the permission by the PSU can only be done in the online banking environment of the ASPSP;
5. The permission to execute a deferred payment expires automatically after the date as recorded in the attribute *endDate*;
6. The PISP can offer a deferred payment for execution before the date as recorded in the *endDate* in the original payment request;
7. A deferred payment can only be submitted once by the PISP with the same paymentId, even if the payment request cannot be processed by the ASPSP for technical reasons or because of insufficient balance.

### **Recurring payments**

1. A recurring payment can be delivered with the attribute *endDate* filled with a date, or without the attribute *endDate*. In the latter case we are dealing with an *infinite* or *perpetual* recurring payment;
2. In a series of recurring payments, the PISP (not the ASPSP) is responsible for submitting every individual payment for execution by the ASPSP;
3. A PISP can only submit one recurring payment for execution by the ASPSP per week, provided that the execution of the payment is successful;
4. If submission or execution of an individual payment in a series of recurring payments fails, the PISP is allowed to re-submit the payment for a period of 7 calendar days with a maximum of one attempt per calendar day;
5. The PSU is entitled to withdraw the permission for a series of recurring payments up to and including the date as recorded in the attribute *endDate* delivered in the original payment request;
6. The PSU is entitled to withdraw the permission for a series of recurring payments lacking an *endDate* at any moment;
7. Withdrawal of a permission can only be done in the online banking environment of the ASPSP;
8. The permission for the execution of a series of recurring payments expires automatically on the date as recorded in the attribute *endDate* delivered in the original payment request;



9. A PSU is allowed to view individual payments in a series of recurring payments, even if the permission has been withdrawn.

## 2.2 Character set

The used character set is the Latin character set of the UTF-8 character encoding standard. This is in accordance with the character set as defined by the European Payments Council (EPC) Implementation Guidelines (EPC217-08). This character set is defined below:

```
abcdefghijklmnopqrstuvwxyz  
ABCDEFGHIJKLMNOPQRSTUVWXYZ  
0123456789  
/ - ? : ( ) . , ' +  
Space
```

## 2.3 Data types

The APIs as defined by de Volksbank consume and produce JSON (Java Script Object Notation) structures. JSON accepts the following data types:

1. A string;
2. A number;
3. An object (JSON object);
4. An array;
5. A boolean.

## 2.4 URLs

De Volksbank supports PSD2 APIs for three different brands: ASN Bank, RegioBank and SNS. There is one specific URL per brand.

- URL to start the PSU's SCA and approval process:
  - for TPPs in the role of PISP to start the approval process for the PSU, use:  
**psd.bancairediensten.nl/psd2/asnbank/v1/authorize**  
**psd.bancairediensten.nl/psd2/regiobank/v1/authorize**  
**psd.bancairediensten.nl/psd2/snsbank/v1/authorize**
  - for TPPs in the role of PISP to redeem a one-off authorization code or a recurring refresh token for an access token, use:  
**psd.bancairediensten.nl/psd2/asnbank/v1/token**  
**psd.bancairediensten.nl/psd2/regiobank/v1/token**  
**psd.bancairediensten.nl/psd2/snsbank/v1/token**

**Attention:**Known Android problem

On some android phones it is possible that the customer is requested to install a certificate for the authorize request. This is a reaction from the browser to the possibility to use a client certificate on our standard HTTPS port 443. If the authorize request is send from a server then the standard TLS connection takes care of this issue, but the browser does not. If the request is initiated from the browser of the customer, you have to use port 10443 for the authorize requests only, to avoid the client certificate question.

With respect to the data types, de Volksbank adheres closely to the datatypes and formats used in pain messages as defined by the ISO 20022 norm and adopted by the EPC for SEPA payments. This means that for alpha-numerical, decimal and date fields the datatype **string** with some additional formatting will be used:

| Datatype | Length/Format            | Description   |
|----------|--------------------------|---|
| String   | Maxtext34                | Maximum length of the alpha-numerical string is 34  |
|          | Maxtext35                | Maximum length of the alpha-numerical string is 35  |
|          | Maxtext70                | Maximum length of the alpha-numerical string is 70  |
|          | Maxtext140               | Maximum length of the alpha-numerical string is 140   |
|          | ISO 8601 date format     | Dates are of the data type string, but must comply with the ISO 8601 <u>date</u> format. This implies that dates have the following format: <b>YYYY-MM-DD</b> .   |
|          | ISO 8601 datetime format | Dates are of the data type string, but must comply with the ISO 8601 <u>datetime</u> format.  |
|          | Decimal format           | Amount fields are of the data type <i>string</i> , but have the format of a <i>decimal</i> where the following format requirements hold: <ol style="list-style-type: none"> <li>1. The number of fractional digits must comply with the ISO 4217 minor unit of currency (for instance, the number of fractional digits for the currency EUR is 2);</li> <li>2. The digits denoting integers and the digits denoting fractions are separated by a <b>dot</b>.</li> </ol> |
| Number   | Integer format           | Number is an integer starting at 0, 1, 2, ...   |

## 3 Access

The PISP can only use the PSD2 APIs as authorized by de Volksbank. The PISP must be registered with the Competent Authority with a license to perform payment initiation services (refer to payment service 7 as described in Annex of the Payment Services Directive (2015/2366)), PISPs that wish to use the PSD2 APIs of de Volksbank are required to go through an onboarding process. Part of this onboarding process is the exchange of a so-called **client\_id**, **client\_secret** and **redirect\_uri**. The **redirect\_uri** is needed to return the response to the payment initiation request, the subsequent authorization request and token exchange request to the appropriate address of the PISP.

### 3.1 Certificates

The connections between the TPP and de Volksbank endpoints are secured by a mutual TLS authentication, as required by the PSD2 regulations. This means that the TLS connection can only be established including client (i.e. TPP) authentication. For this authentication the TPP has to use a qualified certificate for website authentication. This qualified certificate has to be issued by a qualified trusted service provider (QTSP) according to the eIDAS regulation [eIDAS].

The content of the certificate has to be compliant with the requirements as specified in article 34 of the EBA Regulatory Technical Standards on Strong Customer Authentication and common and secure communication under article 98 of Directive 2015/2366 (PSD2).

### 3.2 Authentication by OAuth2

De Volksbank has chosen the OAuth2 authentication method for its PSD2 interface, an authentication method that does not require users to share their bank passwords with third-party apps. More details on the OAuth2 authentication method can be found in the [standard OAuth2 flows](#) or in one of the many tutorials on the internet.

### 3.3 Authorization

De Volksbank is using the so-called *authorization code* grant flow. The authorization code grant type is used to obtain both access tokens and refresh tokens and is optimized for confidential clients.

The ASPSP (the PSU's bank) delivers an authorization code to the TPP on behalf of the customer. The code is issued only once by the ASPSP and is needed for using the PSD2 functions. Next, the TPP will exchange the authorization code for an access and refresh token. The access token can subsequently be used in each PSD2 API service, but only once.

## 4 The APIs for submitting a payment request on behalf of a PSU

The PISPs must<sup>1</sup> use the following APIs for initiating and executing a payment request:

1. Payment initiation request with JSON encoding (JSON means Java Script Object Notation);
- 2 and 3. Authorization request and approval of the PSU;
4. Access token request: access token and refresh token based on an authorization code;
5. New access token request: new access and refresh tokens based on a refresh token;
6. Get transaction status request for **one-time direct** and **one-time agended payments**;
7. Payment execution request with JSON for **deferred** and **recurring payments**;
8. Get transaction status request for **deferred** and **recurring payments**;
9. Get payment request to retrieve the payment details for all authorized payment types, including the debtor account and the name of the holder(s) of this account;
10. Cancel payment request for **one-time agended payments**.

Please note that endpoints 7 (payment execution request for deferred/recurring payments) and 9 (get payment details for all payment types) are published in our Developer Portal as one API Swagger file, named "<Brand name> Manage Payments Services".

The API endpoints usually consist of the following elements:

1. Method and URL;
2. Path parameters;
3. Query parameters;
4. Request header;
5. Request body;
6. Response code;
7. Response header;
8. Response body.

For every individual endpoint de Volksbank offers, we will point out which of these elements they have and explain them in depth.

### 4.1 Payment initiation request: PISP requesting permission to submit a payment on behalf of a PSU

By issuing a payment initiation request, the PISP seeks permission from an ASPSP to submit a payment debiting the account a PSU is holding with the addressed ASPSP on behalf of that PSU.

In the sub-sections to come, we will discuss at length the parts which make up the payment initiation endpoint.

---

<sup>1</sup> The APIs 6, 8 and 9 are optional: a PISP can use these APIs to get information about the status of an executed payment or to cancel an agended payment.

#### 4.1.1 Method and URL

| Method | URL  | Description  |
|--------|--|--|
| POST   | https://psd.bancairediensten.nl/psd2/[snsbank asnbank regiobank]/v1/payments/{payment-product}           | Payment initiation endpoint for <b>one-time direct payments</b> and <b>one-time agended payments</b> as defined by the Berlin Group in the implementation guide version 1.3.                   |
| POST   | https://psd.bancairediensten.nl/psd2/[snsbank asnbank regiobank]/v1/deferred-payments/{payment-product}  | Volksbank-specific payment initiation endpoint for <b>deferred payments</b> with a make-up conform to the structure as laid down by the Berlin Group in the implementation guide version 1.3.  |
| POST   | https://psd.bancairediensten.nl/psd2/[snsbank asnbank regiobank]/v1/recurring-payments/{payment-product} | Volksbank-specific payment initiation endpoint for <b>recurring payments</b> with a make-up conform to the structure as laid down by the Berlin Group in the implementation guide version 1.3. |

#### 4.1.2 Path parameters

| Attribute       | Type   | Mandatory | Description  |
|-----------------|--------|-----------|--|
| payment-product | String | Y         | <p>The attribute refers to the payment product associated with the credit transfer payment method.</p> <p>The Berlin Group distinguishes the following payment products:</p> <ol style="list-style-type: none"> <li>1. sepa-credit-transfers;</li> <li>2. instant-sepa-credit-transfers;</li> <li>3. target-2-payments;</li> <li>4. cross-border-credit-transfers.</li> </ol> <p>It is up to the ASPSP to decide which of these payment products it supports. At the moment, de Volksbank only supports the following product:</p> <ol style="list-style-type: none"> <li>1. sepa-credit-transfers.<sup>2</sup></li> </ol> |

#### 4.1.3 Query parameters

The payment initiation endpoint does not have any query parameters.

<sup>2</sup> De Volksbank processes sepa-credit-transfers instantly, provided that the bank of the creditor is reachable for instant payments. So, there is no difference in the settlement of these payments with the processing via our PSU interfaces.

#### 4.1.4 Request header

| Attribute      | Type   | Mandatory | Description   |
|----------------|--------|-----------|---|
| Content-Type   | String | Y         | Attribute invariably filled with the value " <i>application/json</i> ".   |
| X-Request-ID   | String | Y         | Attribute filled with the ID of the request, unique to the call, as determined by the initiating party (the PISP).  |
| Authorization  | String | Y         | Attribute consists of <i>client_id</i> : identification of the PISP as registered with de Volksbank.  |
| PSU-IP-Address | String | Y         | Attribute filled with the IP-address of the PSU as recorded in the HTTP request from the PSU to the PISP.<br><br>If the PSU has not sent its IP-address to the PISP, the PISP has to send its own IP-address. |

#### 4.1.5 Request body

| Attribute              | Type                     | Mandatory | Description   |
|------------------------|--------------------------|-----------|---|
| endToEndIdentification | String                   | N         | Attribute filled with the unique identification of the payment request as provided by the PISP.<br>Max35Text.   |
| debtorAccount          | Account Reference Object | N         | iban:<br>Attribute <i>iban</i> is part of the object <i>Account Reference</i> as defined by the Berlin Group.<br>ISO 20022 pattern: [A-Z]{2,2}[0-9]{2,2}[a-zA-Z0-9]{1,30}.<br><br>currency:<br>Attribute <i>currency</i> is part of the object <i>Account Reference</i> as defined by the Berlin Group.<br>ISO 4217 Alpha 3 currency code. Should be EUR.   |
| iban                   | String                   | N         |   |
| currency               | String                   | N         |   |
| instructedAmount       | Amount Object            | Y         | currency:<br>Attribute <i>currency</i> is part of the object <i>Amount</i> as defined by the Berlin Group. Should be EUR.<br>ISO 4217 Alpha 3 currency code.<br><br>amount:<br>Attribute <i>amount</i> is part of the object <i>Amount</i> as defined by the Berlin Group.<br>The amount is given with fractional digits, if needed. The decimal separator is a dot (.). The number of fractional digits (or minor unit of currency) must comply with ISO 4217. |
| currency               | String                   | Y         |   |
| amount                 | String                   | Y         |   |

| Attribute                         | Type                     | Mandatory | Description   |
|-----------------------------------|--------------------------|-----------|---|
| creditorAccount                   | Account Reference Object | Y         | iban:<br>Attribute <i>iban</i> is part of the object <i>Account Reference</i> as defined by the Berlin Group.<br>ISO 20022 pattern: [A-Z]{2,2}[0-9]{2,2}[a-zA-Z0-9]{1,30}.  |
| iban                              | String                   | Y         | currency:<br>Attribute <i>currency</i> is part of the object <i>Account Reference</i> as defined by the Berlin Group.<br>ISO 4217 Alpha 3 currency code.  |
| currency                          | String                   | N         |   |
| creditorAgent                     | String                   | N         | Attribute filled with a BIC.<br>ISO 20022 definition BIC: [A-Z]{6,6}[A-Z2-9][A-NP-Z0-9]([A-Z0-9]{3,3}){0,1}.  |
| creditorName                      | String                   | Y         | Party to which an amount of money is due.<br>Max70Text.   |
| ultimateCreditor                  | String                   | N         | Ultimate party to which an amount of money is due.<br>Max70Text.<br><br>This attribute is optional. Nevertheless it is highly recommended to provide this information in case the TPP is acting as Collecting Service Provider. The TPP is temporarily in the possession of the collected funds (after the initiated payment is executed and settled) and transfers the collected funds from his “escrow” creditor account to the ultimate receiver/creditor account. |
| ultimateCreditorId                | String                   | N         | The attribute <i>ultimateCreditorId</i> is de Volksbank-specific attribute <i>ultimate_receiver_id</i> .<br>The attribute <i>ultimateCreditorId</i> is not on the list of attributes as defined by the Berlin Group.<br>Max35Text.<br><br>This attribute is optional. Nevertheless it is highly recommended to provide this information in case the TPP is acting as Collecting Service Provider.   |
| remittanceInformationUnstructured | String                   | N         | Max140Text.   |
| remittanceInformationStructured   | String                   | N         | Remittance information according to the list of Currence (“CUR”) or ISO-20022 (“ISO”).<br><br>Max35Text.  |

| Attribute              | Type   | Mandatory | Description   |
|------------------------|--------|-----------|---|
| issuerSRI              | String | N         | <p>The attribute <i>issuerSRI</i> is a Volksbank-specific attribute required whenever the attribute <i>remittanceInformationStructured</i> is used.</p> <p>The attribute <i>issuerSRI</i> is not on the list of attributes as defined by the Berlin Group. It can, for instance, have the following values:</p> <ul style="list-style-type: none"> <li>• CUR;</li> <li>• ISO.</li> </ul> <p>Max35Text.</p>  |
| endDate                | String | N         | <p>The attribute <i>endDate</i> is <u>not</u> allowed with payments of the payment service <b>one-time direct</b> and <b>one-time agended payments</b>.</p> <p>The attribute <i>endDate</i> is <u>mandatory</u> for payments of the payment service <b>deferred payments</b>. The <i>endDate</i> marks the ultimate date on which the PISP can submit a payment for execution by the ASPSP. For deferred payments, the <i>endDate</i> should not be more than 13 months in the future.</p> <p>The attribute <i>endDate</i> is <u>optional</u> for payments of the payment service <b>recurring payments</b>, because de Volksbank also allows for recurring payments with no end date, the so-called infinite or perpetual recurring payments.</p> <p>If the <i>endDate</i> is filled, it is the last date where the PISP can submit a payment in a series of payments for execution by the ASPSP.</p> <p>Attribute <i>endDate</i> has the ISO 8601 Date format (YYYY-MM-DD).</p> |
| requestedExecutionDate | String | N         | <p>The attribute <i>requestedExecutionDate</i> is <u>not</u> allowed with payments of the payment service <b>deferred</b> and <b>recurring payments</b>.</p> <p>The attribute <i>requestedEndDate</i> is <u>mandatory</u> for <b>one-time agended payments</b>.</p> <p>Attribute <i>requestedEndDate</i> has the ISO 8601 Date format (YYYY-MM-DD).</p> <p>The date <u>cannot</u> be in the past or more than 10 years in the future. If the date is today's date, the payment will be executed as a <b>one-time direct payment</b>; for a date in the future the ASPSP will execute the payment on that date.</p>  |



#### 4.1.6 Examples payment initiation request

The payment initiation request is illustrated below. We give two examples: one with a filled attribute *remittanceInformationStructured* and one with a filled attribute *remittanceInformationUnstructured*. Both attributes are mutually exclusive in accordance with the EPC rule stating that “*Either ‘Structured’ or ‘Unstructured’ may be present*”.

```
POST https://psd.bancairediensten.nl/psd2/snsbank/v1/deferred-payments/sepa-credit-transfers
Content-Type: application/json
X-Request-ID: 99391c7e-ad88-49ec-a2ad-99ddcb1f7721
Authorization: 172b095e702f4042e881384c746532defe
PSU-IP-Address: 192.168.8.78
{
  "endToEndIdentification": "ID234567",
  "debtorAccount": {"iban": "NL64MAART0948305290", "currency": "EUR"},
  "instructedAmount": {"currency": "EUR", "amount": "123.50"},
  "creditorAccount": {"iban": "NL55WIND0000012345", "currency": "EUR"},
  "creditorAgent": "WINDNL2A",
  "creditorName": "Adyen",
  "ultimateCreditor": "Krentebol dot com",
  "ultimateCreditorId": "1234",
  "remittanceInformationStructured": "1234 5678 9012 3456",
  "issuerSRI": "CUR",
  "endDate": "2099-01-01"
}
```

```
POST https://psd.bancairediensten.nl/psd2/snsbank/v1/deferred-payments/sepa-credit-transfers
Content-Type: application/json
X-Request-ID: 99391c7e-ad88-49ec-a2ad-99ddcb1f7721
Authorization: 172b095e702f4042e881384c746532defe
PSU-IP-Address: 192.168.8.78
{
  "endToEndIdentification": "ID234567",
  "debtorAccount": {"iban": "NL64MAART0948305290", "currency": "EUR"},
  "instructedAmount": {"currency": "EUR", "amount": "123.50"},
  "creditorAccount": {"iban": "NL55WIND0000012345", "currency": "EUR"},
  "creditorAgent": "WINDNL2A",
```

```

"creditorName": "Adyen",
"ultimateCreditor": "Krentebol dot com",
"ultimateCreditorId": "1234",
"remittanceInformationUnstructured": "payment for 11 currant buns",
"endDate": "2099-01-01"
}

```

#### 4.1.7 Response code

| Code | Description |
|------|-------------|
| 201  | Created     |

#### 4.1.8 Response header

| Attribute          | Type   | Mandatory | Description  |
|--------------------|--------|-----------|--|
| Content-Type       | String | Y         | Attribute invariably filled with the value <i>"application/json"</i> .   |
| Location           | String | Y         | Attribute contains the location of the created resource.   |
| X-Request-ID       | String | Y         | Attribute filled with the ID of the request, unique to the call, as determined by the initiating party (the PISP). |
| ASPSP-SCA-Approach | String | Y         | Attribute invariably filled with the value <i>"REDIRECT"</i> .   |

#### 4.1.9 Response body

| Attribute         | Type   | Mandatory | Description   |
|-------------------|--------|-----------|---|
| transactionStatus | String | Y         | Value of the attribute is conform with the ISO 20022 <b>ExternalPaymentTransactionStatus1Code</b> list.<br><br>Enumeration:<br>RCVD ( <i>RCVD</i> means received).  |
| paymentId         | String | Y         | Max16Text.<br><br><b>N.B.:</b> <ul style="list-style-type: none"> <li>▪ relationship paymentId - one time direct or agended payment is 1:1;</li> <li>▪ relationship paymentId - deferred payment is 1:1;</li> <li>▪ relationship paymentId – recurring payment is 1:n.</li> </ul> <p>This means that the paymentId cannot be used as correlation id for individual transactions in a series of payments of the type recurring-payments.</p> |
| _links            | Links  | Y         | <b>Remark:</b> All links can be relative or full links. The choice to be made is up to the discretion of the ASPSP.<br><br><b>"scaOAuth":</b> In case of a SCA OAuth2 Approach, the ASPSP is transmitting the URI where the configuration of the Authorisation Server can be retrieved. The configuration follows the OAuth 2.0 Authorisation Server Metadata specification.  |

| Attribute | Type | Mandatory | Description  |
|-----------|------|-----------|--|
|           |      |           | "status": the link to retrieve the transaction status of the payment initiation. |

#### 4.1.10 Example payment initiation response

The payment initiation response is illustrated below:

```
HTTP/1.x 201 Created
Content-Type:      application/json
Location:
https://psd.bancairediensten.nl/psd2/snsbank/v1/payments/SNS0123456789012
X-Request-ID:     99391c7e-ad88-49ec-a2ad-99ddcb1f7756
ASPSP-SCA-Approach: REDIRECT
{
  "transactionStatus": "RCVD",
  "paymentId": "SNS0123456789012",
  "_links": {
    "scaOAuth": {"href": "https://www.devolksbank.com/authorize"},
    "status": {"href": "/v1/payments/SNS0123456789012/status"}
  }
}
```

## 4.2 Authorize request: PSU is requested to approve the execution of the payment

The PISP issues a request with the purpose to receive a URL which re-directs the PSU to the local bank environment in order to allow the PSU to authorize its bank, the ASPSP, to execute the payment submitted by the PISP.

In the next sub-sections, we will take a closer look at the elements which constitute the authorization endpoint.

### 4.2.1 Method and URL

| Method | URL  | Description  |
|--------|--|--|
| GET    | https://psd.bancairediensten.nl/psd2/[snsbank asnbank regiobank]/v1/authorize? | Authorization endpoint as defined by de Volksbank. |

### 4.2.2 Path parameters

The authorization endpoint does not have any path parameters.

### 4.2.3 Query parameters

| Attribute     | Type   | Mandatory | Description   |
|---------------|--------|-----------|---|
| response_type | String | Y         | Attribute invariably filled with the value "code".  |
| scope         | String | Y         | Attribute specifies the level of access that the application is requesting.<br>Invariably filled with the value "PIS".  |
| state         | String | Y         | Attribute contains the unique identification of the request issued by the PISP.<br><br>The Berlin Group calls this attribute <i>X-Request-ID</i> .  |
| paymentId     | String | Y         | Attribute hosts the unique identification assigned by the ASPSP to the payment, when the initiation request was sent in by the PISP.  |
| redirect_uri  | url    | Y         | Attribute filled with the value where the service redirects the user-agent to after granting the authorization code.<br><br>No wildcards can be used in the callback URL.<br><br>De Volksbank validates the exact callback URL. |
| client_id     | String | Y         | Attribute filled with the value of the client_id  |

### 4.2.4 Request header

| Attribute     | Type   | Mandatory | Description  |
|---------------|--------|-----------|--|
| Content-Type  | String | Y         | Attribute invariably filled with the value "application/x-www-form-urlencoded".                      |
| Authorization | String | Y         | Attribute consists of <i>client_id</i> : identification of the PISP as registered with de Volksbank. |

### 4.2.5 Request body

The authorize endpoint does not have a request body.

### 4.2.6 Example authorize request

The authorize request is illustrated below:

```
GET
https://psd.bancairediensten.nl/psd2/snsbank/v1/authorize?response_type=c
ode&scope=PIS&state=111111&paymentId=SNS0000123456789redirect_uri=https:/
/thirdparty.com/callback&client_id=<client_id>
Content-Type: application/x-www-form-urlencoded
Authorization: 172b095e702f4042e881384c746532defe
```

### 4.2.7 Response code

| Code | Description |
|------|-------------|
| 302  | Redirect    |

#### 4.2.8 Response header

| Attribute    | Type   | Mandatory | Description   |
|--------------|--------|-----------|---|
| location     | String | Y         | This attribute contains: <ol style="list-style-type: none"><li>1. The URL leading to the login page of the ASPSP;</li><li>2. Session data stored in a JWT object (JWT stands for <i>JSON WebToken</i>).</li></ol> |
| Content-Type | String | Y         | Attribute invariably filled with the value "text/plain".  |

#### 4.2.9 Response body

The authorize endpoint does not have a response body.

#### 4.2.10 Example authorize response

The authorize response is illustrated below:

```
HTTP/1.x 302
location:
https://diensten.snsbank.nl/online/toegangderden/#/login?action=display&sessionID=<sessionID>&sessionData=<sessionData>
Content-Type: text/plain
```

### 4.3 PSU approving the payment request

PSUs clicking on the link leading them to the ASPSP will log on to the service to authenticate their identity. Next, the PSU approves the PISP's request to execute the payment. In case of success, the service returns an authorization code and redirects the user-agent to the application defined by the redirect URI.

The PSU's authentication and the PSU's approval are processes internal to de Volksbank, which we will not describe here. The return of the authorization code, though, that we will discuss below.

#### 4.3.1 Response code

| Code | Description |
|------|-------------|
| 302  | Redirect    |

#### 4.3.2 Response parameters

| Attribute | Type   | Mandatory | Description   |
|-----------|--------|-----------|---|
| code      | String | Y         | Attribute filled with the authorization code needed to obtain an access and a refresh token. This code can only be used once and exchanged within a configurable time window (currently set to 10 minutes). |
| state     | String | Y         | Attribute filled with the value which the PISP has delivered in the attribute <b>state</b> in the Authorize request.  |

The authorization code is then passed on to the PISP via the re-direct URL the PSU has to its disposition.

### 4.3.3 Example authorization response

The authorization response is illustrated below:

```
HTTP/1.x 302
https://fintechapplication/redirect?code=869af7df-4ea4-46cf-8bed-3de27624b29e&state=12345
```

## 4.4 Access token request: PISP requesting an access token

The access token and the refresh token are provided on the basis of the authorization code. The PISP requests an access token from the API by passing the authorization code along with authentication details, including the client secret, to the API token endpoint.

### 4.4.1 Method and URL

| Method | URL  | Description                                |
|--------|--|--|
| POST   | https://psd.bancairediensten.nl/psd2/[snsbank asnbank regiobank]/v1/token? | Token endpoint as defined by de Volksbank. |

### 4.4.2 Path parameters

The token endpoint does not have any path parameters.

### 4.4.3 Query parameters

| Attribute    | Type   | Mandatory | Description  |
|--------------|--------|-----------|--|
| grant_type   | String | Y         | Attribute invariably filled with the fixed value "authorization_code"; defines the OAuth2 flow.  |
| code         | String | Y         | Authorization code needed to obtain an access and a refresh token.   |
| redirect_uri | String | Y         | The service redirects the user-agent to the application redirect URI.<br>No wildcards can be used in the callback URL.<br>De Volksbank validates the exact callback URL. |

### 4.4.4 Request header

| Attribute    | Type   | Mandatory | Description  |
|--------------|--------|-----------|--|
| Content-Type | String | Y         | Attribute invariably filled with the value "application/x-www-form-urlencoded".                                    |
| X-Request-ID | String | Y         | Attribute filled with the ID of the request, unique to the call, as determined by the initiating party (the PISP). |

| Attribute     | Type   | Mandatory | Description  |
|---------------|--------|-----------|--|
| Authorization | String | Y         | <p>Consist of <i>client_id</i> and <i>client_secret</i> separated by a colon (:) in a <b>base64</b> encoded string.</p> <ul style="list-style-type: none"> <li>– Format: Basic base64 (&lt;client_id&gt;:&lt;client_secret&gt;);</li> <li>– client_id: Identification of the PISP as registered with de Volksbank;</li> <li>– client_secret: secret agreed between the PISP and de Volksbank.</li> </ul> |

#### 4.4.5 Request body

The token endpoint does not have a request body.

#### 4.4.6 Example token request

The token request is illustrated below:

```
POST
https://psd.bancairediensten.nl/psd2/snsbank/v1/token?grant_type=authorization_code&code=<AUTHORIZATION_CODE>&redirect_uri=https://thirdparty.com/callback
Content-Type: application/x-www-form-urlencoded
X-Request-ID: fdb9757d-8f27-4f9e-9be0-0eadacc89012
Authorization: Basic base64(<client_id>:<client_secret>)
```

#### 4.4.7 Response code

If the authorization is valid, the ASPSP will return a response containing the access token (and optionally, a refresh token) to the application. The response will look like this:

| Code | Description |
|------|-------------|
| 200  | Ok          |

#### 4.4.8 Response header

| Attribute    | Type   | Mandatory | Description   |
|--------------|--------|-----------|---|
| Content-Type | String | Y         | Attribute invariably filled with the value " <i>application/json</i> ". |

#### 4.4.9 Response body

| Attribute     | Type   | Mandatory | Description  |
|---------------|--------|-----------|--|
| access_token  | String | Y         | Attribute filled with the access token needed to call the PSD2 interface, in this case PIS.  |
| token_type    | String | Y         | Attribute invariably filled with the fixed value " <i>Bearer</i> ".  |
| expires_in    | Number | Y         | Attribute filled with the lifetime in seconds of the access token.   |
| refresh_token | String | Y         | Value in the attribute can be used to obtain a new access token using the same authorization grant in the situation where the current token has expired. |

|       |        |   |   |
|-------|--------|---|---|
| scope | String | Y | Attribute filled with the scope of the access token. In this context "PIS". |
|-------|--------|---|---|

#### 4.4.10 Example token response

The token response is illustrated below:

```
HTTP/1.x 200 OK
Content-Type: application/json
{
  "access_token": "<ACCESS_TOKEN>",
  "token_type": "Bearer",
  "expires_in": 600,
  "refresh_token": "<REFRESH_TOKEN>",
  "scope": "PIS"
}
```

At this point, the PISP has been authorized. It is allowed to use the token until the token expires or is revoked. A refresh token may be used to request new access tokens, if the original token has expired.

### 4.5 New access token request: PISP requesting a new access token

When the original token has expired, the PISP can request a new access token. A PISP using an expired token in a payment status information request will receive an "Invalid Token Error" response. When this happens, the refresh token can be used to request a fresh access token from the authorization server. The authorization server issues a new refresh token, in which case the client must dispose of the old refresh token and replace it with the new refresh token.

#### 4.5.1 Method and URL

| Method | URL  | Description                                |
|--------|--|--|
| POST   | https://psd.bancairediensten.nl/psd2/[snsbank asnbank regiobank]/v1/token? | Token endpoint as defined by de Volksbank. |

#### 4.5.2 Path parameters

The token endpoint does not have any path parameters.

#### 4.5.3 Query parameters

| Attribute     | Type   | Mandatory | Description   |
|---------------|--------|-----------|---|
| grant_type    | String | Y         | Attribute invariably filled with the fixed value "refresh_code"; defines the OAuth2 flow. |
| refresh_token | String | Y         | Refresh token code needed to obtain an access and a refresh token.                        |



| Attribute    | Type   | Mandatory | Description  |
|--------------|--------|-----------|--|
| redirect_uri | String | Y         | The service redirects the user-agent to the application redirect URI.<br>No wildcards can be used in the callback URL.<br>De Volksbank validates the exact callback URL. |

#### 4.5.4 Request header

| Attribute     | Type   | Mandatory | Description   |
|---------------|--------|-----------|---|
| Content-Type  | String | Y         | Attribute invariably filled with the value " <i>application/x-www-form-urlencoded</i> ".  |
| X-Request-ID  | String | Y         | Attribute filled with the ID of the request, unique to the call, as determined by the initiating party (the PISP).  |
| Authorization | String | Y         | Consist of <i>client_id</i> and <i>client_secret</i> separated by a colon (:) in a <b>base64</b> encoded string. <ul style="list-style-type: none"> <li>– Format: Basic base64 (&lt;client_id&gt;:&lt;client_secret&gt;);</li> <li>– client_id: Identification of the PISP as registered with de Volksbank;</li> <li>– client_secret: secret agreed between the PISP and de Volksbank.</li> </ul> |

#### 4.5.5 Request body

The token endpoint does not have a request body.

#### 4.5.6 Example token request

The token request is illustrated below:

```
POST
https://psd.bancairediensten.nl/psd2/snsbank/v1/token?grant_type=refresh_token&refresh_token=<REFRESH_TOKEN>&redirect_uri=https://thirdparty.com/callback
Content-Type: application/x-www-form-urlencoded
X-Request-ID: fdb9757d-8f27-4f9e-9be0-0eadacc89012
Authorization: Basic base64(<client_id>:<client_secret>)
```

#### 4.5.7 Response code

If the authorization is valid, the ASPSP will return a response containing the access token (and optionally, a refresh token) to the application. The response will look like this:

| Code | Description |
|------|-------------|
| 200  | Ok          |

#### 4.5.8 Response header

| Attribute    | Type   | Mandatory | Description  |
|--------------|--------|-----------|--|
| Content-Type | String | Y         | Attribute invariably filled with the value "application/json". |

#### 4.5.9 Response body

| Attribute     | Type   | Mandatory | Description  |
|---------------|--------|-----------|--|
| access_token  | String | Y         | Attribute filled with the access token needed to call PSD2 interface, in this case PIS.  |
| token_type    | String | Y         | Attribute invariably filled with the fixed value "Bearer".   |
| expires_in    | Number | Y         | Attribute filled with the lifetime in seconds of the access token.   |
| refresh_token | String | Y         | Value of the attribute can be used to obtain a new access token using the same authorization grant in the situation where the current token has expired. |
| scope         | String | Y         | Attribute filled the scope of the access token. In this context "PIS".   |

#### 4.5.10 Example token response

The token response is illustrated below:

```
HTTP/1.x 200 OK
Content-Type: application/json
{
  "access_token": "<ACCESS_TOKEN>",
  "token_type": "Bearer",
  "expires_in": 600,
  "refresh_token": "<REFRESH_TOKEN>",
  "scope": "PIS"
}
```

Now, the PISP has been authorized again.

## 4.6 Get transaction status request for a one-time direct or agended payment

After the PSU's approval of the one-time direct or one-time agended payment, the PISP can retrieve the most recent status of the payment by submitting a transaction status request.

In the sub-sections to come, we will discuss at length the parts which make up the transaction status request endpoint.

#### 4.6.1 Method and URL

| Method | URL  | Description   |
|--------|--|---|
| GET    | https://psd.bancairediensten.nl/psd2/[snsbank asnbank regiobank]/v1/payments/{payment-id}/status | Transaction status request endpoint for the payment services <b>one-time direct payments</b> and <b>one-time agended payments</b> as defined by the Berlin Group in the implementation guide version 1.3. |

#### 4.6.2 Path Parameters

| Attribute  | Type   | Mandatory | Description  |
|------------|--------|-----------|--|
| payment-id | String | Y         | Attribute hosts the unique identification assigned by the ASPSP to the payment, when the initiation request was sent in by the PISP. |

#### 4.6.3 Query Parameters

The transaction status request endpoint does not have any query parameters.

#### 4.6.4 Request header

| Attribute     | Type   | Mandatory | Description  |
|---------------|--------|-----------|--|
| Content-Type  | String | Y         | Attribute invariably filled with the value <i>"application/json"</i> .   |
| X-Request-ID  | String | Y         | Attribute filled with the id of the request, unique to the call, as determined by the initiating party (the PISP). |
| Authorization | String | Y         | Attribute consists of <i>client_id</i> : identification of the PISP as registered with de Volksbank.               |

#### 4.6.5 Request body

The transaction status request endpoint does not have a request body.

#### 4.6.6 Example transaction status request

The transaction status request is illustrated below:

```
GET
https://psd.bancairediensten.nl/psd2/snsbank/v1/payments/SNS0123456789012/status
Content-Type: application/json
X-Request-ID: 99391c7e-ad88-49ec-a2ad-99ddcb1f7721
Authorization: 172b095e702f4042e881384c746532defe
```

#### 4.6.7 Response code

| Code | Description |
|------|-------------|
| 200  | Ok          |

#### 4.6.8 Response header

| Attribute    | Type   | Mandatory | Description  |
|--------------|--------|-----------|--|
| Content-Type | String | Y         | Attribute invariably filled with the value "application/json".   |
| X-Request-ID | String | Y         | Attribute filled with the id of the request, unique to the call, as determined by the initiating party (the PISP). |

#### 4.6.9 Response body

| Attribute         | Type   | Mandatory | Description  |
|-------------------|--------|-----------|--|
| transactionStatus | String | Y         | <p>Value of the attribute is conform to the ISO 20022 <b>ExternalPaymentTransactionStatus1Code</b> list.</p> <p>Enumeration:</p> <ol style="list-style-type: none"> <li>ACSC (accepted settlement completed, Settlement on the debtor's account has been completed)<br/>This status holds for the <b>non-instant execution</b> of a <b>one-time direct</b> and <b>one-time agended payment</b>.</li> <li>ACCC (accepted settlement completed, Settlement on the creditor's account has been completed)<br/>This status holds for the <b>instant execution</b> of a <b>one-time direct</b> and <b>one-time agended payment</b>.</li> <li>RCVD (received)<br/>This status indicates that one of the following situations has occurred: <ul style="list-style-type: none"> <li>The payment initiation is received and the redirect SCA Authorization call is not yet issued/requested by the TPP;</li> <li>During the SCA redirect the PSU closed the browser;</li> <li>During the SCA redirect it appeared that the selected debtor account is not an online payment account or the PSU is not authorized to use this account for payment initiation;</li> <li>The SCA token limit is exceeded.</li> </ul> </li> <li>REJECTED<br/>The execution of the payment is rejected by the bank (payment account is blocked, insufficient funds, fraud detection) or is timed out during the redirect SCA Authorization call.</li> <li>PDNG (pending, payment initiation or individual transaction included in the payment initiation is pending. Further checks and status update will be performed)<br/>This status holds for a <b>one-time agended payment</b> of which the <i>requestedExecutionDate</i> is in the future.</li> </ol> |

| Attribute | Type | Mandatory | Description   |
|-----------|------|-----------|---|
|           |      |           | <p>6. CANC (cancelled)</p> <p>The payment has been cancelled. This status indicates that one of the following situations has occurred:</p> <ul style="list-style-type: none"> <li>- A <b>one-time agended</b> payment has been cancelled by the PISP with a Cancel Payment request (see 4.9);</li> <li>- The PSU cancelled the <b>one-time direct or agended payment</b> during redirect SCA;</li> <li>- A <b>one-time agended</b> payment has been cancelled by the PSU in his/her online banking application of one of the brands of de Volksbank.</li> </ul> |

#### 4.6.10 Example transaction status response

The transaction status response is illustrated below:

```
HTTP/1.x 200 OK
Content-Type:      application/json
X-Request-ID:     99391c7e-ad88-49ec-a2ad-99ddcb1f7721
{
  "transactionStatus": "ACSC"
}
```

## 4.7 Payment execution request

The approval of payments of the type deferred payments and recurring payments and the subsequent execution of these payments is a disjunct process in the sense that the execution is done in a separate service call. By issuing a payment execution request, the PISP explicitly requests the ASPSP to process the submitted credit transfer payment for which the PSU has given approval.

In the sub-sections to come, we will discuss at length the parts which make up the payment execution endpoint.

### 4.7.1 Method and URL

| Method | URL  | Description  |
|--------|--|--|
| POST   | https://psd.bancairediensten.nl/psd2/[snsbank asnbank regiobank]/v1/{payment-service}/{payment-product}/{payment-id} | Payment execution endpoint for de Volksbank specific payment services <b>deferred payments</b> and <b>recurring payments</b> . |

#### 4.7.2 Path parameters

| Attribute       | Type   | Mandatory | Description   |
|-----------------|--------|-----------|---|
| payment-service | String | Y         | Attribute refers to the type of payment service. For this particular endpoint, de Volksbank only supports the proprietary payments services <b>deferred payments</b> and <b>recurring payments</b> .<br><br>Therefore, the enumeration is:<br>1. deferred-payments;<br>2. recurring-payments.   |
| payment-product | String | Y         | The attribute refers to the payment product associated with the credit transfer payment method.<br><br>The Berlin Group distinguishes the following payment products:<br><br>1. sepa-credit-transfers;<br>2. instant-sepa-credit-transfers;<br>3. target-2-payments;<br>4. cross-border-credit-transfers.<br><br>It is up the ASPSP to indicate which of these payment products it supports. At the moment, de Volksbank only supports the following product:<br><br>1. sepa-credit-transfers. <sup>3</sup> |
| payment-id      | String | Y         | Attribute hosts the unique identification assigned by the ASPSP to the payment, when the initiation request was sent in by the PISP.  |

#### 4.7.3 Query parameters

The payment execution request endpoint does not have any query parameters.

#### 4.7.4 Request header

| Attribute     | Type   | Mandatory | Description  |
|---------------|--------|-----------|--|
| Content-Type  | String | Y         | Attribute invariably filled with the value " <i>application/json</i> ".  |
| X-Request-ID  | String | Y         | Attribute filled with the ID of the request, unique to the call, as determined by the initiating party (the PISP). |
| Authorization | String | Y         | Attribute contains the access token acquired by the PISP as a result of calling the token endpoint.                |

<sup>3</sup> De Volksbank processes sepa-credit-transfers instantly, provided that the bank of the creditor is reachable for instant payments. So, there is no difference in the settlement of these payments with the processing via our PSU interfaces.

#### 4.7.5 Request body

| Attribute                         | Type   | Mandatory | Description   |
|-----------------------------------|--------|-----------|---|
| endToEndIdentification            | String | N         | Unique identification as provided by the PISP.<br>Max35Text.  |
| remittanceInformationUnstructured | String | N         | Max140Text.   |
| remittanceInformationStructured   | String | N         | Max35Text.  |
| issuerSRI                         | String | N         | The attribute <i>issuerSRI</i> is a Volksbank-specific attribute required whenever the attribute <i>remittanceInformationStructured</i> is used.<br><br>The attribute <i>issuerSRI</i> is not on the list of attributes as defined by the Berlin Group.<br><br>Max35Text. |

#### 4.7.6 Examples payment execution request

The payment execution request is illustrated below. We give two examples: one with a filled attribute *remittanceInformationStructured* and one with a filled attribute *remittanceInformationUnstructured*. Both attributes are mutually exclusive in accordance with the EPC rule stating that “*Either ‘Structured’ or ‘Unstructured’ may be present*”

```
POST https://psd.bancairediensten.nl/psd2/snsbank/v1/recurring-payments/sepa-credit-transfers/SNS0123456789012
```

```
Content-Type: application/json
```

```
X-Request-ID: 99391c7e-ad88-49ec-a2ad-99ddcb1f7721
```

```
Authorization: Bearer "<ACCESS_TOKEN>"
```

```
{
  "endToEndIdentification": "ID234567",
  "remittance Information Structured": "1234 5678 9012 3456",
  "issuerSRI": "CUR"
}
```

```
POST https://psd.bancairediensten.nl/psd2/snsbank/v1/recurring-payments/sepa-credit-transfers/SNS0123456789012
```

```
Content-Type: application/json
```

```
X-Request-ID: 99391c7e-ad88-49ec-a2ad-99ddcb1f7721
```

```
Authorization: Bearer "<ACCESS_TOKEN>"
```

```
{
  "endToEndIdentification": "ID234567",
  "remittanceInformationUnstructured": "payment for oodles of buns"
}
```

#### 4.7.7 Response code

| Code | Description |
|------|-------------|
| 201  | Created     |

#### 4.7.8 Response header

| Attribute    | Type   | Mandatory | Description  |
|--------------|--------|-----------|--|
| Content-Type | String | Y         | Attribute invariably filled with the value <i>"application/json"</i> .   |
| X-Request-ID | String | Y         | Attribute filled with the ID of the request, unique to the call, as determined by the initiating party (the PISP). |

#### 4.7.9 Response body

| Attribute         | Type   | Mandatory | Description  |
|-------------------|--------|-----------|--|
| transactionStatus | String | Y         | Value of the attribute is conform with the ISO 20022 <b>ExternalPaymentTransactionStatus1Code</b> list.  |
| paymentId         | String | Y         | Max16Text.<br><br>N.B.: <ul style="list-style-type: none"><li>relationship paymentId - one time or agended direct payment is 1:1;</li><li>relationship paymentId - deferred payment is 1:1;</li><li>relationship paymentId – recurring payment is 1:n.</li></ul><br>This means that the paymentId cannot be used as correlation id for individual transactions in a series of payments of the type recurring-payments. |
| resourceId        | String | Y         | Unique identification as assigned by the ASPSP to uniquely identify the payment <u>execution</u> resource.   |

#### 4.7.10 Example payment execution response

The payment execution response is illustrated below:

```
HTTP/1.x 201 Created
Content-Type: application/json
X-Request-ID: 99391c7e-ad88-49ec-a2ad-99ddcb1f7756
{
  "transactionStatus": "ACCC",
  "paymentId": "SNS0123456789012",
  "resourceId": "XYZ",
}
```



## 4.8 Get transaction status request following a payment execution request for deferred or recurring payments

After a successful payment execution request for a deferred payment or a recurring payment, the PISP can retrieve the most recent status of the payment submitting a transaction status request.

In the next sub-sections, we will explore the constituents of the transaction status request endpoint.

### 4.8.1 Method and URL

| Method | URL   | Description   |
|--------|---|---|
| GET    | https://psd.bancairediensten.nl/psd2/[snsbank asnbank regiobank]/v1/{payment-service}/{payment-id}/resources/{resource-id}/status | Transaction status request endpoint for the payment service de Volksbank-specific payment services <b>deferred payments</b> and <b>recurring payments</b> |

### 4.8.2 Path Parameters

| Attribute       | Type   | Mandatory | Description  |
|-----------------|--------|-----------|--|
| payment-service | String | Y         | Attribute refers to the proprietary payments services <b>deferred payments</b> and <b>recurring payments</b> , de Volksbank supports.<br><br>Enumeration:<br><br>1. deferred-payments;<br>2. recurring-payments. |
| payment-id      | String | Y         | Attribute hosts the unique identification assigned by the ASPSP to the payment, when the initiation request was sent in by the PISP.   |
| resource-id     | String | Y         | Attribute hosts the unique identification assigned by the ASPSP to the payment, when the execution request was sent in by the PISP.  |

### 4.8.3 Query Parameters

The transaction status request endpoint does not have any query parameters.

### 4.8.4 Request header

| Attribute     | Type   | Mandatory | Description  |
|---------------|--------|-----------|--|
| Content-Type  | String | Y         | Attribute invariably filled with the value " <i>application/json</i> ".  |
| X-Request-ID  | String | Y         | Attribute filled with the ID of the request, unique to the call, as determined by the initiating party (the PISP). |
| Authorization | String | Y         | Attribute contains the access token acquired by the PISP as a result of calling the token endpoint.                |

### 4.8.5 Request body

The transaction status request endpoint does not have a request body.

#### 4.8.6 Example transaction status request

The transaction status request is illustrated below:

```
GET https://psd.bancairediensten.nl/psd2/snsbank/v1/recurring-
payments/SNS0123456789012/resources/1234567890123456/status
Content-Type: application/json
X-Request-ID: 99391c7e-ad88-49ec-a2ad-99ddcb1f7721
Authorization: Bearer "<ACCESS_TOKEN>"
```

#### 4.8.7 Response code

| Code | Description |
|------|-------------|
| 200  | Ok          |

#### 4.8.8 Response header

| Attribute    | Type   | Mandatory | Description  |
|--------------|--------|-----------|--|
| Content-Type | String | Y         | Attribute invariably filled with the value "application/json".   |
| X-Request-ID | String | Y         | Attribute filled with the ID of the request, unique to the call, as determined by the initiating party (the PISP). |

#### 4.8.9 Response body

| Attribute         | Type   | Mandatory | Description  |
|-------------------|--------|-----------|--|
| transactionStatus | String | Y         | Value of the attribute is conform to the ISO 20022 <b>ExternalPaymentTransactionStatus1Code</b> list.<br><br>Enumeration:<br><ol style="list-style-type: none"><li>ACSC (accepted settlement completed, Settlement on the debtor's account has been completed).<br/>This status holds for the <b>non-instant</b> execution of a <b>deferred payment</b> or <b>recurring payment</b>;</li><li>ACCC (accepted settlement completed, Settlement on the creditor's account has been completed).<br/>This status applies to the <b>instant</b> execution of a <b>deferred payment</b> or <b>recurring payment</b>;</li><li>REJECTED<br/>The execution of the payment is rejected by the bank (payment account is blocked, insufficient funds, fraud detection).</li></ol> |

#### 4.8.10 Example transaction status response

The transaction status response is illustrated below:

```
HTTP/1.x 200 OK
Content-Type: application/json
X-Request-ID: 99391c7e-ad88-49ec-a2ad-99ddcb1f7721
```

```
{
  "transactionStatus": "PDNG"
}
```

## 4.9 Get payment request

With the get payment endpoint, a PISP can request the payment details of an authorized payment.

### 4.9.1 Method and URL

| Method | URL   | Description   |
|--------|---|---|
| GET    | <a href="https://psd.bancairediensten.nl/psd2/[snsbank asnbank regiobank]/v1/payments/{payment-product}/{payment-id}">https://psd.bancairediensten.nl/psd2/[snsbank asnbank regiobank]/v1/payments/{payment-product}/{payment-id}</a>                     | Get payment endpoint for <b>one-time direct payments</b> and <b>one-time agended payments</b> as defined by the Berlin Group in the implementation guide version 1.3. |
| GET    | <a href="https://psd.bancairediensten.nl/psd2/[snsbank asnbank regiobank]/v1/deferred-payments/{payment-product}/{payment-id}">https://psd.bancairediensten.nl/psd2/[snsbank asnbank regiobank]/v1/deferred-payments/{payment-product}/{payment-id}</a>   | Volksbank-specific get payment endpoint for <b>deferred payments</b> .  |
| GET    | <a href="https://psd.bancairediensten.nl/psd2/[snsbank asnbank regiobank]/v1/recurring-payments/{payment-product}/{payment-id}">https://psd.bancairediensten.nl/psd2/[snsbank asnbank regiobank]/v1/recurring-payments/{payment-product}/{payment-id}</a> | Volksbank-specific get payment endpoint for <b>recurring payments</b> .   |

### 4.9.2 Path parameters

| Attribute       | Type   | Mandatory | Description  |
|-----------------|--------|-----------|--|
| payment-product | String | Y         | <p>The attribute refers to the payment product associated with the credit transfer payment method.</p> <p>The Berlin Group distinguishes the following payment products:</p> <ol style="list-style-type: none"> <li>sepa-credit-transfers;</li> <li>instant-sepa-credit-transfers;</li> <li>target-2-payments;</li> <li>cross-border-credit-transfers.</li> </ol> <p>It is up to the ASPSP to decide which of these payment products it supports. At the moment, de Volksbank only supports the following product:</p> <p>sepa-credit-transfers.<sup>4</sup></p> |
| payment-id      | String | Y         | Attribute contains the unique identification of the payment.   |

### 4.9.3 Query parameters

The get payment endpoint does not have any query parameters.

<sup>4</sup> De Volksbank processes sepa-credit-transfers instantly, provided that the bank of the creditor is reachable for instant payments. So, there is no difference in the settlement of these payments with the processing via our PSU interfaces.

#### 4.9.4 Request header

| Attribute     | Type   | Mandatory | Description  |
|---------------|--------|-----------|--|
| X-Request-ID  | String | Y         | Attribute filled with the ID of the request, unique to the call, as determined by the initiating party (the PISP). |
| Authorization | String | Y         | Attribute filled with the access-token as obtained in the token request call.                                      |

#### 4.9.5 Request body

The get payment endpoint does not have a request body.

#### 4.9.6 Example get payment request

```
GET https://psd.bancairediensten.nl/psd2/snsbank/v1/payments/sepa-credit-transfers/SNS0289089808735
X-Request-ID:      fdb9757d-8f27-4f9e-9be0-0eadacc89012
Authorization:     Bearer <ACCESS-TOKEN>
```

#### 4.9.7 Response code

| Code | Description |
|------|-------------|
| 200  | OK          |

#### 4.9.8 Response header

| Attribute    | Type   | Mandatory | Description   |
|--------------|--------|-----------|---|
| Content-Type | String | Y         | Attribute is invariably filled with the value <i>"application/json"</i> . |
| X-Request-ID | String | Y         | ID of the request obtained from the request header.                       |

#### 4.9.9 Response body

| Attribute     | Type                     | Mandatory | Description   |
|---------------|--------------------------|-----------|---|
| debtorAccount | Account Reference Object | Y         | iban:<br>Attribute <i>iban</i> is part of the object <i>Account Reference</i> as defined by the Berlin Group.   |
| iban          | String                   | Y         | ISO 20022 pattern: [A-Z]{2,2}[0-9]{2,2}[a-zA-Z0-9]{1,30}.   |
| currency      | String                   | N         | currency:<br>Attribute <i>currency</i> is part of the object <i>Account Reference</i> as defined by the Berlin Group. ISO 4217 Alpha 3 currency code.                                     |
| debtorName    | String                   | N         | Attribute contains the name of the debtor(s). If an account has a joint account holder, the name of the account holder and joint account holder are separated with ' CJ '.<br>Max144Text. |

| Attribute               | Type                     | Mandatory | Description  |
|-------------------------|--------------------------|-----------|--|
| instructedAmount        | Amount Object            | Y         | <p>currency:<br/>Attribute <i>currency</i> is part of the object <i>Amount</i> as defined by the Berlin Group.<br/>ISO 4217 Alpha 3 currency code.</p> <p>amount:<br/>Attribute <i>amount</i> is part of the object <i>Amount</i> as defined by the Berlin Group.<br/>The amount is given with fractional digits, if needed.<br/>The decimal separator is a dot (.). The number of fractional digits (or minor unit of currency) must comply with ISO 4217.</p>  |
| currency amount         | String String            | Y<br>Y    |  |
| creditorAccount         | Account Reference Object | Y         | <p>iban:<br/>Attribute <i>iban</i> is part of the object <i>Account Reference</i> as defined by the Berlin Group.<br/>ISO 20022 pattern: [A-Z]{2,2}[0-9]{2,2}[a-zA-Z0-9]{1,30}.</p> <p>currency:<br/>Attribute <i>currency</i> is part of the object <i>Account Reference</i> as defined by the Berlin Group.<br/>ISO 4217 Alpha 3 currency code.</p>  |
| iban currency           | String String            | Y<br>N    |  |
| creditorAgent           | String                   | N         | Attribute filled with a BIC.<br>ISO 20022 definition BIC: [A-Z]{6,6}[A-Z2-9][A-NP-Z0-9]([A-Z0-9]{3,3}){0,1}.   |
| creditorName            | String                   | Y         | Party to which an amount of money is due.<br>Max70Text.  |
| ultimateCreditor        | String                   | N         | Ultimate party to which an amount of money is due.<br>Max70Text.   |
| ultimateCreditorId      | String                   | N         | Max35Text.   |
| endDate                 | String                   | N         | <p>The attribute <i>endDate</i> can be provided for <b>deferred payments</b> and <b>recurring payments</b>.</p> <p>Note that de Volksbank also allows for recurring payments with no end date, the so-called infinite or perpetual recurring payments.<br/>If the <i>endDate</i> is filled, it is the last date where the PISP can submit a deferred payment or a payment in a series of recurring payments for execution by the ASPSP.</p> <p>Attribute <i>endDate</i> has the ISO 8601 Date format (YYYY-MM-DD).</p> |
| requestedExecution Date | String                   | N         | <p>The attribute <i>requestedExecutionDate</i> is provided for <b>one-time agended payments</b>.</p> <p>Attribute <i>requestedExecutionDate</i> has the ISO 8601 Date format (YYYY-MM-DD).</p>   |

#### 4.9.10 Example get payment response

```
HTTP/1.x 200
Content-Type: application/json
X-Request-ID: fdb9757d-8f27-4f9e-9be0-0eadacc89012
{
  "debtorAccount": {"iban": "NL64MAART0948305290", "currency": "EUR"},
  "debtorName": "Z H van der Zee CJ Z Bottema",
  "instructedAmount": {"currency": "EUR", "amount": "123.50"},
  "creditorAccount": {"iban": "NL55WIND0000012345", "currency": "EUR"},
  "creditorName": "Adyen",
  "ultimateCreditor": "Krentebol dot com"
}
```

### 4.10 Cancel payment request

With the cancel payment endpoint, a PISP can cancel a payment approved by the PSU. Only a one-time agended payment can be cancelled; a one-time direct payment is executed immediately after authorization is given. This cancel endpoint cannot be used by a PISP to cancel deferred or recurring payment(s) since the PISP, not the ASPSP, is responsible for the submission of the execution of a deferred or recurring payment.

#### 4.10.1 Method and URL

| Method | URL   | Description   |
|--------|---|---|
| DELETE | https://psd.bancairediensten.nl/psd2/[snsbank asnbank regiobank]/v1/{payment-service}/sepa-credit-transfer/{payment-id} | Cancel payment endpoint as defined by the Berlin Group in the implementation guide version 1.3 for the payment service <b>one-time agended payments</b> . |

#### 4.10.2 Path parameters

| Attribute | Type | Mandatory | Description |
|-----------|------|-----------|-------------|
|-----------|------|-----------|-------------|

| Attribute       | Type   | Mandatory | Description   |
|-----------------|--------|-----------|---|
| payment-service | String | Y         | <p>Attribute refers to the type of payment service. The Berlin Group defines three possible values for this attribute:</p> <ol style="list-style-type: none"> <li>1. payments;</li> <li>2. bulk-payments;</li> <li>3. periodic-payments.</li> </ol> <p>Currently de Volksbank only supports the first option <i>payments</i> (in addition to de Volksbank specific payments: <i>deferred</i> and <i>recurring</i>).</p>   |
| payment-product | String | Y         | <p>The attribute refers to the payment product associated with the credit transfer payment method.</p> <p>The Berlin Group distinguishes the following payment products:</p> <ol style="list-style-type: none"> <li>1. sepa-credit-transfers;</li> <li>2. instant-sepa-credit-transfers;</li> <li>3. target-2-payments;</li> <li>4. cross-border-credit-transfers.</li> </ol> <p>It is up the ASPSP to indicate which of these payment products it supports. At the moment, de Volksbank only supports the following product:</p> <p>sepa-credit-transfers.<sup>5</sup></p> |
| payment-id      | String | Y         | <p>Attribute hosts the unique identification assigned by the ASPSP to the payment, when the initiation request was sent in by the PISP.</p>   |

### 4.10.3 Query parameters

The cancel payment endpoint does not have any query parameters.

### 4.10.4 Request header

| Attribute     | Type   | Mandatory | Description  |
|---------------|--------|-----------|--|
| Content-Type  | String | Y         | Attribute invariably filled with the value <i>"application/json"</i> .   |
| X-Request-ID  | String | Y         | Attribute filled with the ID of the request, unique to the call, as determined by the initiating party (the PISP). |
| Authorization | String | Y         | Attribute filled with the <i>client_id</i> : identification of the PISP as registered with de Volksbank.           |

### 4.10.5 Request body

The cancel payment endpoint does not have a request body.

<sup>5</sup> De Volksbank processes sepa-credit-transfers instantly, provided that the bank of the creditor is reachable for instant payments. So, there is no difference in the settlement of these payments with the processing via our PSU interfaces.

#### 4.10.6 Example cancel payment request

The cancel payment request is illustrated below:

```
DELETE https://psd.bancairediensten.nl/psd2/snsbank/v1/payments/sepa-credit-transfer/SNS5678901234567
Content-Type:      application/json
X-Request-ID:     fdb9757d-8f27-4f9e-9be0-0eadacc89012
Authorization:    172b095e702f4042e881384c746532defe
```

#### 4.10.7 Response code

| Code | Description |
|------|-------------|
| 200  | OK          |

#### 4.10.8 Response header

| Attribute    | Type   | Mandatory | Description  |
|--------------|--------|-----------|--|
| Content-Type | String | Y         | Attribute invariably filled with the value <i>"application/json"</i> . |
| X-Request-ID | String | Y         | ID of the request obtained from the request header.                    |

#### 4.10.9 Response body

| Attribute         | Type   | Mandatory | Description   |
|-------------------|--------|-----------|---|
| transactionStatus | String | Y         | Value of the attribute is conform with the ISO 20022 <b>ExternalPaymentTransactionStatus1Code</b> list.<br><br>Enumeration:<br>CANC ( <i>CANC</i> means cancelled). |

#### 4.10.10 Example cancel payment response

The cancel payment response is illustrated below:

```
HTTP/1.x 200 OK
Content-Type:      application/json
X-Request-ID:     fdb9757d-8f27-4f9e-9be0-0eadacc89012
{
  "transactionStatus": "CANC"
}
```



## 4.11 Error handling

### 4.11.1 HTTP error codes

The possible HTTP error codes that are returned and their meaning can be found in the table below.

| Code | Description   |
|------|---|
| 400  | Bad request<br>The server cannot or will not process the request due to something that is perceived to be a client error (e.g., malformed request syntax, invalid request message framing, or deceptive request routing). |
| 401  | Unauthorized<br>The request has not been applied because it lacks valid authentication credentials for the target resource.   |
| 403  | Forbidden<br>The server understood the request but refuses to authorize it.   |
| 404  | Not found<br>The origin server did not find a current representation for the target resource or is not willing to disclose that one exists.   |
| 406  | Not acceptable<br>Cannot generate the content that is specified in the Accept header.   |
| 415  | Unsupported media type<br>The supplied media type is not supported  |
| 500  | Internal server error<br>The server encountered an unexpected condition that prevented it from fulfilling the request.  |

### 4.11.2 Additional error information

Errors will be accompanied by additional information in the form of tppMessages. These look like this:

```
{ "tppMessages": [  
  { "category": "ERROR",  
    "code": "ERROR_CODE",  
    "text": "additional text information of the ASPSP up  
    to 512 characters"  
  }  
]}
```

The table below shows the various codes and texts that might be returned.

| HTTP status | Category | Code         | Text   |
|-------------|----------|--------------|--|
| 400         | ERROR    | FORMAT_ERROR | The format of the X-REQUEST-ID is not valid.                 |
| 400         | ERROR    | FORMAT_ERROR | The format of the input is not valid.                        |
| 400         | ERROR    | FORMAT_ERROR | One or more input fields are invalid.                        |
| 400         | ERROR    | FORMAT_ERROR | Content-invalid  |
| 400         | ERROR    | FORMAT_ERROR | endToEndIdentification should be between 1 and 35 characters |
| 400         | ERROR    | FORMAT_ERROR | debtorAccount IBAN is not valid                              |

| HTTP status | Category | Code                          | Text   |
|-------------|----------|-------------------------------|--|
| 400         | ERROR    | FORMAT_ERROR                  | invalid country code in IBAN   |
| 400         | ERROR    | FORMAT_ERROR                  | IBAN is non-SEPA; payment cannot be processed as a SEPA Credit Transfer  |
| 400         | ERROR    | FORMAT_ERROR                  | debtorAccount currency should be EUR                                     |
| 400         | ERROR    | FORMAT_ERROR                  | instructedAmount should not be null                                      |
| 400         | ERROR    | FORMAT_ERROR                  | The format of the input is not valid.                                    |
| 400         | ERROR    | FORMAT_ERROR                  | amount should have no more than two decimals                             |
| 400         | ERROR    | FORMAT_ERROR                  | instructedAmount currency should be EUR                                  |
| 400         | ERROR    | FORMAT_ERROR                  | creditorAccount should not be null                                       |
| 400         | ERROR    | FORMAT_ERROR                  | creditorAccount IBAN is not valid  |
| 400         | ERROR    | FORMAT_ERROR                  | IBAN is non-SEPA; payment cannot be processed as a SEPA Credit Transfer  |
| 400         | ERROR    | FORMAT_ERROR                  | creditorAgent doesn't match ISO 20022 definition of BIC                  |
| 400         | ERROR    | FORMAT_ERROR                  | creditorName should be between 1 and 70 characters                       |
| 400         | ERROR    | FORMAT_ERROR                  | ultimateCreditor should be between 1 and 70 characters                   |
| 400         | ERROR    | FORMAT_ERROR                  | remittanceInformationUnstructured should be between 1 and 140 characters |
| 400         | ERROR    | FORMAT_ERROR                  | remittanceInformationStructured should be between 1 and 35 characters    |
| 400         | ERROR    | FORMAT_ERROR                  | issuerSRI should be ISO or CUR   |
| 400         | ERROR    | FORMAT_ERROR                  | endDate should not be null   |
| 400         | ERROR    | FORMAT_ERROR                  | endDate doesn't match date format yyyy-MM-dd                             |
| 400         | ERROR    | FORMAT_ERROR                  | deferred payment endDate should not be more than 13 months in the future |
| 400         | ERROR    | FORMAT_ERROR                  | endDate cannot be in the past  |
| 400         | ERROR    | FORMAT_ERROR                  | requestedExecutionDate doesn't match date format yyyy-MM-dd              |
| 400         | ERROR    | FORMAT_ERROR                  | requestedExecutionDate cannot be in the past                             |
| 400         | ERROR    | FORMAT_ERROR                  | requestedExecutionDate cannot be more than 10 years in the future        |
| 400         | ERROR    | FORMAT_ERROR                  | paymentId should be 16 characters  |
| 400         | ERROR    | INVALID_ACCOUNT_NUMBER_FORMAT | The format of the account number is not valid.                           |
| 400         | ERROR    | INVALID_INPUT                 | The parameter is not supported.  |
| 400         | ERROR    | INVALID_INPUT                 | Retrieving the payment status has failed.                                |
| 400         | ERROR    | PAYMENT_FAILED                | The payment execution has failed.  |
| 400         | ERROR    | PAYMENT_FAILED                | The payment initiation has failed.                                       |
| 400         | ERROR    | PAYMENT_FAILED                | The payment has failed.  |
| 400         | ERROR    | PAYMENT_FAILED                | Processing the payment has failed.                                       |
| 400         | ERROR    | PAYMENT_FAILED                | The payment is rejected.   |
| 400         | ERROR    | PAYMENT_FAILED                | The payment amount is invalid.   |
| 401         | ERROR    | INVALID_JWT_TOKEN             | JWT token is invalid.  |
| 401         | ERROR    | CONSENT_INVALID               | The mandate could not be found.  |

| HTTP status | Category | Code                  | Text   |
|-------------|----------|-----------------------|--|
| 401         | ERROR    | CONSENT_INVALID       | The mandate is revoked.                                |
| 401         | ERROR    | CONSENT_INVALID       | The mandate has an invalid status.                     |
| 401         | ERROR    | CONSENT_INVALID       | The entered digipass credentials are invalid.          |
| 401         | ERROR    | CONSENT_INVALID       | The selected digipass token is invalid.                |
| 401         | ERROR    | CONSENT_INVALID       | The account is not within the contract.                |
| 401         | ERROR    | CONSENT_INVALID       | The mandate could not be granted.                      |
|             |          |                       |  |
| 401         | ERROR    | CONSENT_INVALID       | The age is not allowed.                                |
| 401         | ERROR    | CONSENT_EXPIRED       | The expiration date of the mandate has been expired.   |
| 401         | ERROR    | CONSENT_EXPIRED       | The consent should be executed once within 10 minutes. |
| 403         | ERROR    | SERVICE_BLOCKED       | This account's master switch is switched off.          |
| 403         | ERROR    | SERVICE_BLOCKED       | The requested service is not allowed for this account. |
| 403         | ERROR    | RESOURCE_UNKNOWN      | The payment could not be found.                        |
| 403         | ERROR    | RESOURCE_UNKNOWN      | The paymentId and resourceId combination is invalid.   |
| 403         | ERROR    | RESOURCE_UNKNOWN      | The paymentId is invalid.                              |
| 500         | ERROR    | INTERNAL_SERVER_ERROR | An internal server error occurred.                     |