SOFORT AG
The Payment Network

Inteface description for SOFORT Banking

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1. Introduction

Your clients must not register for SOFORT Banking: They pay quickly and easily using their own online banking data. Thanks to real time confirmation of the bank transfer order, as a merchant, you can ship the goods or provide the services immediately. In addition, you can optionally offer buyer protection, which provides the customers additional security.

1.1. General process of a SOFORT Banking transaction

A transaction via the SOFORT Gateway is divided into the following steps:

➢ As soon as a customer wants to pay, our interface is called. In response, you receive a link, which you can transfer the customer to.

➢ The customer must enter his banking data at our payment site to process payment and thereafter, will be redirected to the appropriate success/abort page.

➢ After successful transaction, we will automatically notify you. You can receive the information as an email or as an XML-HTTP message, which notifies you automatically of a status change. You can access transaction details at any time.

1.2. General procedure for the integration of SOFORT products

1.2.1. Integration steps

In order to integrate the SOFORT products in your system, the following steps are necessary. The individual steps are explained in detail in the following chapters:

1. Registration with SOFORT AG
2. Create a new project for the SOFORT Gateway.
    2.1.   Select the desired SOFORT products
    2.2.   Configure your project
    2.3.   Generate an API Key
3. Integrate the SOFORT products in your shop

3.1.   Integrate the payment instructions in your shop

3.2.   Create the success / termination page

3.3. Configure the shop so that it can receive messages and initiate status inquiries

1.2.2. How to use this guide

You receive all the information you need to integrate SOFORT Banking in your system in this guide.
In chapter 2. Creating a new Project we explain how you can create a new project in your
customer menu and which settings are possible.

Communication with our system takes place in XML. To access our system, authentication with
your API Key is necessary. In chapter 2.4. Communication with the SOFORT Gateway API you learn
how to design the communication with the SOFORT Gateway and which parameters are important.
If you send a request to our interface, you must transfer certain mandatory parameters. You also
receive a response with certain values from our system. You will find a detailed list of parameters
in chapter 5. Annexe.

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2. Creating a new Project

After logging in to your account, you can create a new project. If you don't have an account at SOFORT AG you can register on this page for our services:

https://www.sofortueberweisung.de/payment/users/register

In order to use the products of the SOFORT Gateway you have to create a new project at first. In a project you can define the settings for the used products.

In order to create a new project, please follow these steps:

– Log in to your account at SOFORT

– In the left menu bar in the category "Project" click "New projects"

– Choose your project type by clicking on the button "Create SOFORT Gateway"

– You can configure your project now. The possible setting for the chosen payment methods will be explained hereafter.

2.1. Creating a project

2.1.1. Generall Settings

In the Generall Settings you can define the details for your shop/project.

Project name: Custom name for this project

Shop system: Choose your shop system

Industry: Choose your industry

Website: Enter your website

2.1.2. Address

The entered address will be shown to the customer during the payment process. The address can be replaced by your logo. For more details see chapter Project logo

2.1.3. Bank account

Enter the bank account where the payments of the customers should be transferred to.

Please note that only bank accounts supporting SEPA standard can be set.

2.1.4. Settings for all payment methods

The following settings are optional and will affect all payment methods. Alternatively you can provide these settings every time you call the XML interface. The settings you provide to the interface will overwrite the project settings.

Provider profile

Merchant/Shopowner: Choose this profile if you are sending goods

Content provider: this profile should be chosen for download products and services

Success link

A success link is the page where a customer is redirected to after a successful transaction.
You can enter a success link for all products or pass it every time as a parameter when calling our payment form (see parameter list in the Annexe)

Attention!

If you want your customers being redirected automatically after a successful transaction to the success link please activate the automatic redirection. Otherwise a summary of the payment details will be shown to the customer on our site and he will only redirected to the success link after clicking the button "Back to shop".

Abort link

On every page on our payment form a button "Terminate the session" will be shown. Fill the Abort link field to tell us, where we should direct your customer after aborting a transaction.

XML-HTTP-Notification

We use the XML-HTTP-notification to inform you about a successful transaction. Please pay attention that you are only notified about successful transactions. With this notification our system informs your shop about changes of the payment status of a transaction. If you have been notified about a change of the payment status you have the possibility to request details for this transaction. You have the possibility to enter a notification URL for all products or pass the notification URL as a parameter when calling our payment form (see parameter list in the Annexe).

For further details about possible payment status please refer to chapter 5.3. Status messages SOFORT Banking

E-Mail notification

If you want to be notified via e-mail enter your e-mail address here.

Timeout in seconds

Enter the maximum period in which the payment process must be completed. If a timeout isn't needed for technical reasons we recommend not to set any value. Please note that for some products it is necessary to enter the online bank data on our payment form. Maybe the customers hasn't this data directly in reach so please don't set a too short period.

Timeout Link

Define the URL where the customer should be redirected to in case of a timeout. You have the possibility to enter a timeout link for all products or pass the timeout link as a parameter when calling our payment form.

2.1.5. Payment Methods

In order to use a payment method just set a check mark at the designated product. To view the conditions for the respective product click on the link in the first line.

After you have chosen the designated products and made all settings click on the button "save" at the end of the page to create the project.

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Testmode: Activate the test mode for SOFORT Banking. For more details about the test mode see chapter 3. Testing.

Sender country locked: If checked the customer can't change the passed country.

Terms and condition: Please accept the terms and conditions in order to use this product.

Attention!

For details how to offer the buyer protection please refer to chapter

2.2. Settings in your SOFORT Gateway project

After creating a project you can edit the settings of your project and define extended settings. You can find your project by clicking on "My projects" in the category "Projects" in the left menu bar of the menu. To edit your project click on the name of your project.

2.2.1. Base settings

All settings made during the project creation can be edited here (see also 2. Creating a new Project). For example you can change your address or add new products. Furthermore you can view your configuration key and activate the buyer protection.

Attention!

If you activated the product Rechnung by SOFORT it is not possible to change your bank account.

Configuration Key

The configuration key is composed of your user id, project id and the API-Key. You can use the configuration key for a integration with the SOFORT Library. Otherweise use for the authentication your customer id and API-Key (see 2.4.1. Authentication with API Key)

Buyer protection

If you want to offer the buyer protection to your customers you can activate it in the settings for SOFORT Banking.

Activating the buyer protection: If you want to activate the buyer protection set a check mark here. Please enter a valid e-mail address and accept the buyer protection policies for merchants of SOFORT Bank.

Further information about buyer protection banners can be found in the linked manual for upgrading buyer protection.

Extended Settings

In addition to the base settings there are extended settings for further settings of your project. You will get to the extended settings by clicking on the tab "extended settings" on the top of the site after you have chosen the respective project.

Project logo

Here you can upload your own company logo which we show during the payment process to your customer. In order to have your logo blended in on the payment form, please navigate to "Your project » Extended settings » Project logo".

Size of your company logo: If possible exactly 150x60 Pixels.

We do also accept other sizes, but they will be resized by our system which might cause a decline in quality. File type of your company logo:

*.gif,

*.png or

*.jpg

Notifications

We use the notification methods to inform you about a successful transaction. Please pay attention that you are only notified about successful transactions.

In order to configure a notification, please click "Add new notification".

You can choose between the following types of notifications which are going to be explained afterwards:

- E-mail with payment status

- XML HTTP Post

E-mail with payment status

You have the option to be notified about the status of a payment via e-mail. You can choose in which cases you want to be notified about the status. Alternatevely you can pass the designated adress when calling our payment form. For more details refer to the Annexe.

XML HTTP Post

The http-notification calls a script on your webserver and informs you about status changes of your payments. Every try to call your script will be recorded in the notification logfiles. This information, i.e. a status code or your return code (HTML page) will be provided in the notification logfiles. Please pay attention that the HTML Body is only downloaded in test mode.

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A notification is successful, if your webserver sends a status code 200. The HTTP-notification-URL is only called up in case of success. Should we not reach your webserver the first time or receive a different status than 200, we make up to 40 further attempts in 24h.

The notification contains the transaction id and the date and time of the payment. If you need further transaction data you can answer this notification with a transaction data request.
You also have the opportunity to choose for which status of the payment a notification will be sent. This can also be passed on every call of the interface. For details, see the Annexe.

Master Password

By setting a master password you are able to save your project settings. Only people that know the master password are able to change the setting in the project. This is helpful especially if a colleague is only supposed to check the payments.

2.3. API-Key

In order to use the SOFORT Gateway you need to authenticate with your API-Key. Your API-Key can be found in your account menu in the category "services" → "API-Key".

Further details about the authentication with API-Key can be fount in chapter 2.4.1. Authentication with API Key.

2.4. Communication with the SOFORT Gateway API

Communication with the "SOFORT" Gateway always follows the same principle for all products:

  ➢ Access our interface and transfer the transaction parameters

  ➢ Response from our server with the payment URL

  ➢ Notification about changed transaction status

  ➢ Possible request of transaction data

  ➢ Response to the retrieval of the transaction data

There are additional options available for some products and there are extended processes, which are explained in more detail from chapter ??? forward for individual products.

2.4.1. Authentication with API Key

You need your API Key and your customer number for the use of the "SOFORT" Gateway. You can access your API Key under your customer account under Services -> API Key.

Please be aware of the following points:

- ➢ You have to send the correct authentication key.
- ➢ You have to enter the correct Content-Type Header.
- ➢ You have to call the correct URL and use the HTTPS protocol.
- ➢ You data has to be formatted correctly as XML (RFC 3023, see parameter description) and sent via POST.

With every request „application/xml" has to be passed as Content-Type and Accept Header.

For the authentication the Basic-HTTP-Authentification (RFC 2617) is used. As user name please enter your customer id and as password your Api-Key.

To calculate the necessary authentication keys, follow these steps: Enter the customer number followed by the API Key, separated by a colon, and then code Base64. If your customer number is 12345 and your API Key 123467890, your key would be calculated as follows: base64(12345:123467890). The corresponding authentication key would be „MTIzNDU2Nzg5MDoxMjM0NTY3ODkw".

Example HTTP-Header

```
Authorization: Basic MTIzNDU2Nzg5MDoxMjM0NTY3ODkw
Content-Type: application/xml; charset=UTF-8
Accept: application/xml; charset=UTF-8
```

2.4.2. Call of the interface

To call the SOFORT Gateway interface please use the following URL:

```
https://api.sofort.com/api/xml
```

To access, various parameters must be sent. All possible parameters for a call can be found in Table Transaction request to the sofort Gateway including a short description of the parameter.

An example for a SOFORT Banking request:

```
<?xml version="1.0" encoding="UTF-8"?>
<multipay>
```

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```
        <project_id>53245</project_id>
        <language_code>de</language_code>
        <interface_version>pn_test_1</interface_version>
        <amount>2.20</amount>
        <currency_code>EUR</currency_code>
 <reasons>
            <reason>test</reason>
 </reasons>
 <user_variables>
            <user_variable>test</user_variable>
 </user_variables>
        <success_url>http://www.test.de</success_url>
        <abort_url>http://www.direct-ebanking.com/test/test2.php</abort_url>
        <notification_urls>
            <notification_url
notify_on="loss">http://test.de/test3.php</notification_url>
            <notification_url
notify_on="pending,refunded">http://test.de/test4.php</notification_url>
 </notification_urls>
        <su>
        </su>
</multipay>
```
XML call SOFORT of the Gateway

2.4.3. Response of the SOFORT Gateway

In response to this call, you receive a transaction ID and the URL to process the payment to which you can transfer the customer.

The customer will be redirected to the payment form of SOFORT AG. After he has successfully entered his banking credentials he will be redirected to the passed or set success link. The parameter a response may contain can be found in table Response to a transaction request.

A response to a call typically looks as follows:

```
<?xml version="1.0" encoding="UTF-8"?>
<new_transaction>
 <transaction>1324-1234-5483-4891</transaction>
        <payment_url>https://www.sofort.com/payment/go/10000-50514-4D11FB0C-
864B</payment_url>
</new_transaction>
```
XML response of the Gateway

You can redirect your customer to the parameter "payment_url" in order to start a transaction. The transaction ID is transferred in the "transaction" parameter. You should save the transaction ID with the respective order in order to access transaction data at a later point in time.

2.4.4. Transaction notification

If your customer has paid successfully a notification is sent to you. A notification URL on your server will be called and the transaction id will be passed. This URL can be set directly in your project or passed on every call. A notification looks like this:

```xml
<?xml version="1.0" encoding="UTF-8"?>
<status_notification>
     <transaction>1324-1234-5483-4891</transaction>
     <time>2010-04-14T19:01:08+02:00</time>
</status_notification>
```

XML notification from the SOFORT Gateway

You will get this message also on each status change of your transaction. In order to receive more information about this transaction please start a transaction detail request. Possible parameters a transaction notification may contain can be found in table Notification about a status change.

2.4.5. Request for the transaction details

As a reaction to a notification you can request the transaction details. Mandatory parameters for a transaction detail request can be found in table Transaction detail request. You can request data for one (or more) transaction or for trasnaction done in a certain period.

Two examples for a request:

```xml
<?xml version="1.0" encoding="UTF-8"?>
<transaction_request version="1.0">
     <transaction>1324-1234-5483-4891</transaction>
     <transaction>1324-1234-5483-4729</transaction>
</transaction_request>
```

or:

```xml
<?xml version="1.0" encoding="UTF-8">
<transaction_request version="1.0">
     <from_time>2010-04-10</from_time>
     <to_time>2010-04-11</to_time>
     <number>10</number>
 <page>2</page>
</transaction_request>
```

XML request for transaction details

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2.4.6. Response of the SOFORT Gateway to an request for transaction details

You can find explanations regarding the parameters in the table Response to a transaction detail request.

The status of each product's transaction is also shown. In the annexe all possible status for each product are listed (see also 5.3. Status messages SOFORT Banking).

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<transactions>
     <transaction_details>
          <project_id>111111</project_id>
          <transaction>00000-000000-00000000-0000</transaction>
          <test>1</test>
          <time>2012-11-28T18:19:29+01:00</time>
          <status>received</status>
          <status_reason>credited</status_reason>
          <status_modified>2012-11-28T18:20:12+01:00</status_modified>
          <payment_method>su</payment_method>
          <language_code>de</language_code>
          <amount>1.00</amount>
          <amount_refunded>0.00</amount_refunded>
          <currency_code>EUR</currency_code>
          <reasons>
               <reason>sofort.com - Test</reason>
               <reason>0bfeab5c52</reason>
          </reasons>
          <user_variables>
               <user_variable>Variable 0</user_variable>
          </user_variables>
          <sender>
               <holder>Max Mustermann</holder>
               <account_number>23456789</account_number>
               <bank_code>00000</bank_code>
               <bank_name>Demo Bank</bank_name>
               <bic>PNAGDE00000</bic>
               <iban>DE06000000000023456789</iban>
               <country_code>DE</country_code>
          </sender>
          <recipient>
               <holder>Max Testermann</holder>
               <account_number>999999999</account_number>
               <bank_code>70011110</bank_code>
               <bank_name>Sofort Bank</bank_name>
               <bic>DEKTDE71002</bic>
               <iban>DE7970011110999999999</iban>
               <country_code>DE</country_code>
          </recipient>
          <email_customer>test@payment-network.com</email_customer>
          <phone_customer />
          <exchange_rate>1.0000</exchange_rate>
          <costs>
               <fees>0.00</fees>
```

```
                <currency_code>EUR</currency_code>
                <exchange_rate>1.0000</exchange_rate>
            </costs>
            <su>
                <consumer_protection>0</consumer_protection>
            </su>
            <status_history_items>
                <status_history_item>
                    <status>pending</status>
                    <status_reason>not_credited_yet</status_reason>
                    <time>2012-11-28T18:19:29+01:00</time>
                </status_history_item>
                <status_history_item>
                    <status>received</status>
                    <status_reason>credited</status_reason>
                    <time>2012-11-28T18:20:12+01:00</time>
                </status_history_item>
            </status_history_items>
        </transaction_details>
</transactions>
```

XML response of the SOFORT Gateway to an request for transaction details

2.4.7. Error Codes

If an request to the SOFORT Gateway failed, you will receive an error code. An overview with an explanation of the error codes can be found in the Errors.

An error code might look like the following:

```
<new_transaction>
    ...
    <warnings>
        <warning>
         <code>8002</code>
         <message>invalid preselection. Valid values are: su,sr
</message>
         <field>preselection</field>
        </warning>
    </warnings>
    <su>
        <errors>
            <error>
                <code>8002</code>
                <message>product only supports German sender accounts.</message>
         <field>sender.country_code</field>
            </error>
        </errors>
        <warnings>
            <warning>
                <code>8002</code>
                <message>will be replaced by transaction ID</message>
         <field>reasons.reason.2</field>
            </warning>
        </warnings>
    </su>
```

```
</new_transaction>
```
XML error code of the SOFORT Gateway

3. Testing

To test the integration of a SOFORT product, activate the test mode of the respective product settings in your SOFORT Gateway project.

Enter 88888888 or 00000 (for non-german banks) as sort code on the payment form. You can choose all other data arbitrarily.

After the transaction, check if your project is correctly configured:

· Are you redirected to the success page after the transaction?

· Were all notifications received correctly?

· Is the order status set correctly or has the order been generated correctly?

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4. Refunds

Refunds are possible for the following products:

- SOFORT Banking

- Rechnung by SOFORT

We offer two different procedures for refunds:

- Refunds via XML-Interface (automatically)

- Refunds via the customer menu (manually)

Important notes:

Refunds can only be processed and registered as such if the following conditions are met:

Domestic transaction (e.g. sender DE -> recipient DE)

    - Account holder of the account of the sender could be determined

(The account holder is only determined from the online banking, the returning account holder is ignored for return to the vendor)

    - Bank identification number

    - Account number

Cross-border SEPA transactions (e.g. sender DE -> recipient AT) additionally:

    - BIC

    - IBAN

If this data is not complete, transfer the amount manually.

You can only execute a reverse booking for transactions for which the money has been credited to your SOFORT Bank account (green dot in front of the transaction).

4.1. Refunds via the customer menu (manually)

In the customer menu you can mark transactions manually, save them and transfer them to your SOFORT Bank account.

4.1.1. Prepare refunds

Markieren Sie eine oder mehrere Transaktionen wie folgt:

Please mark one or more transactions for SOFORT Banking:

- Step 1: Choose in the customer menu „Transactions for SOFORT Banking"

- Step 2: Search for the transaction and click on the icon "Prepare for refunding" (blue arrow)

Generally a transaction can be prepared for refunding until the total sum is reached.

4.1.2. Consolidate refunds

- Step 1: Choose in the customer menu "Services / Refunds"

- Step 2: On the following page you can check the booked transactions

- Step 3: You can edit refunds (amount, reference, recipient account) or delete them from the list.

- Step 4: Choose a sender account, insert a file name and "Save" the refunds

4.1.3. Complete refunds

- Step 1: Choose in the customer menu "Services / Refunds"

- Step 2: The refund files are listed at the end of the screen

- Step 3: Start the automatic transfer to SOFORT Bank (click "computer icon")

- Step 4: With your account details you can login to the SOFORT Bank online banking

- Step 5: Enter the required TAN to confirm the refund

4.2. Refunds via the XML interface (automatically)

4.2.1. Generall

Furthermore, refunds can be prepared and retrieved via a XML interface automatically.

Data for a payment is sent directly from your server to the server of SOFORT.

Following guideline applies:

- You have to send the correct authentication key

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- You need to send the correct Content-Type header

- You have to call the correct URL and have to use https as protocol

- Your data has to be formatted as XML (specified below, according to RFC 3023) and has to be sent via POST

4.2.2. Authentication

Authentication is done with basic-http-authentication (RFC 2617). As user name please use your customer id and as password your API-key. For more details about authentication
 see chapter 2.4.1. Authentication with API Key.

4.2.3. Prepare refunds

Use the following URL: https://www.sofortueberweisung.de/payment/refunds

The request must be formatted according to the following example:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<refunds>
  <title>test</title>
  <sender>
    <holder>Max Mustermann</holder>
    <account_number>9999999999</account_number>
    <bank_code>88888888</bank_code>
  </sender>
  <refund>
    <transaction>00000-00000-00000000-0000</transaction>
    <amount>1.11</amount>
    <comment>Order cancelled by user. Commodities already sent back</comment>
  </refund>
  <refund>
    <transaction>00000-00000-00000000-0001</transaction>
    <amount>1.12</amount>
  </refund>
</refunds>
```
XML request to prepare refunds

A list of possible parameters can be found in the Annexe.

Response

If an error occurs a message like this will be returned:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<error>
  <code>7000</code>
  <message>Invalid XML</message>
</error>
```
Error message after a request for preparing refunds

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If there is no general error, all parameters of the request, as well as status and error code will be returned. You can find an overview of the possible error notifications in the Annexe:

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<refunds>
  <title>test</title>
  <sender>
    <holder>Max Mustermann</holder>
    <account_number>9999999999</account_number>
    <bank_code>88888888</bank_code>
  </sender>
  <refund>
    <transaction>00000-00000-00000000-0000</transaction>
    <amount>1.11</amount>
    <comment>Order cancelled by user. Commodities already sent back</comment>
    <status>ok</status>
  </refund>
  <refund>
    <transaction>00000-00000-00000000-0001</transaction>
    <amount>1.12</amount>
    <status>error</status>
    <error>
      <code>5002</code>
      <message>Transaction not found</message>
    </error>
  </refund>
  <dta>Inhalt fuer DTA-Datei</dta>
  <dtazv>Inhalt fuer DTAZV-Datei</dtazv>
</refunds>
```
XML request of the refund interface

A list of parameters can be found Annexe.

4.2.4. Consolidate refunds

a) Automatically

As soon as the "sender"-block is transferred at the request of the XML interface, the refunds are consolidated automatically. In the response you get the consolidated refunds in the parameters "dta" and "dtazv".

b) Manually

If the "sender"-block isn't transferred at the request of the XML interface, the refunds are marked automatically, but aren't consolidated. In this case you can consolidate the refunds manually in the customer menu. Further information can be found in chapter 4.1.Refunds via the customer menu (manually).

4.2.5. Complete refunds

a) Via SOFORT Bank interface

This option is only available for those transactions, which have as sender account an account at the SOFORT Bank:

- Step 1: Choose in the customer menu "Services / Refunds"

- Step 2: The refund files are listed at the end of the screen

- Step 3: Start the automatic transfer to SOFORT Bank (click "computer icon")

- Step 4: With your account details you can login to the SOFORT Bank online banking

- Step 5: Enter the required TAN to confirm the refunds

Customers of the SOFORT Bank can do the upload of the refunds also via the DTA(ZV) interface (if the "sender"-block at the request of the XML interface was transferred).

Via DTA(ZV) interface

- Step 1: Save the content of the XML block "dta" in a DTA file (.dta) and the content of the XML block "dtazv" in a DTAZV file (.dtazv).

- Step 2: Upload the file to your online banking (for help please contact your bank)

- Step 3: Complete the transaction in your online banking and confirm the refunds with your TAN

4.2.6. Testing refunds

In order to test refunds, you have to make at first a SOFORT Banking test transaction. Afterwards you can test the manual as well as the automatic refund. In the customer menu you can find the prepared and consolidated test refunds at "Services"/"Refunds"/"Test refunds".

For a test with the automatic method (XML interface) please use following bank account:

```
<sender>
   <holder>Bei Tests beliebig</holder>
   <account_number>9999999999</account_number>
   <bank_code>88888888</bank_code>
</sender>
```

The request must be formatted according to the following example:

```
<?xml version="1.0" encoding="UTF-8" ?>
<refunds>
  <title>test</title>
```

```
   <sender>
     <holder>Max Mustermann</holder>
     <account_number>9999999999</account_number>
     <bank_code>88888888</bank_code>
   </sender>
   <refund>
     <transaction>00000-00000-00000000-0000</transaction>
     <amount>1.11</amount>
     <comment>Order cancelled by user. Commodities already sent back</comment>
   </refund>
   <refund>
     <transaction>00000-00000-00000000-0001</transaction>
     <amount>1.12</amount>
   </refund>
</refunds>
```
XML test request for refunds

The test transactions will be marked as refunds and in the response you will get the consolidated refunds in the blocks "dta" and "dtazv".

In the customer menu you can find the refunds at "Services" / "Refunds" / "Test refunds". Please note that it isn't possible to mix real and test transactions in one request.

4.2.7. Error codes

If the request is invalid, the response contains an "errors" element which contains "code" and "message" elements with detailed information.

Following table shows, how you can simulate different error codes with specific transaction ID's:

Transaction	Status	Code	Message
00000-00000-00000000-0000	ok	-	-
00000-00000-00000000-5002	error	5002	Transaction could not be found
00000-00000-00000000-5003	error	5003	Amount must not exceed Transaction amount
00000-00000-00000000-5004	error	5004	Transaction has not been received yet (nur mit Konto bei der SOFORT Bank möglich)
00000-00000-00000000-5006	error	5006	No refund elements provided
00000-00000-00000000-5009	error	5009	Transaction could not be marked as cancelled. An unknown error occured.
00000-00000-00000000-5012	error	5012	Invalid amount
00000-00000-00000000-5018	error	5018	Invalid BIC
00000-00000-00000000-5019	error	5019	Invalid IBAN

Table 1: Transaction numbers to simulate error codes for refunds

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5. Annexe

If you do not use the library (sofortLib) you find a detailed XML-interface documentation here.

Table column quantity:

[1]   = mandatory parameter

[0,1]   = optional parameter, only one or no value can be passed

[0..20]   = optional parameter, up to 20 values can be passed

5.1. Call of the Interface

The interface is always called with a POST request to the following URL

https://api.sofort.com/api/xml

As authentication you have to use the Basic-HTTP-Authentification and your customer id as your username and your Api-Key as your password.

The messages must be correctly formatted as XML. Examples for the XML-messages can be found in the previous chapter

5.1.1. Transaction request to the sofort Gateway

This table contains all possible parameters which can be used in order to initiate a transaction.

Parameter	Quantity	Type (Length)	Description
multipay	[1]	Container	Containername, encloses the complete message
project_id	[1]	Integer	Project number
interface_version	[0,1]	String (255)	Version of the shop interface
language_code	[0,1]	String (2)	Language of the payment form, according to ISO 639-1
timeout	[0,1]	Integer	Availability of a transaction in seconds from the creation of the message new_transaction on our interface until the placing of the bank transfer/default: unlimited
email_customer	[0,1]	String (255)	Email address of your customer
phone_customer	[0,1]	String (255)	Telephone number of your customer. Begins with + possible characters are 0-9 - / , ( ) No letters.

Parameter	Quantity	Type (Length)	Description
user_variables	[0,1]	Container	List of user variables
user_variable	[0..20]	String (255)	User variable
sender	[0,1]	Container	Sender account
holder	[0,1]	String (27)	Sender account holder
account_number	[0,1]	String (30)	Sender account number
bank_code	[0,1]	String (30)	Sender bank code
country_code	[0,1]	String (2)	Sender country code (ISO 3166-1 e.g. de)
iban	[0,1]	String (34)	IBAN
bic	[0,1]	String (11)	BIC
amount	[1]	Decimal (8,2)	Amount, format: no thousands separator, two decimal placed, separated with a point. Example: „150.00" (150 Euro)
currency_code	[1]	String (3)	Currency according to ISO 4217 e.g.: EUR
reasons	[1]	ContainerList with subjects, optional	List with subjects, optional
reason	[0..2]	String (27)	List with subjects, optional, only the following characters are allowed: **0-9**', '**a-z**', '**A-Z**', ' ', '**+**', ',', '**-**', '**.**' other characters will be deleted.
success_url	[0,1]	String (255)	Success link
abort_url	[0,1]	String (255)	Abort link
timeout_url	[0,1]	String (255)	Timeoutlink
notification_urls	[0,1]	Container	List with notification urls
notification_url	[0..5]	String (255)	Notification url
notification_emails	[0,1]	Container	List with notification email addresses
notification_email	[0..10]	String (255)	Notification email address, a example of the request you will find in the example XML-call for SOFORT Banking.
su	[0,1]	Container	SOFORT Banking

Parameter	Quantity	Type (Length)	Description
customer_protection	[0,1]	Boolean	1 = buyer protection aktivated

Table 2: Parameters request to the SOFORT Gateway

5.1.2. Response to a transaction request

As a response to a transaction request you will receive a transaction ID and an Url where the customer must be redirected to in order to finish the payment. The response may contain warnings.

Parameter	Quantity	Type (Length)	Description
new_transaction	[1]	Container	A new transaction is generated.
transaction	[1]	String (27)	Transaction number
payment_url	[1]	String (255)	Url of the payment form
warnings	[0,1]	Container	List with warnings
warning	[1..n]	Container	Warning, non critical errors
code	[1]	Int	Warning code
message	[1]	String(255)	Warning message

Table 3: Return parameters SOFORT Gateway after a transaction request

5.2. Notification about a status change of a transaction

5.2.1. Notification about a status change

After a finished transaction or in case of a status change you will receive a notification which includes the following parameters.

Parameter	Quantity	Type (Length)	Description
status_notification	[1]	Container	The status of the transaction has changed.
transaction	[1]	String (27)	Transaction id
time	[1]	String (25)	Date and time (with time zone) according to ISO 8601 in the

Parameter	Quantity	Type (Length)	Description
			Format YYYY-MM-DDThh:mm:ss+HH:mm e.g. 2010-06-17T18:30:00+02:00

Table 4: Parameter of the notificcation SOFORT Gateway

5.2.2. Transaction detail request

If you need more details about a transaction you can request details of a transaction. A transaction detail request contains the following parameters.

Parameter	Quantity	Type (Length)	Description
transaction_request version="2"	[1]	Container	Request of transaction details
transaction	[0..100]	String (27)	Transaction number, more than one can be queried
from_time	[0,1]	String (25)	Start of a period if no transaction ID has been passed. Default: request day 0:00 o'clock. Format ISO 8601 YYYY-MM-DD or YYYY-MM-DDThh:mm:ss+HH:mm
to_time	[0,1]	String (25)	End of a period if no transaction id has been passed. Default: request point of time. Format YYYY-MM-DD or YYYY-MM-DDThh:mm:ss+HH:mm
number	[0,1]	Integer	Amount of transactions that should be passed (at request of a period). Default: 100
page	[0,1]	Integer	If number is used you are able to request the following transactions with this parameter Default: 1 e.g.: number=10, page=2 => transactions 11-20 are passed

Table 5: Parameters transaction request SOFORT Gateway

5.2.3. Response to a transaction detail request

The table shows all possible parameters a transaction detail message may contain. If you want to create your own invoice for Rechnung by sofort you have to use the green highlighted parameters.

Parameter	Quantity	Type (Length)	Description
transactions	[1]	Container	List of transactions

Parameter	Quantity	Type (Length)	Description
transaction_details	[0..n]	Container	Details of one transaction
project_id	[1]	Integer	Project number
transaction	[1]	String (27)	Transaction id
test	[1]	Boolean	Test transaction
time	[1]	String (25)	Date and time (with time zone) according to ISO 8601 in the Format YYYY-MM-DDThh:mm:ss+HH:mm e.g. 2010-06-17T18:30:00+02:00
status	[1]	String (20)	Status code of the transaction
status_reason	[1]	String (255)	Reason for the status
status_history_items	[1]	Container	Container for the status history entries
status_history_item	[0...n]	Container	Subcategory for individual status entries
status	[1]	String (20)	Status code of the transaction
status_reason	[1]	String (255)	Reason for the status
time	[1]	String (25)	Time of the set status
status_modified	[1]	String (25)	Date and time (with time zone) of the last status change according to ISO 8601 in the Format YYYY-MM-DDThh:mm:ss+HH:mm e.g. 2010-06-17T18:30:00+02:00
payment_method	[1]	String (2)	Payment method that has been used (su, sr,)
language_code	[1]	String (2)	Language, according to ISO 639-1
amount	[1]	Decimal (8,2)	Amount
amount_refunded	[0..1]	Decimal (8,2)	Refunded amount
currency_code	[1]	String (3)	Currency according to ISO 4217 e.g.: EUR
reasons	[1]	Container	List with subjects
reason	[0..2]	String (255)	Subject
user_variables	[1]	Container	List of user variables
user_variable	[0..20]	String (255)	User variable

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Parameter	Quantity	Type (Length)	Description
sender	[1]	Container	Sender account
holder	[1]	String (27)	Sender account holder
account_number	[1]	String (30)	Sender account number
bank_code	[1]	String (30)	Sender bank code
bank_name	[1]	String (255)	Sender country code
bic	[1]	String (11)	BIC
iban	[1]	String (34)	IBAN
country_code	[1]	String (2)	Country code
recipient	[1]	Container	Recipient account
holder	[1]	String (27)	Recipient account holder
account_number	[1]	String (30)	Recipient account number
bank_code	[1]	String (30)	Recipient bank code
bank_name	[1]	String (255)	Recipient country code
bic	[1]	String (11)	BIC
iban	[1]	String (34)	IBAN
country_code	[1]	String (2)	Country code
email_customer	[1]	String (255)	Email address of your customer
phone_customer	[1]	String (255)	Telephone number of your customer. Begins with + possible characters are 0-9 - / , ( ) No letters.
exchange_rate	[1]	Decimal (8,4)	Exchange rate
costs	[1]	Container	Information about the current fees for this transaction
fees	[1]	Decimal (8,2)	Fees
currency_code	[1]	String (3)	Currency according to ISO 4217 e.g.: EUR
exchange_rate	[1]	Decimal (8,4)	Exchange rate

Parameter	Quantity	Type (Length)	Description
su	[0..1]	Container	SOFORT Banking
consumer_protection	[1]	Boolean	Buyer protection activated

Table 6: Parameters transaction request SOFORT Gateway

5.3. Status messages SOFORT Banking

A transaction detail message also contains the status of a payment, if a SOFORT Bank account exist.

status	status_reason	Description
loss	complaint	The buyer protection has been claimed.
loss	not_credited	Money not received.
pending	not_credited_yet	Money not received yet.
received	consumer_protection	The money has been credited to the trust account.
received	credited	Money received.
refunded	compensation	The money has been refunded (partly refund).
refunded	refunded	Money has been refunded (complete refund of the full amount).

Table 7: Status messages of transactions for SOFORT Banking and SOFORT Bank-account

status	status_reason	Description
untraceable	sofort_bank_account_needed	The transaction with SOFORT Banking was successfull. Additional status reports on receipt of the amount in the account are only possible with SOFORT bank account.

Table 8: Status messages of transactions for SOFORT Banking without SOFORT Bank-account

5.4. Error Case

5.4.1. Parameters for the error massage / warning

Parameter	Amount	Type (Length)	Description
errors	[1]	Container	Error list, container
error	[1..n]	Container	

Parameter	Amount	Type (Length)	Description
code	[1]	Integer	Error number
message	[1]	String (255)	Error message
field	[1]	String (255)	Field to which the error relates
warnings	[1]	Container	List of warnings, container
warning	[1..n]	Container	
code	[1]	Integer	Warning id
message	[1]	String (255)	Warning message
field	[1]	String (255)	Field to which the error relates

Table 9: Parameter of the error massage / warning

5.4.2. Possible error messages / warnings

Common errors

Code	Message
7000	Invalid XML
7001	Invalid project ID
7002	Project disabled
7004	Xml parameter not provided in request
7005	Project has no SOFORT Bank account
7006	Service temporarily unavailable due to maintenance
7007	Amount required.
7008	Invalid amount.
7009	Reason required.
7010	Invalid sender country id.
7011	Invalid recipient country id
7012	Invalid sender bank code

Code	Message
7013	Sender account equals recipient account
7014	Invalid hash

Table 10: Common errors

Error/warnings when calling the SOFORT Gateway interface

Code	Message
8000	No project ID provided
8001	Unknown project
8002	Validation Error
8003	Request could not be processed
8004	No product is selected
8006	Logic error.
8010	must not be empty
8011	not in list of valid values
8012	must be a positive number
8013	unsupported currency
8014	invalid amount
8015	amount is out of range
8016	must be a valid url
8017	invalid chars
8018	maximum length of 27 chars exceeded
8019	invalid email address
8020	invalid phone number
8021	invalid country code
8022	unsupported country code

Code	Message
8023	invalid BIC
8026	must be a boolean, either 0 or 1
8027	product not activated and not in testmode
8028	locked_sender_country_id is activated in project settings, but not provided
8042	consumer protection is only available for sender accounts from DE, AT and CH
8044	the provided sender.bank_code is a test bank code (but product is not in testmode)
8045	product in testmode and given bank_code is not a test bank code
8046	validation of given bank account and bank code failed
8047	maximum length of 255 chars exceeded
8048	invalid date format, expecting YYYY-MM-DD HH:MM::SS
8049	unsupported language
8050	value too small. setting timeout to minimum value.
8051	invalid items found
8054	all products deactivated due to errors. Initiation aborted
8055	will be replaced by transaction ID
8056	sender email must be provided for consumer protection
8057	activate this product in your project settings
8058	payment not possible with this service
8059	sender country not supported for this currency
8060	Blacklisted
8061	Transaction with same data already created
8063	No success_url provided in request and in project settings
8064	No abort_url provided in request and in project settings

Table 11: Error/warnings at the request of the SOFORT Gateway

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Error at the request of the transaction details

Code	Message
7999	Out of range (Too many entries or invalid values for the site)
8005	Too many transactions requested
8007	Invalid date format. Format is YYYY-MM-DD [HH:MM:SS]
8008	from_time equals to_time
8009	max date range exceeded

Table 12: Errors at the request of the transaction details SOFORT Gateway

Status-Codes of the API

200 OK: message accepted

401 Unauthorized: no authorisation, e.g. false API-Key

5.5. Refunds

In order to mark and consolidate a transaction as refund you have to use the following parameters in you request.

5.5.1. Parameters for preparing a refund

Parameter	Amount	Type (Length)	Description
refunds	[1]	Container	List of refunds
title	[0..1]	String	Name of file
sender	[0..1]	Container	If the refund should be executed from another bank account instead of the account which is saved in the project settings
holder	[0..1]	String	Name of account holder
account_number	[0..1]	String	Number of the sender account
bank_code	[0..1]	String	sort code of the sender account
refund	[1..n]	Container	refund
transaction	[1]	String	Transaction id of the transaction you are refunding

Parameter	Amount	Type (Length)	Description
amount	[1]	Double (8.2)	Amount to be transferred, formatted as : 12345.24
comment	[0..1]	String (255)	Optional comment, will be displayed in your admin menu

Table 13: Parameters for preparing a refund

5.5.2. Response parameters

Parameter	Amount	Type (Length)	Description
error	[0..n]	Container	Description of error
code	[1]	Integer	Error code
message	[1]	String (255)	Error message
refunds	[1]	Container	
title	[0..1]	String	Dateiname
sender	[0..1]	Container	If the refund should be executed from another bank account instead of the account which is saved in the project settings.
holder	[1]	String	Name of account holder
account_number	[1]	String	Number of the sender account
bank_code	[1]	String	sort code of the sender account
refund	[1..n]	Container	
transaction	[1]	String	Transaction ID of the original transaction
amount	[1]	Double (8.2)	Amount to be transferred, formatted as : 12345.24
comment	[0..1]	String (255)	Optional comment, will be displayed in your admin menu
status	[1]	String	ok or error
error	[0..n]	Container	
code	[1]	Integer	Error code
message	[1]	String (255)	Detailed error message

Parameter	Amount	Type (Length)	Description
dta	[0..1]	String	Refunds in DTA format (for German domestic payment transactions)
dtazv	[0..1]	String	Refunds in DTAZV format (for foreign payment transactions)

Table 14: Response parameters for refunds

5.5.3. Errors

Code	Message
5000	Transaction ID missing
5001	Amount missing
5002	Transaction could not be found
5003	Amount must not exceed transaction amount
5004	Transaction has not been received yet
5006	No refund elements provided
5007	Consumer Protection not closed
5008	Product not supported
5009	Refund request could not be issued. An unknown error occured.
5010	Invalid bank code
5011	Invalid account number
5012	Invalid amount
5013	Invalid reason
5014	Reason field too long
5015	Execution date in the past
5016	'Invalid country code
5017	'Execution date is too far in the future (maximum 31 days from now)
5018	Invalid BIC

Code	Message
5019	Invalid IBAN
5020	Invalid holder
5021	Refunding of test and real transactions must not be mixed
5022	Transaction isn't a EUR transaction. Only EUR transactions may be refunded.
5023	Sender-Block contains a real account and the records are test transactions. Real sender account and test transactions must not be mixed.
5024	Sender-Block contains a test account and the records are real transactions Test sender account and real transactons must not be mixed.
5025	Transaction has no account holder

Table 15: Specific error for refunds

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6. Support & Imprint

The SOFORT team will gladly assist you. You may either e-mail us at integration@sofort.com or use our support form under **https://www.payment-network.com/sue_de/general/kontakt**

For questions concerning the integration of our payment solution contact our technical support hotline: +49 (0)89 20 20 889 - 400

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