

Conto QuickPay Payment Initiation Module. Integration Guide

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Intro

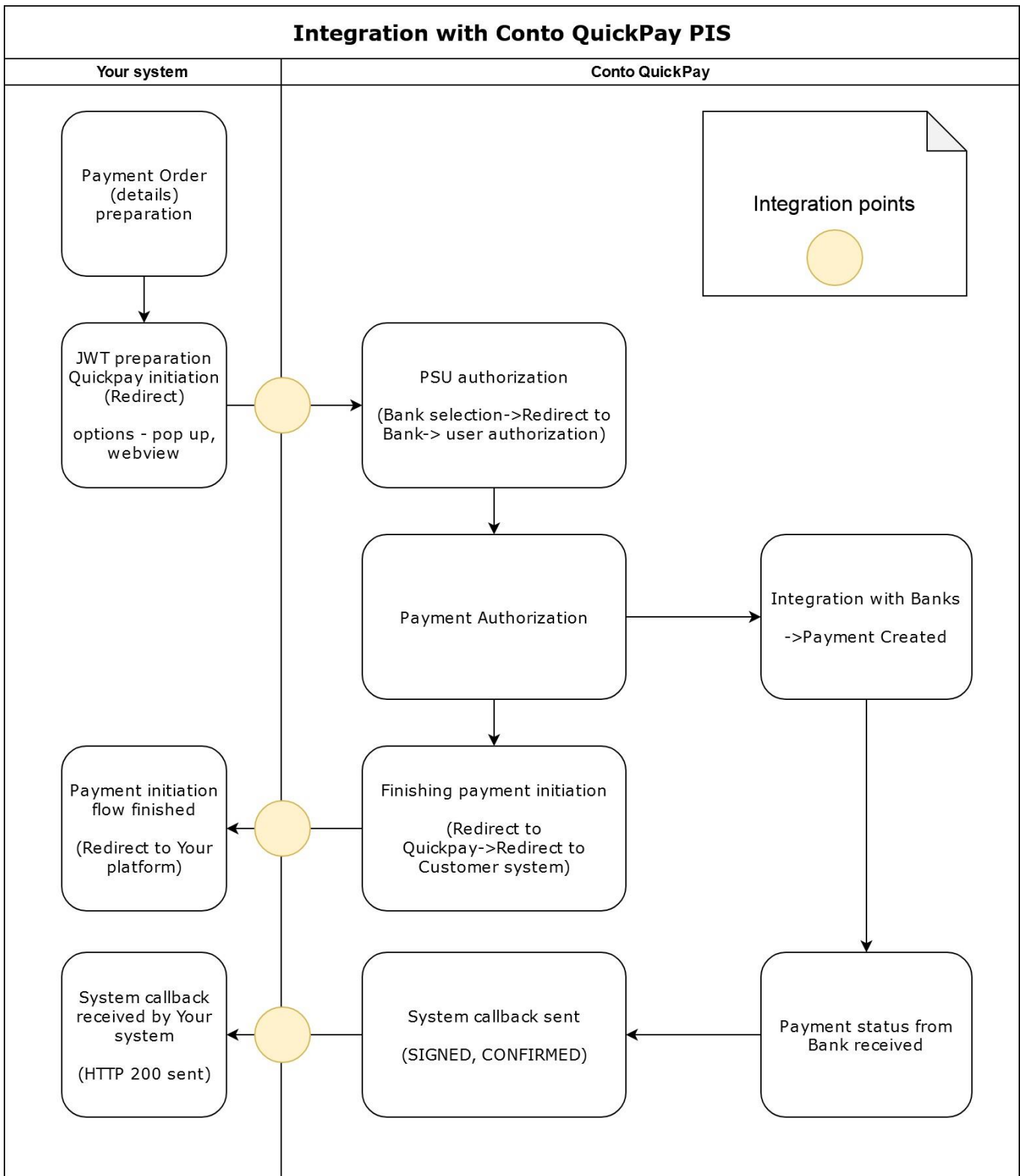
Welcome to Conto QuickPay payment initiation module integration guide! This document will assist you step by step in how to start using our payment initiation module. Just follow the instructions and get your system integrated with ours.

Plugins

There are ongoing developments for open source projects' plugins that allow seamless integration with our module. Let us know at support@contomobile.com what specific open source project you use.

Integration points

In fact, there are three basic integration points that have to be implemented for the integration to be complete. These integration points are marked by yellow circles in the diagram below:



1. JWT preparation and Conto QuickPay initiation.
Here you have to create JWT to invoke a payment initiation window. The payment initiation window is invoked by JavaScript using our Conto QuickPay widget.
2. Payment initiation flow finished.
On having finished the payment initiation flow, the user is redirected back to your system where you display a particular result based on the outcome.
3. System callback received by Your system.
Eventually, a callback message, containing the actual status of the payment, is sent to your system.

Each of these integration points will be described in more detail in later chapters.

Payment initiation

The payment is initiated by JavaScript. Therefore, it is necessary to include the following script into your HTML:

HTML snippet

```
<script type="text/javascript" src="https://quickpay.contomobile.com/static/widget.js"></script>
```

This script will allow you to start the payment initiation window by creating a QuickPayWidget object with the parameters described in the table below.

Widget configuration

Widget initialization properties				
Property	Explanation	Required	Type	Default
redirectUrlSuccess	This success redirect URL will be used to notify about the success flow status. If this property is defined, redirectUrlCancel must also be defined. When redirectUrlSuccess and redirectUrlCancel are defined, the redirect flow is enabled; otherwise, the popup flow is initiated.	YES when redirectUrlCancel is defined	string	-
redirectUrlCancel	This cancelled redirect URL will be used to notify about the cancelled flow status. If this property is defined, redirectUrlSuccess must be also defined. When redirectUrlSuccess and redirectUrlCancel are defined, the redirect flow is enabled; otherwise, the popup flow is initiated.	YES when redirectUrlSuccess is defined	string	-
defaultLanguage	This variable is used when there is a need to set a certain default language when the widget is initialized. The widget will allow the user to change the language in the widget as well. The language code should be provided in the ISO 639-2 code format.	NO	string	LIT (possible values - LIT, ENG)
defaultCountry	This property will allow setting a default country. The country code should be provided in the ISO 3166-1 Alpha-2 code format.	NO	string	LT (one possible value - LT)
creditor	Using this variable, you can pre-select a choice of a bank, i.e. if the customer specifies the desired bank to be directed to for making a payment, the system immediately shall direct the customer to the pre-selected bank (the creditor's value); otherwise (if such a value is not specified - NO by default), the entire list of available banks will be displayed to the customer. In order to be able to use this option, provide the BIC for each bank. The list of banks is not supported. Value "OTHER" is used, if there is a need to initiate a payment with just providing the payment details.	NO	string	-
other	This variable adds/removes (true/false) option "Another bank" in the window of banks' selection. This chosen window provides only the payment details (redirection to the bank is not available).	NO	boolean	true (possible values - true, false)
webview	If you wish to integrate the payment initiation flow into your mobile application, set this property to "true". redirectUrlSuccess and redirectUrlCancel must be defined.	NO	boolean	false (possible values - true, false)

Widget initialization example:

Widget initialization

```
var host = 'https://quickpay.contomobile.com/';
new QuickPayWidget(host, token, {
  redirectUrlSuccess: 'https://yourshop.com/success_redirect_flow',
  redirectUrlCancel: 'https://yourshop.com/canceled_redirect_flow',
  defaultLanguage: 'LIT',
  defaultCountry: 'LT',
  creditor: 'UAAML21XXX',
  other: true,
  webview: false,
}).onSuccess(function () {
  // add your logic on success
}).onCancel(function () {
  // add your logic on cancel
}).initialize();
```

Widget sandbox initialization example:

Widget initialization

```
var host = 'https://pis-sandbox.contomobiledev.com';
new QuickPayWidget(host, token, {
  redirectUrlSuccess: 'https://yourshop.com/success_redirect_flow',
  redirectUrlCancel: 'https://yourshop.com/canceled_redirect_flow',
  defaultLanguage: 'LIT',
  defaultCountry: 'LT',
  creditor: 'UAAML21XXX',
  other: true,
  webview: false,
}).onSuccess(function () {
  // add your logic on success
}).onCancel(function () {
  // add your logic on cancel
}).initialize();
```

Host

Host is a static value that should be `https://quickpay.contomobile.com/`. It is required for the widget to know how to reach our system.

Token

At initiating the payment window, you need to submit a *token*, which is JWT token. Token is signed using the HS256 algorithm.



What is JWT?

JSON Web Token (JWT) is an open standard (RFC 7519) that defines a compact and self-contained way for securely transmitting information between parties as a JSON object. This information can be verified and trusted because it is digitally signed.

It consists of three main parts encoded in base64 and dot-separated: header.payload.signature

For more information refer to: <https://jwt.io/>

JWT contains the details of the payment and the information that lets us know that this is you.

JWT Header is a constant and does not change:

JWT Header				
Property	Explanation	Required	Type	Restrictions
alg	The algorithm used for the signature.	YES	string	The value must be "HS256"
typ	The type of the token.	YES	string	The value must be "JWT"

JWT Payload contains the details about the payment and you:

JWT Payload				
Property	Explanation	Required	Type	Restrictions
contractId	This property allows us identifying you, and we shall provided it to you at the beginning of the integration.	YES	string	Max length – 140 characters
amount	The payment initiation amount. Note that the payment is only in the EUR currency.	YES	number	Min value – "0.01"
paymentPurpose	The purpose of the SEPA payment.	YES	string	Max length – 140 characters
transactionId	The transaction ID provided by you. It should be unique for each payment initiation. It allows you to correlate the transaction with its status when the payment status callback is received.	YES	Max35 Text	Max length – 35 characters
exp	The time when JWT expires.	NO	long	

Example

Let us assume that you need to make a 10 euro payment with the payment purpose set as "MIP test payment", then JWT signed with a secret `Bzg5Js61a0JUXmNT3q2qwoe2YEGuUtxStRIILbDEe0zg=` would look like this:

JWT
<pre>eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJjb250cmFjdElkIjoiaWVudW50IjozMCwicGF5bWVudFB1cnBvc2UiOiJNSVAgdGVzdCBwYXltZW50IiwidHhbnNhY3Rpb25JZCI6ImRjMjgyMTZiZTVkMDQyMjg4YWE5MzU4NGIyMmVjMmE5In0.a-jIP5wuAluCjJRbKQcDcugXwQ1S2P2801tOFr8SUwQ</pre>

JWT

JWT header
<pre>{ "alg": "HS256", "typ": "JWT"}</pre>

JWT payload
<pre>{"contractId":"714462","amount":10,"paymentPurpose":"MIP test payment","transactionId":"dc28216be5d042288aa93584b22ec2a9"}</pre>

redirectUrlSuccess and redirectUrlCancel (payment initiation flow finished)

After having finished the payment initiation flow, the user is redirected to the URL specified in the widget initiation.

Widget initiation example:

Widget initialization
<pre>var host = 'https://quickpay.contomobile.com/';new QuickPayWidget(host, token, { redirectUrlSuccess: 'https://yourshop.com/complete', redirectUrlCancel: 'https://yourshop.com/cancel'}) .initialize();</pre>

If the user closes the widget during the payment initiation flow, then he/she will be redirected to `https://yourshop.com/cancel`. If the payment initiation flow was successfully completed, then the user is redirected to `https://yourshop.com/complete`.

This allows you to return the user back to your system and display the appropriate result, however this does not mean that the payment was truly successful. The actual result of the payment will be sent as a callback.

Popup

It is also possible to make the widget open in a separate popup window, in this case the user never leaves your system for the payment initiation. This happens when `redirectUrlSuccess` and `redirectUrlCancel` are not defined.

Example:

Widget initialization

```
var host = 'https://quickpay.contomobile.com/';
new QuickPayWidget(host, token, {
}).onSuccess(function () {
  // add your logic on success
}).onCancel(function () {
  // add your logic on cancel
}).initialize();
```

`onSuccess()` and `onCancel()` callbacks will be used with the popup flow. `onSuccess()` is called when the payment flow has been successfully finished; `onCancel()` means that the user has cancelled the payment flow.

Creditor Bank

It is possible to choose a bank at your website before starting the payment initialization. Then each bank would have its own widget initialization script that looks like this:

Widget initialization

```
var host = 'https://quickpay.contomobile.com/';
new QuickPayWidget(host, token, {
  redirectUrlSuccess: 'https://yourshop.com/complete',
  redirectUrlCancel: 'https://yourshop.com/cancel',
  creditor: "HABALT22"
}).initialize();
```

The bank is identified by BIC and it should be set to a creditor property. In this particular example, the creditor is "HABALT22".

Direct widget call not using widget.js

In order to call widget directly - via link - it is needed to configure `QuickPayWidget` url with its query parameters. All possible widget query parameters are listed in the [Widget initialization properties](#) table above. It is worth to mention, that there are two mandatory parameters:

- `token` - payment JWT token (which is explained above in [Token](#) paragraph)
- `webview` - should be set to `true` in order to get redirect flow without redirect urls to your shop

Query parameters values should be [encoded](#). Widget initialization via link example:

Direct widget call

```
https://quickpay.contomobile.com/initialize?token=payment_JWT_token&redirectUrlSuccess=https%3A%2F%2Fquickpay.contomobile.com%2Fconclusion&webview=true&
```

System Callback

A system callback request is sent to your system informing you about the status of the payment. No system callback will be sent if the user closes the widget or the browser before he/she is requested to authorize the payment.

Payment status `SIGNED` is returned, if the user has successfully confirmed the payment; or status `FAILED` is returned, if the payment was not signed.

An additional confirmation callback with status CONFIRMED is available in case the beneficiary account is Contomobile account. It informs that funds have been received. The callback is sent only after the money has been booked to your account, if this process does not take too long, then the first callback with status SIGNED is skipped.

Status EXPIRED may be returned, if the payment status is not conclusive (FAILED, SIGNED, CONFIRMED) for a long period of time. This can happen when the user closes the browser; in such a case, the bank of the user might not change the payment status from pending to a more conclusive.

Transaction status	
Status	Description
CONFIRMED	The payment has been successfully signed and the funds were received.
SIGNED	The payment has been successfully signed.
FAILED	The payment has been rejected or user-cancelled.
EXPIRED	The payment status is not conclusive (CONFIRMED, SIGNED, FAILED) after a long period of time.

Request Callback

A request callback is an HTTP POST request with a JSON body that contains JWT with a payment status. JWT is signed with the same secret provided by us that was used for payment initialization. Token is signed using the HS256 algorithm.

Request JSON body			
Property	Explanation	Required	Type
token	JWT containing a payment status.	YES	JWT

JWT Header is a constant and does not change:

JWT Header				
Property	Explanation	Required	Type	Restrictions
alg	The algorithm used for the signature.	YES	string	The value must be "HS256"
typ	The type of the token.	YES	string	The value must be "JWT"

JWT Payload			
Property	Explanation	Required	Type
transactions	An array of payments and their statuses.	YES	string
transactions.transactionId	The original transaction ID provided by you.	YES	string
transactions.status	Payment initiation amount. Possible status values: <ul style="list-style-type: none"> CONFIRMED – the payment has been successfully signed and the funds were received, SIGNED – the payment has been successfully signed, FAILED – the payment has failed, EXPIRED – the payment status is not conclusive (CONFIRMED, SIGNED, FAILED) after a long period of time. 	YES	string
iat	The time JWT was issued.	YES	long

Callback request example

HTTP request body
<pre>{ "token": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJ0cmFuc2FjdGlvbnMiOiI7InRyYW5zYWN0aW9uSWQ9Ij0iOiJkYzI4MjE2YmU1ZDA0MjI4OGFhOTM1ODRiMjJlYzJhOSIsInN0YXR1cyI6I1NJR05FRkRjOj9XSviaWF0Ijoxtk4MzU3Nzg0MjU5fQ.YD20DZdiX506dHQ9r65SWbhBkv1x7X7wmbwGgdfkks8" }</pre>

Callback JWT

JWT header

```
{
  "alg": "HS256",
  "typ": "JWT"
}
```

JWT payload

```
{"transactions":[{"transactionId":"dc28216be5d042288aa93584b22ec2a9","status":"SIGNED"}],"iat":1598357784259}
```

Response Callback

When a callback is sent to you, your system must validate the signature of the JWT to make sure that the callback was sent by us and not someone else. If the signature is correct and you have successfully received the callback, then you should respond with the HTTP status code 200 and the HTTP response body:

HTTP response body

```
{"status":"ok"}
```

In case you consider our callback request invalid, then you should return the HTTP status code 400. The HTTP response body could be added for additional reference like this:

HTTP response body

```
{"status":"failure", "message":"invalid signature"}
```

In case your system is unreachable or returns the HTTP status code 5**, then a callback request will be sent again. You have to respond to our request in 15s.

Prerequisites

Provided by us

The unique contractId that identifies you. This value must be provided in JWT payload during the payment initiation.

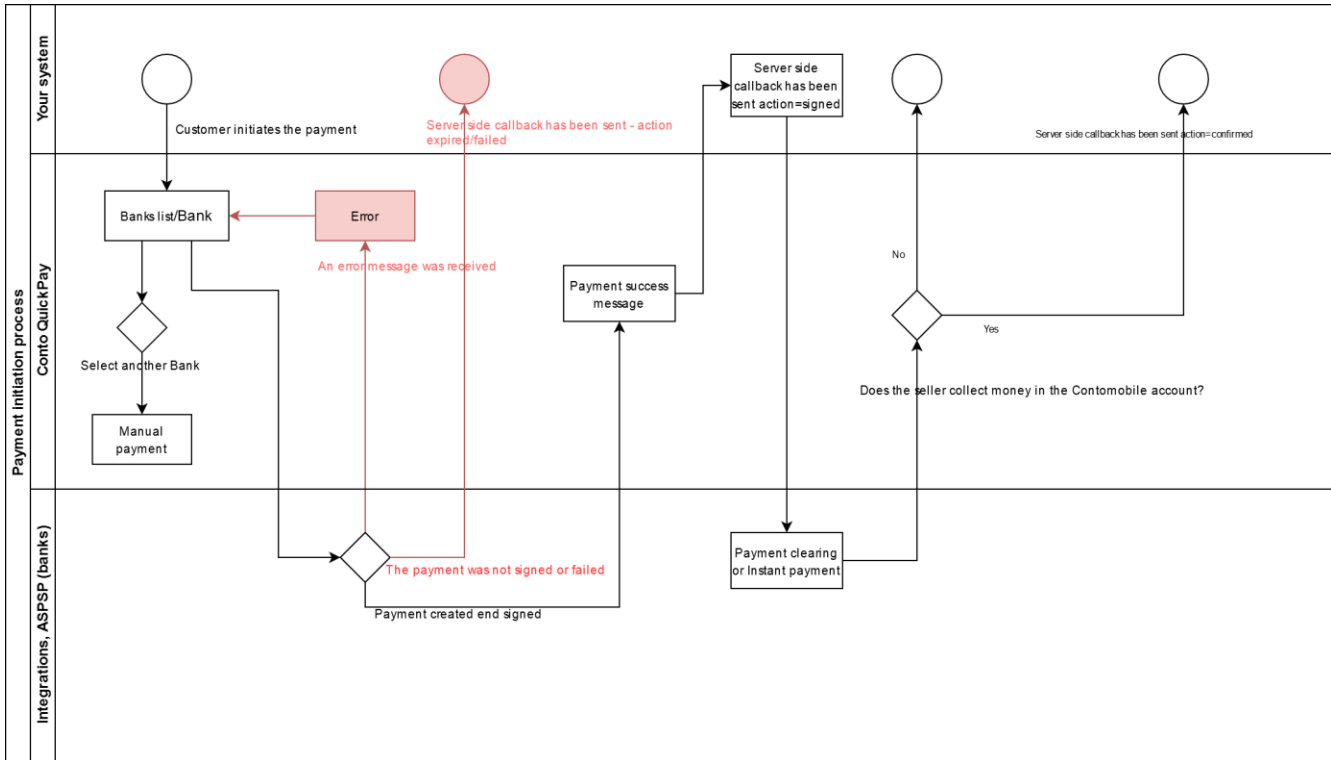
The signing secret is provided by us, it is encoded in base64 and it should be decoded before use. This secret will be used to sign JWT using the HS256 algorithm.

Provided by you

You should provide us with the secure HTTPS endpoint where a callback will be sent, i.e.: <https://yourbusiness.com/callback>.

Workflow

In order to see the workflow of the whole process, please refer to the below provided diagram with the explanation of each step. We also provide some examples, which contain valid JWT based on a particular secret, therefore they can be used during your development to verify that JWT signatures are correct.



Flow step	Environment	Description
Customers initiates the payment	Your system	The shop initiates the payment that invokes Conto QuickPay widget.
Banks list/Bank	Conto QuickPay	Conto QuickPay widget displays the list of banks to the customer. In it, the customer selects the bank, via which the payment is to be made.
Manual payment	Conto QuickPay	If the customer does not find their online bank in the provided list of banks, selecting Manual payment will open the payment information. The customer will be able to make the payment by entering the previously opened payment orders in their online bank.
Payment created end signed	ASPSP	The payment is created in the payer's bank.
Payment success message	Conto QuickPay	The customer is returned from the bank to Conto QuickPay, where a successful payment message is displayed.
Server side callback has been sent action - signed	Your system	Callback with Signed status is sent to the shop. <i>If the payment is received instantly, Signed status can be skipped and only Confirmed is sent.</i>
Payment clearing or Instant payment	ASPSP	Payment clearing or instant payment is made.
Server side callback has been sent action - confirmed	Your system	If the shop collects money on OUR account, callback with Confirmed status is sent to the shop. Otherwise, this step is skipped, i.e. no callback is sent.
The payment was not signed or failed	Your system	In case the user has cancelled the payment or the payment has been rejected by the Bank, we have not received the conclusive status callback.

Example

A 10 euro transaction with the payment purpose set as "MIP test payment" must be made. You are provided with `contractId` that is 714462 and the secret that is Bzg5Js61a0JUXmNT3q2qwoe2YEGuUtxStRILbDEe0zgz=.

Payment initialization

There must be created JWT, which will be used for the Payment initialization. Create JWT with the following parameters:

contractId: 714462
amount: 10
paymentPurpose: MIP test payment
transactionId: dc28216be5d042288aa93584b22ec2a9

A signed token with the secret Bzg5Js61a0JUXmNT3q2qwoe2YEGuUtxStRILbDEe0zgz= would look like this:

JWT Token

```
eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.  
eyJjb250cmFjdElkIjoie0NDYyIiwiaWF0IjoxMCwicGF5bWVudFB1cnBvc2UiOiJNSVAgdGVzdCBwYXltZW50IiwidHJhbnNhY3Rpb25J  
ZCI6ImRjMjgyMTZiZTVkMDQyMjg4YWE5MzU4NGIyMmVjMmE5In0.a-jIP5wuAluCjJRbKQcDcugXwQlS2P2801tOFr8SUwQ
```

And the Payment initialization script would look like this:

Widget initialization

```
var host = 'https://quickpay.contomobile.com/';  
new QuickPayWidget(host, token, {  
  redirectUrlSuccess: 'https://yourshop.com/complete',  
  redirectUrlCancel: 'https://yourshop.com/cancel',  
  other: true  
}).initialize();
```

When the payment is initialized, the payment initiation window is displayed.

Payment signed by the user

When the payment has been successfully signed by the user, we redirect the user's browser to your web page at: <https://yourshop.com/complete>. This web page should display to the user that the made payment was a success.

Signed callback

A callback request will be sent to your server informing you on successful signing of the payment:

HTTP request body

```
{"token":"eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.  
eyJ0cmFuc2FjdGlbnMiOiI7InRyYW5zYWN0aW9uSWQiOiJkYzI4MjE2YmU1ZDA0MjI4OGFhOTM1ODRiMjJlYzJhOSIsInN0YXR1cyI6I1NJR05F  
RCJ9XSwiaWF0Ijoie0NDYyIiwiaWF0IjoxMCwicGF5bWVudFB1cnBvc2UiOiJNSVAgdGVzdCBwYXltZW50IiwidHJhbnNhY3Rpb25J  
ZCI6ImRjMjgyMTZiZTVkMDQyMjg4YWE5MzU4NGIyMmVjMmE5In0.a-jIP5wuAluCjJRbKQcDcugXwQlS2P2801tOFr8SUwQ"}
```

JWT payload

```
{"transactions":[{"transactionId":"dc28216be5d042288aa93584b22ec2a9","status":"SIGNED"}],"iat":1598357784259}
```

Your server validates JWT and responds to the HTTP call with status 200 and the HTTP response body:

HTTP response body

```
{"status":"ok"}
```

Server side callback

If the account of the beneficiary is a Contomobile account, then you will receive a callback of the confirmed payment.

Request body:

HTTP request body

```
{ "token": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJ0cmFuc2FjdGlbnMiOiJ0IiwiaWF0IjoiMTU5ODM1ODRiMjJlYzJhOSIsInN0YXR1cyI6IkpNPTkZJk1FRkZ9XSwiaWF0IjoxNTk4MzU3Nzg0MjU5fQ.tNd-6uF6DBOOhWt1jb1LDz74hEM8byQXuQ-8nzSR0Q" }
```

JWT payload

```
{ "transactions": [ { "transactionId": "dc28216be5d042288aa93584b22ec2a9", "status": "CONFIRMED" } ], "iat": 1598357784259 }
```

Your server validates JWT and responds to the HTTP call with status 200 and the HTTP response body:

HTTP response body

```
{ "status": "ok" }
```

Payment cancelled by the user

Failed callback

When the payment has been cancelled by the user using the provided navigation buttons, we redirect the user's browser to your web page at: <https://yourshop.com/cancel>. This web page should display to the user that the payment was cancelled.

A callback request will be sent to your server informing you on the failed payment:

Request body:

HTTP request body

```
{ "token": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJ0cmFuc2FjdGlbnMiOiJ0IiwiaWF0IjoiMTU5ODM1ODRiMjJlYzJhOSIsInN0YXR1cyI6IkpZSUxRkZ9XSwiaWF0IjoxNTk4MzU3Nzg0MjU5fQ.RVfkaqiIuaSqkZ3JLRc6q9-bNefztSR0Bua1aPkiQHU" }
```

JWT payload

```
{ "transactions": [ { "transactionId": "dc28216be5d042288aa93584b22ec2a9", "status": "FAILED" } ], "iat": 1598357784259 }
```

Your server validates JWT and responds to the HTTP call with status 200 and the HTTP response body:

HTTP response body

```
{ "status": "ok" }
```

Available Banks API

A list of available banks and languages by a country can be accessed by invoking a service: <https://quickpay.contomobile.com/api/setup/country-banks>

An example response could look something like this (it is shortened for explanatory reasons):

HTTP response body

```
{
  "countryBanks": [
    {
      "countryCode": "LT",
      "banks": [
        {
          "bic": "UAAML21XXX",
          "active": true
        },
        {
          "bic": "HABALT22XXX",
          "active": false
        }
      ],
      "languages": [
        "LIT",
        "ENG"
      ]
    }
  ]
}
```

in this case two banks are available in Lithuania (LT), banks are identified by their BIC: UAAML21XXX, HABALT22XXX. A bank identified by UAAML21XXX is currently active and can be used right away. Another bank identified by HABALT22XXX is currently not active, this might be because of technical issues or a bank might be updating their system. There are two languages available for this country: LIT and ENG.

Sandbox

Payment initiation Sandbox example

HTML snippet

```
<script type="text/javascript" src="https://pis-sandbox.contomobiledev.com/static/widget.js"></script>
```

Widget sandbox initialization example

Widget initialization

```
var host = 'https://pis-sandbox.contomobiledev.com';
new QuickPayWidget(host, token, {
  redirectUrlSuccess: 'https://yourshop.com/success_redirect_flow',
  redirectUrlCancel: 'https://yourshop.com/canceled_redirect_flow',
  defaultLanguage: 'LIT',
  defaultCountry: 'LT',
  creditor: 'UAAML21XXX',
  other: true,
  webview: false,
}).onSuccess(function () {
  // add your logic on success
}).onCancel(function () {
  // add your logic on cancel
}).initialize();
```