

LibraPay implementation manual

Content:

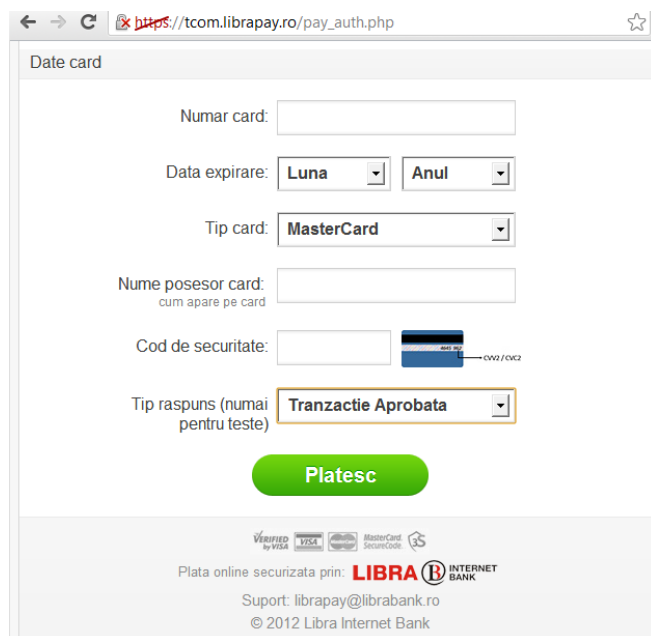
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I. Technical Details (GET-POST messages)

- A. Upon LibraPay service installation, the message structure that enables communication between merchant website and LibraPay - <https://secure.librapay.ro> - is provided by the technical team.
- B. Along with this standard structure, new messages can be customized, depending on the merchant requirements. This information is useful for future reports that can be generated and displayed on the Internet Banking – LibraPay menu.
- C. The recommended security level is HTTPS communication between the two systems (LibraPay and merchant website). However, this feature is not mandatory.
- D. Further levels of security are provided by the message encryption key known only by merchant and LibraPay. This key generates unique transaction codes that are used for GET-POST validation. The encryption key is included in the personalized installation demo kit.
- E. Once the LibraPay demo kit is installed, the system has to be tested. For test environment access, due to the existent IP restrictions within LibraPay system, please provide your IP(s) to the support team.

In test mode, LibraPay URL for POST messages is: https://tcom.librapay.ro/pay_auth.php

This will provide a test payment form like the picture below:



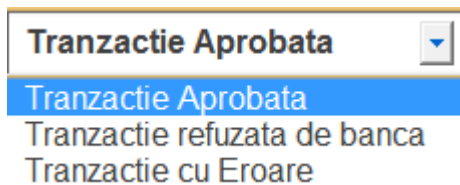
During the test, you can enter the following card information:

Card Number: 4012888888881881
Expiry date: [Random Date]
Card Type: VISA
Name: [Random Name]
Security Code: [Random Number]

or

Card Number: 555555555554444
Expiry date: [Random Date]
Card Type: MASTERCARD
Name: [Random Name]
Security Code: [Random Number]

The tests should include all response scenarios:



- F.** After tests completion, before switching to Live mode, the merchant must confirm:
- the email address that will be used for order reception and payment completion alerts
 - the person that will have access to the LibraPay module from Internet Banking
- G.** Switching to Live mode can take minimum 2 days depending on the VISA & MASTERCARD response for Live activation.

In Live mode, LibraPay's URL for POST messages is: https://secure.librapay.ro/pay_auth.php

For final Live tests, the merchant will create a product/service of 1 RON that can be traded with a real card.

II. Merchant Data - example form

```
<form id="PaymentForm" name="PaymentForm" method="post"
action="http://tcom.librapay.ro/pay_auth.php">

<input type="hidden" name="AMOUNT" value="200.00" />
<input type="hidden" name="CURRENCY" value="RON" />
<input type="hidden" name="ORDER" value="25418745" />
<input type="hidden" name="DESC" value="descrierea comenzii" />
<input type="hidden" name="TERMINAL" value="12345678" />
<input type="hidden" name="TIMESTAMP" value="20110602130440" />
<input type="hidden" name="NONCE" value="145bd54b5d088b42bdfcf8217531b478" />
<input type="hidden" name="BACKREF" value="http://www.client-website.ro/raspuns" />
<input type="hidden" name="DATA_CUSTOM" value="fsdafghdg345df435sgfat321gt31" />
<input type="hidden" name="P_SIGN" value="933C50D839F0654ADC787F2AF802F87E99199C3C" />
<input type="submit" name="trimitere" value="Plateste" />

</form>
```

III. Pay-response flow

a) Synchronous flow

1. From the merchant site, using POST method, the merchant data (see chapter IV. Description Fields) is sent to LibraPay URL, and the payment form is displayed.
2. The card data is inserted into the LibraPay payment form.
3. After payment processing, the client is redirected to the URL specified in:

```
<input type="hidden" name="BACKREF" value="http://www.client-website.ro/raspuns" />
```

This is the address that is used to receive the synchronous response (at payment processing), where the merchant implements the order processing flow, for various types of response.

Generally, the data is received by GET method at the specified URL in BACKREF variable, but in case BACKREF already contains variables that are set for GET, the response is received by POST method.

b) Asynchronous flow (IPN - Instant Payment Notification)

The response can also be received asynchronous, at a specified URL agreed with the merchant. The asynchronous response is identical with the synchronous one and it is sent by POST repeatedly until the merchant's server responds with the message "1" (e.g. in PHP: echo "1";).

** In order to set this option, please contact the support team.*

IV. Description fields

IV.1. List fields

Name	Type	Length	Mandatory	Description
AMOUNT	Number	1-12	*	Payment total amount. It must contain exactly 2 decimals separated by dot. Thousands must NOT be separated by comma. Valid examples: 11203.83 or 30.00 Invalid examples: 11,203.83 or 30
CURRENCY	String	3	*	Payment currency. It must always be "RON".
ORDER	Number	6-19	*	Order ID. It must have at least 6 and maximum 19 numeric chars, must be unique for every order and it must not contain leading zero (valid example: 100001)
DESC	String	1-50	*	Order description displayed in the LibraPay. Authorization interface (internetbanking.ro)
TERMINAL	String	8	*	Merchant website identifier (provided by LibraPay)
TIMESTAMP	String	14	*	gmdate("YmdHis") The order will be rejected if the difference between GMT time and sent time is more than 1 hour. Format: YYYYMMDDHHMMSS
NONCE	String	32	*	Random generated number for security check e.g. md5("librabank_".rand(99999,999999));
BACKREF	String	1-80	*	The URL where the user is redirected after payment validation. The response is usually send via GET, but if BACKREF has GET variables the response is sent via POST
DATA_CUSTOM	String	NA	*	Encrypted serialized array of custom data: base64_encode(serialize(array(ProductData => array, UserData => array)));
P_SIGN	String	40	*	Message's security code. It will be computed for every message.

IV.2. DATA_CUSTOM : ProductData (Ordered Products Data)

Name	Type	Length	Description	Mandatory
ItemName	String	1-50	Product name	*
ItemDesc	String	1-50	Product description	
Categ	String	1-50	Product category in the merchant shop	
Subcateg	String	1-50	Product subcategory in the merchant shop	
Quantity	Number	1-10	Quantity of the products	*
Price	Double	1-12	Item price. It must contain exactly 2 decimals separated by dot. Thousands must NOT be separated by comma.	*
ProductId	String	1-19	Product ID in the merchant's application	

Depending on the merchant needs, it is recommend to create distinctive products for:

- shipping – as a separate product with its own price
- discounts – as a separate product with negative value

This way, the client will see all the details of the transaction in the confirmation e-mail.

IV.3. DATA_CUSTOM : UserData (Client Data)

Name	Type	Size	Description	Mandatory
LoginName	String	1-50	login information that is used for checkout	
Email	String	1-50	client e-mail	*
Name	String	1-100	client name	*
CNP	Number	13	if the value is sent, it must be a valid CNP with exactly 13 numeric characters	
Phone	String	1-50	client phone(s)	*
BillingID	String	1-15	CUI for companies, ID serial for individuals	

BillingIDNumber	String	1-10	ID number for individuals	
BillingEmail	String	1-100	client billing email	*
BillingName	String	1-100	company name for companies, client name for individuals	*
BillingAddress	String	1-255	client billing address	
BillingPhone	String	1-50	client billing phone(s)	*
BillingIssuedBy	String	1-100	client billing ID issuer	
BillingCity	String	1-50	client billing city	*
BillingPostalCode	String	1-50	client billing postal code	
BillingDistrict	String	1-50	client billing district	
BillingCountry	String	1-50	client billing country	*
ShippingID	String	1-15	CUI for companies, ID serial number for individuals	
ShippingIDNumber	String	1-10	ID number for individuals	
ShippingEmail	String	1-100	client shipping e-mail	*
ShippingName	String	1-100	company name for companies, client name for individuals	*
ShippingAddress	String	1-255	client shipping address	*
ShippingPhone	String	1-50	client shipping phone(s)	*
ShippingIssuedBy	String	1-100	client shipping ID issuer	
ShippingCity	String	1-50	client shipping city	*
ShippingPostalCode	String	1-50	client shipping postal code	
ShippingDistrict	String	1-50	client shipping district	
ShippingCountry	String	1-50	client shipping country	*

IV.4. PSIGN Computation:

The standard algorithm for P_SIGN computation is HMAC-SHA1 using the following procedure:

1. an array with all fields of the table is formed (depending on the desired message)
2. in front of each field is attached the length of the field (numeric)
3. the fields with NULL value will be replaced with a dash (-) and will not have the length attached
4. the encryption key converts the array to a hexadecimal value (pack ('H *', \$ key))
5. encryption function is applied (HMAC-SHA1) which results in a hexadecimal value with a length of 40 digits
7. the result is modified so that all letters appear in capitals (strtoupper (\$ p_sign))
8. the result is sent along with the other fields from the table

It is very important for the merchant to verify and validate the value of P_SIGN sent by LibraPay for every message.

IV.4.1 P_SIGN fields for authorization request

Name	Type	Length	Description
AMOUNT	Number	1-12	Payment total amount. It must contain exactly 2 decimals separated by dot. Thousands must NOT be separated by comma. Valid examples: 11203.83 or 30.00 Invalid examples: 11,203.84 or 30
CURRENCY	String	3	Payment currency. It must always be "RON".
ORDER	Number	6-19	Order ID. It must have at least 6 and maximum 19 numeric chars, must be unique for every order and it must not contain leading zero (valid example: 100001)
DESC	String	1-50	Order description displayed in the LibraPay Authorization interface (internetbanking.ro)
MERCH_NAME	String	1-50	Merchant name provided with the LibraPay demo-kit
MERCH_URL	String	1-50	Merchant website URL provided with the LibraPay demo-kit
MERCHANT	Number	15	Merchant identifier provided with the LibraPay demo-kit (0000000 + Terminal).
TERMINAL	Number	8	Merchant website identifier provided with the LibraPay demo-

			kit
EMAIL	String	1-50	Merchant's e-mail address
TRTYPE	Number	1	The accepted value for payment authorization is zero ("0")
COUNTRY	String	2	The value will be set to NULL
MERCH_GMT	String	1-5	The value will be set to NULL
TIMESTAMP	String	14	gmdate("YmdHis") The order will be rejected if the difference between GMT time and sent time is more than 1 hour. Format: YYYYMMDDHHMMSS
NONCE	String	32	Random generated number for security check e.g. md5("librabank_".rand(99999,9999999));
BACKREF	String	1-80	The URL where the user is redirected after payment validation. The response is usually send via GET, but if BACKREF has GET variables the response is sent via POST
P_SING	String	40	Message's security code. It will be computed for every message.

IV.4.2 P_SIGN fields for authorization response

Name	Type	Size	Description
TERMINAL	Number	8	The value sent in the authorization request (merchant website identifier)
TRTYPE	Integer	1	The value sent in the authorization request. In payment authorization the value will always be zero ("0").
ORDER	Number	6-19	The value sent in the authorization request (Order ID)
AMOUNT	Number	1-12	The value sent in the authorization request (payment total amount)
CURRENCY	String	3	The value sent in the authorization request (the value will always be "RON")
DESC	String	1-50	The value sent in the authorization request (order description)
ACTION	String	1	"0" = approved transaction "1" = duplicate transaction

			<p>"2" = denied transaction "3" = processing error</p>
RC	String	3	<p>ISO8583 response code from issuer bank "00" = Request approved Anything else = error (request denied)</p>
MESSAGE	String	50	<p>ISO8583 description of the response code (for further details see chapter V)</p>
RRN	String	12	<p>Reference Retrieval Number – unique number that can be used to retrieve the original transaction data</p>
INT_REF	String	16	<p>Internal reference number</p>
APPROVAL	String	6	<p>Authorization code from issuer bank</p>
TIMESTAMP	YYYYMMDDH HMMSS	14	<p>GMT value generated for each transaction</p>
NONCE	String	32	<p>Random generated number for security check</p>
P_SING	String	40	<p>Message's security code. It will be computed for every message.</p>

Example of P_SIGN computation for an authorization request

Given the following values:

<i>Name</i>	<i>Length</i>	<i>Value</i>
AMOUNT	5	11.48
CURRENCY	3	USD
ORDER	6	771446
DESC	16	IT Books. Qty: 2
MERCH_NAME	17	Books Online Inc.
MERCH_URL	14	www.sample.com
MERCHANT	15	123456789012345
TERMINAL	8	99999999
EMAIL	19	pgw@mail.sample.com
TRTYPE	1	1
COUNTRY	0	(NULL)
MERCH_GMT	0	(NULL)
TIMESTAMP	14	20030105153021
NONCE	16	F2B2DD7E603A7ADA
BACKREF	33	https://www.sample.com/shop/reply

The result string is:

511.483USD677144616IT Books. Qty: 217Books Online
Inc.14www.sample.com1512345678901234589999999919pgw@mail.sample.com11--
142003010515302116F2B2DD7E603A7ADA33<https://www.sample.com/shop/reply>

The encryption key used is: 00112233445566778899AABBCCDDEEFF

HMAC-SHA1 algorithm result is: FACC882CA67E109E409E3974DDEDA8AAB13A5E48

V. Response codes and messages for online payment

After receiving authorization requests, LibraPay will respond with certain codes and messages. Depending on the code, it can be determined whether or not the transaction has been successfully completed. The most common codes and the associated messages are listed in the table below:

RC	MESSAGE
00	AUTHORIZED
Anything else: ERROR due to various reasons. For example:	
- 19	AUTHENTICATION FAILED
51	INSUFFICIENT FUNDS

For LibraPay implementation, depending on the development environment, the technical team will provide one of the following modules:

- » .NET demo-kit
- » PHP standard demo-kit
- » PHP ecommerce platforms (each one with its own Install Guide):
 - ✓ CsCart
 - ✓ InterSpire
 - ✓ Magento
 - ✓ OpenCart
 - ✓ PrestaShop
 - ✓ osCommerce

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