



**Acquiring**  
**Installment Payments**  
**EcommerceConnect**  
**Version 1.0**

**Kyiv, 2018**

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### **Purpose**

The purpose of the Document is to describe the **Installment Payments service integration** by the Ecommerce system developers.

In order to start the process, the Acquirer should receive per each merchant the following data from Ukrainian Processing Center:

- Merchant\_id
- Terminal\_id
- Ecommerce Connect payment gateway certificate
- Access to the Merchant Administrative Interface

### Installment Payments Service Activation for Merchant

The activation of Installment Payments is enabled by Ukrainian processing center.

1. Merchant sends a request to activate the option and indicates Merchant\_Id. The request should be sent to [ec@upc.ua](mailto:ec@upc.ua)
2. Acquiring Bank sets the threshold amount (in transaction currency) and in case it is exceeded, the installment confirmation flag will be sent in the authorization request to the Issuer.

*For instance, an Acquirer sets 100 UAH threshold amount. That would mean that all transactions below 100 UAH are sent as ordinary purchase transactions to an Issuer. Whereas the transaction amount is above 100 UAH, like 101 UAH, the transaction will get the parameter that can be recognized by the Issuer. In case if installment is available for the cardholder, the Issuer will send back the Installment plan that will be shown on the merchant payment page.*

3. After Installment **Payments** option activation by Ukrainian processing center, the Merchant via the Merchant Administrative Interface sets the «yes» at «**Installment plan sending by Notify**» field. Other fields should not be changed.

The screenshot shows the 'Terminal data' configuration page in the EcommerceConnect Merchant Administrative Interface. The page has a sidebar menu with 'Info', 'Profile', 'Terminals', 'Transactions', and 'Invoicing'. The main content area is titled 'Terminal data' and contains a form with the following fields:

Merchant ID	1754971
Terminal ID	E7882971
Merchant	Tim
Cutt-Off time	-AUTO -AUTO (hh:mm)
Number of attempts to enter card	2
Success URL ( SUCCESS_URL )	
Failure URL ( FAILURE_URL )	
Notify URL ( NOTIFY_URL )	http://julia.com
Send conditions of MasterCard Installment to NOTIFY_URL	Yes
E-Mail	

There are 'Update' and 'Reset' buttons at the bottom of the form.

If “yes” is chosen at «**Installment plan sending by Notify**» field, it means that the merchant will receive the notifications when good or services are paid using the Installment option at the merchant page.

4. The Merchant initiates a standard payment request

The format and description of the elements

Parameter	Structure	Format	Parameter name (assignment)	Description
Version	F	N	SG Interface version value	Interaction protocol version. Currently Version '1' is in use. This parameter is referential to process gateway's incoming data.
MerchantID	L	an15	Merchant identifier	Is appointed by the Acquirer
TerminalID	F	an8	Terminal identifier	-- // --
TotalAmount	F	N1..12	Order amount	In minimal currency units (kopeks, cents)
Currency	F	n3	Currency	Is defined by the Bank that provides the service
AltTotalAmount (O)	F	N1..12	Order amount (alternative currency)	Optional parameter  In minimal currency units (kopeks, cents)
AltCurrency (O)	F	n3	Alternative currency	Is defined if the Merchant wants to display the transaction amount in another currency.
PurchaseTime	F	n12..17	Request time in format yyMMddHHmmss or yyMMddHHmmssZ	yy - year MM - month in year dd - day in month HH - hour in day (0-23) mm - minute in hour ss - second in minute Z - time zone (RFC 822)  Zone format -  [+ -] Hours Minutes  Example  +0300 , -0200  If there is no zone indicated in the parameter, it is considered to be same as the gateway has.
locale	F	a2	Interface language (en;ru;uk;hr;fr;de;sq;rs;it;hu;ro;pl;sk;cz;sl)	The language of the Ecommerce gateway secure page interface
OrderID	L	Ans...20	Order number up to 20 byte	

## Installment Payments EcommerceConnect

Parameter	Structure	Format	Parameter name (assignment)	Description
SD (O)	Var	an...99	Session Data –data of the session	Axillary parameter. Can be used by the system to manage users' sessions
PurchaseDesc (O)	L	ans...1 25	Short description of the order: service or goods	Axillary parameter of 3-D Secure specification. Can be displayed on the payment server page. Is recommended to be used for the customer's convenience.
Signature	Var	Scheme dependent	MAC- code or signature value	The length of the parameter depends on the chosen calculation scheme

Payment request description

Example:

```
<form action="https://ecg.test.upc.ua/rbi/enter" method="POST">  
<meta http-equiv="Content-Type" content="text/html; charset=utf-8">  
<input name="Version" type="hidden" value="1" />  
<input name="MerchantID" type="hidden" value="1111111" />  
<input name="TerminalID" type="hidden" value="E1111111" />  
<input name="TotalAmount" type="hidden" value="1000" />  
<input name="Currency" type="hidden" value="980" />  
<input name="locale" type="hidden" value="ru" />  
<INPUT TYPE="HIDDEN" NAME="PurchaseTime" VALUE="150611110821"/>  
<input name="OrderID" type="hidden" value="121sdsdss2sd" />  
<input name="PurchaseDesc" type="hidden" value="tran test" />  
<input name="Signature" type="hidden" value="" />  
<input type="submit"/>  
</form>
```

After the payment confirmation request is sent, the payment page is shown to enter the payment card data:

**Raiffeisen Bank International**

Enter payment card information English

**Details of payment**

Order ID	rbi13
Merchant	orsay
Description	TEST installment
Amount	15000.00 UAH
Card Number	
Expiry Date	09 2018

Return to the [Merchant Site](#) ( without completing your payment )

**VERIFIED by VISA MasterCard SecureCode**  
Click on the image to learn more

**Note :** The next screen you see may be payment card verification through your card issuer

**PROCEED**

Raiffeisen Bank International AG



Details of payment

Order ID	rbi13
Merchant	orsay
Description	TEST installment
Amount	15000.00 UAH

Card data

Card type	MASTER CARD
Card Number	5316 94** **** 7640
Expiry Date	09/2033

Card verification code

Please enter the CVV2/CVC2 code to perform the payment

Return to the [Merchant Site](#) ( without completing your payment )



The next action is the process of authorization. Please wait patiently and DO NOT click any buttons. This will avoid any disruption to your payment's processing.

**PROCEED**

Raiffeisen Bank International AG

After the card data entry, the client is given a possibility to complete the payment using Installments option. The “Payment option” field shows the corresponding options.

This page shows the information about the **Installment Payment**, so the customer can choose the installment plan and confirm the payment.





Order ID	test8
Merchant	orsay
Description	installment
Amount	1501.00 UAH

Card data

Card type	MASTER CARD
Card Number	540953*****0002
Expiry Date	11/2018

Installment / Payment plans

Payment option	Pay in Installment
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Choose installment plan

Some text

Number of Installments:	8
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Interest rate	152
Installment Fee	346
Annual Percentage Rate	1824
Total Amount Due	22392

Return to the [Merchant Site](#) ( without completing your payment )

To complete the payment process, select the installment plan that suits you and click on the "Continue" button. To cancel the payment in full, click on the "Cancel" button. Then your request will be processed. Wait for it to finish and DO NOT PRESS other buttons at this time. This will allow you to properly complete the payment process.

**PROCEED** **CANCEL**

If the customer choses to Pay in Full, the customer will be given a possibility to complete the payment without Installments.



Order ID	test8
Merchant	orsay
Description	installment
Amount	1501.00 UAH

Card data

Card type	MASTER CARD
Card Number	540953*****0002
Expiry Date	11/2018

Installment / Payment plans

Payment option	Pay in Full
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Choose installment plan

Return to the [Merchant Site](#) ( without completing your payment )

To complete the payment process, select the installment plan that suits you and click on the "Continue" button. To cancel the payment in full, click on the "Cancel" button. Then your request will be processed. Wait for it to finish and DO NOT PRESS other buttons at this time. This will allow you to properly complete the payment process.

**PROCEED** **CANCEL**





**Example:**

```
echo "MerchantID="1752493"\n";
echo "TerminalID="E7880293"\n";
echo "OrderID="ID0009992"\n";
echo "Currency="980"\n";
echo "TotalAmount="980"\n";
echo "XID="333333-4444444"\n";
echo "PurchaseTime="090929152500"\n";
echo "Response.action="\n";
echo "Response.reason="\n";
echo "Response.forwardUrl="\n";
```

In case the Merchant doesn't receive the callback or doesn't know about the transaction result, transaction status (Status Request), request should be sent. After that the decision should be taken about transaction reverse or service decline.

In this case the Merchant has set «**yes**» at «**Installment plan sending by Notify**» field at the Merchant Administrative Interface, the Merchant gets a possibility to extend the reversal sending period up to 60 days.

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**Status Request**

All data is transferred to a Base64URL Encode, <https://simplycalc.com/> can be used for encryption.

The creation of json object is in accordance to the rfc7515 standard.

JWS Algorithm (<https://tools.ietf.org/html/rfc7515#page-10>)

*Creation of json object*

header => {"alg":"RS256"}

payload creation data are taken from the original transaction

payload =>

```
{"merchantId":"1752739","terminalId":"E7880539","totalAmount":50000,"currency":"980","orderId":"poip1","purchaseTime":"20151123153333"}
```

**transferred to Base64URL Encode**

**and signature made based on the received data.**

**Transferred to Base64URL header**

eyJhbGciOiJIUzI1NiJ9

**Transferred to Base64URL payload**

eyJtZXJjaGFudElkljoiMTc1MjczOSIsInRlcm1pbmFsSWQiOiJFNzg4MDUzOSIsInRvdGFsQW1vdW50Ijo1MDAwMCIwY3VycmVuY3kiOiI5ODAiLCJvcmlkclkljoiG9pcDEiLCJwdXJjaGFzZVRpbWUiOiIyMDE1MTEyMzE1MzZmYyJ9

**Preparation of signature="header"."payload"**

eyJhbGciOiJIUzI1NiJ9.eyJtZXJjaGFudElkljoiMTc1MjczOSIsInRlcm1pbmFsSWQiOiJFNzg4MDUzOSIsInRvdGFsQW1vdW50Ijo1MDAwMCIwY3VycmVuY3kiOiI5ODAiLCJvcmlkclkljoiG9pcDEiLCJwdXJjaGFzZVRpbWUiOiIyMDE1MTEyMzE1MzZmYyJ9

**Based on openssl**

openssl dgst -sha256 -sign %1 datafile1 > signature.bin

**and transformed to**

openssl base64 -e -in signature. -out signature

signature= HFGe2v7Zv+RJF+Vv2rPV5A3PAVRQkjI8HUxWdIRX4aKLH0y67sITqMFPFFeBaotF

DVWTYsHQywrHLYgiiBZ48K7cQJ9NbNrKzV6QnB5Q7tWna/tQTK2kpSmPQDrIKg+H

6vysPTeOsTFbvMR779nDQ/R7o1GLcNn+LieRaK0qIf9MQKO747r5xLck6pIAF4mS

edyaki92fgFuBL/Dlyq2ATMogCFijLIWwIEmf11D+UblDpfgTKgH4sCYLwUKMCI

uJhQt06qL5QhyiZpVdLMK+z42SOHWKq5zEz50I1ABuaULiY+KOPJIhaRVuiNWbYB

daJf9LXP3Uj3DDHg5+gXIA==

**json request creation to <https://ecg.test.upc.ua/go/service/01>**

{"header":" eyJhbGciOiJIUzI1NiJ9",



