Integration Nganluong.vn into the website of digital goods

1. Payment solution for digital goods in web environment

By using payment solution of Nganluong.vn, with some clicks a customer (a buyer) can easily pay for their product without moving among applications or checkout sites. Example : customer is reading book online, listening music or playing game …, he can buy and pay for service on the application interface without closing existing applications.

For the model on website environment, Payment methods are supported by Nganluong.vn such as:

- Phone card
- Bank account
- Nganluong.vn account balance
- Credit card or PayPal account balance

Viewing Nganluong.vn's payment method at appendix1 of this document or the demo as followings link http://sandbox.nganluong.vn/demo

1. Process

Integration is deivded into 2 processes as the following:

2.1. add funds in merchant

On the website, the merchant only need to set up a button "add funds", the customer could choose method of adding funds into Nganluong.vn account. Then, Nganluong.vn will notify the information of the transaction and update money into NganLuong.vn account of the customer. By this way, the merchant does not need to fix the money in advance (on the interface of the website)

- Methods of adding funds supported by Nganluong.vn
  - Using Nganluong.vn account balance
  - Using phone card code (Mobifone, vinaphone, viettel…)
  - Using domestic bank account.
  - Using PayPal account balance.
- Adding funds process

Step 1:Customer choose the method of adding funds on the website of the merchant.

Step 2: Merchant system sends the request of adding funds transaction on Nganluong.vn's system (called function "SetExpressCheckoutDeposit" in the appendix 05 of this document).Nganluong.vn will return the merchant a link to open a window for choosing the methods of adding funds supported by Nganluong.vn on the interface screen of the merchant's website (This window is created by simple javascript code provided by Nganluong.vn)

Step 3: The customer choose the method of adding funds in the formn provided by Nganluong.vn. (4 methods above), enter money and do the process.

Step 4: After adding funds successfully, Nganluong.vn will redirect user back the website of the merchant as return_url parameter sent to Nganluong.vn by the merchant at step 2.

Step 5: Merchant's system will process for checking the result returned on the website of return_url parameter to get the information of the transaction and the money added then provides the service to customer as the money added.(example: adding virtual money into customer's account on the website of the merchant). After finishing, the merchant notify the result to the customer (example: viewing successful transaction on screen)

2.2. Paying for product, service with default money of the merchant

Merchant will ask the customer for choosing the product to calculate price that the customer has to pay or enter money in the form of the merchant in advance. After that, the merchant will send the information of payment (include price) to Nganluong.vn in order that the customer could pay.

- Payment methods supported by Nganluong.vn
  - Nganluong.vn account Balance
  - Domestic Bank account
  - PayPal account Balance
  - Credit and debit card through PayPal
- payment process

Step 1: Customer choose product and service on the website, then click the button "pay" through NganLuong.vn

Step 2:Merchant's system send request about transaction on Nganluong.vn's system (call function SetExpressCheckoutDeposit in appendix 05 of this document).Nganluong.vn will return a link for merchant to open a windown with methods add funds which Nganluong.vn supported into screen of merchant (This windown's created by javascript code, provided by Nganluong.vn)

Step 3: Buyer choice Payment methods and process payment

Step 4: After paying successfully, Nganluong.vn will redirect user back to website of merchant follow return_url parameter that merchant send to Nganluong.vn at step 2.

Step 5: Merchant's system will process checking the result returned on the website which has contained return_url parameter to get the transaction information and update the invoice or provide service to customer as money added.(for example: add virtual money into customer's account on the website of the merchant). After providing the service, the merchant will notify the result to customer (for example: viewing the successful transaction on the screen).

2. Connection model

The communication between merchant's system and Nganluong.vn is processed through SOAP protocol(webservice) . Webservice address as the following:

- On sandbox environment: http://beta.nganluong.vn/micro_checkout_api.php?wsdl
- On live environmenrt: https://www.nganluong.vn/micro_checkout_api.php?wsdl

3. Integration

Step 1: Registing account and setup (service config)

- For integrating, you need to register an account to receive money on Nganluong.vn (register here or view guide) and get verified account (view guide)
- Setup integrating digital goods of Nganluong.vn (view appendix 02)
- If you receive money through PayPal or international credit cards through PayPal, you need to register and get verified a PayPal account (register here) and setup to integrate digital goods (view appendix 03)

Step 2: Register your website on Nganluong.vn

If your website has not been registered on Nganluong.vn yet, you pleased follow up the guide at appendix 04 of this document.

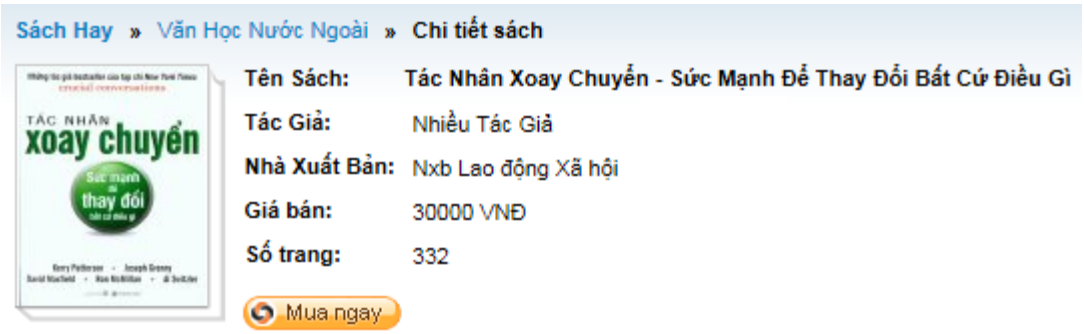
Result of this step, you need to have 2 things:

- website's code that you registered on Nganluong.vn (this code provided by Nganluong.vn automatically)
- Communication password between your website and Nganluong.vn

Step 3: Integrating payment function into your website

This step will use 2 functions: SetExpressCheckoutDeposit or SetExpressCheckoutPayment of Nganluong.vn, these functions are described in appendix 05

For example:



At the button "Mua ngay", you set up the code as the following:

```
<imgsrc="http://nganluong.vn/data/images/buttons/8.gif" id="btn_payment">
<script src="http://data.nganluong.vn/javascripts/nganluong.apps.mcflow.js"
language="javascript"></script>
<script language="javascript">
var mc_flow = new NGANLUONG.apps.MCFlow({trigger:'btn_payment',url:'URL'});</script>
```

For above URL, you use functionSetExpressCheckoutPayment to send parameters to Nganluong.vn, Nganluong.vn will return you a payment link to put in this URL.

If you don't use payment button, you want your customer to add funds and money is added on Nganluong.vn, you need to use the function SetExpressCheckoutDeposit to send parameters to Nganluong.vn

Returned link is like this:
https://www.nganluong.vn/micro_checkout.php?token=5176cbc0996f1f209a1fdb05386b65b3c4a

If your website accepts one of the methods of Nganluong.vn or you let your customer choose the method of immediate payment on your form, while putting a link (URL above), in the result returned by Nganluong.vn, you add parameter Payment_option on the payment link (for example:https://www.nganluong.vn/micro_checkout.php?token=517-6cbc0996f1f209a1fdb05386b65b3c4a&payment_option=nganluong). Then on payment form of Nganluong.vn only display correlative payment method.

Values of Payment_option:

Value	Explaination
Nganluong	Only displaying payment method through Nganluong.vn balance on the payment form (form popup)
Bank	Only displaying payment method by Domestic Bank account on the payment form of Nganluong.vn(form Popup)
Mobile	Only displaying payment method by phone card on the payment form of Nganluong.vn (form popup)
Paypal	Only display payment method by international credit card or paypal account balance on payment form of Nganluong.vn (form popup)

Step 4: Update transaction status while finishing payment

When paying successfully, Nganluong.vn will take customer back to your website as the return_url parameter that you sent to request arising payment transaction by SetExpressCheckoutPayment or SetExpressCheckoutDeposit

On returned parameter, Nganluong.vn returns you token parameter that is the value of token sent to Nganluong.vn to pay (returned from the function SetExpressCheckoutPayment or SetExpressCheckoutDeposit)

For example:

http://sandbox.nganluong.vn/demo/update_order.php?token=517-6cbc0996f1f209a1fdb05386b65b3c4a

On this link, You could perform in correlative file

Step 4.1. Checking the status of transaction by calling the function GetExpressCheckout in API of Nganluong.vn with the token code you received (viewing the explanation of function in appendix 05). If

transaction does not exist or has not finished yet (unpaid) then it will be notified the error on the screen. If transaction is successful, then move to step 4.2

Step 4.2: Process on your website as the following:

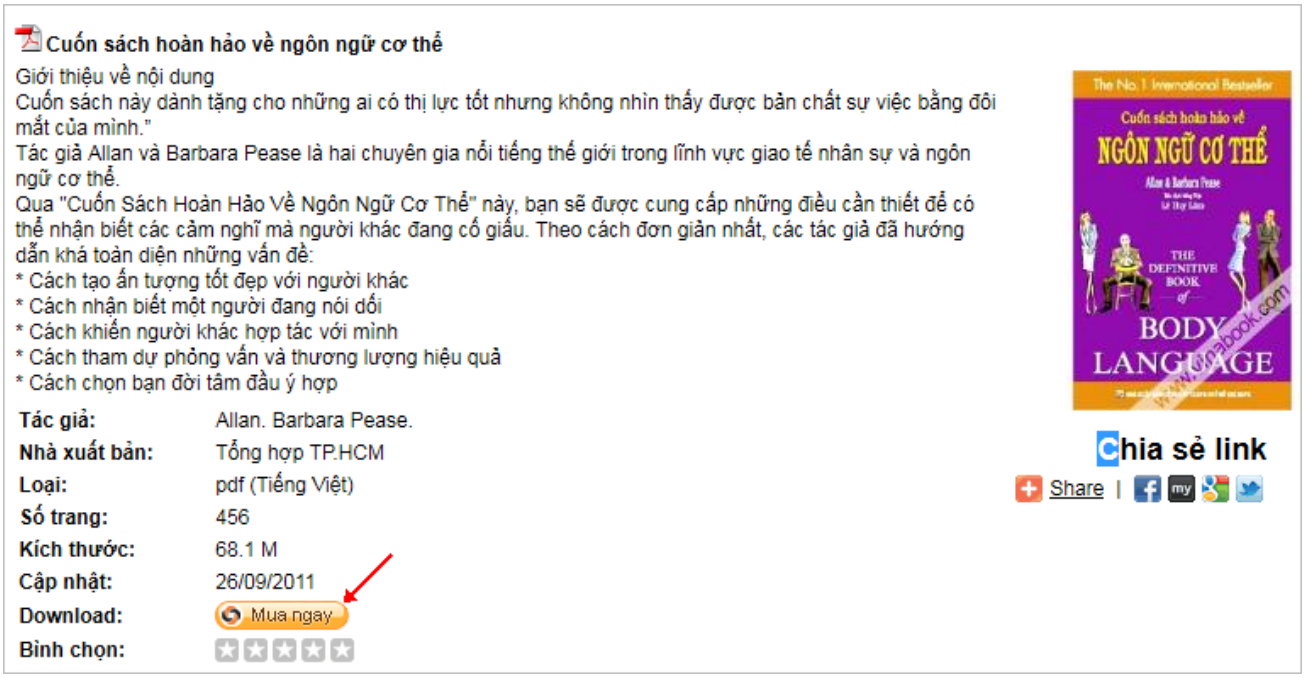
- Update paid invoices
- Update account balance (virtual) of the customer on your website.
- Send email to customer as the notification
- ……

And notice the finished transaction on the screen.

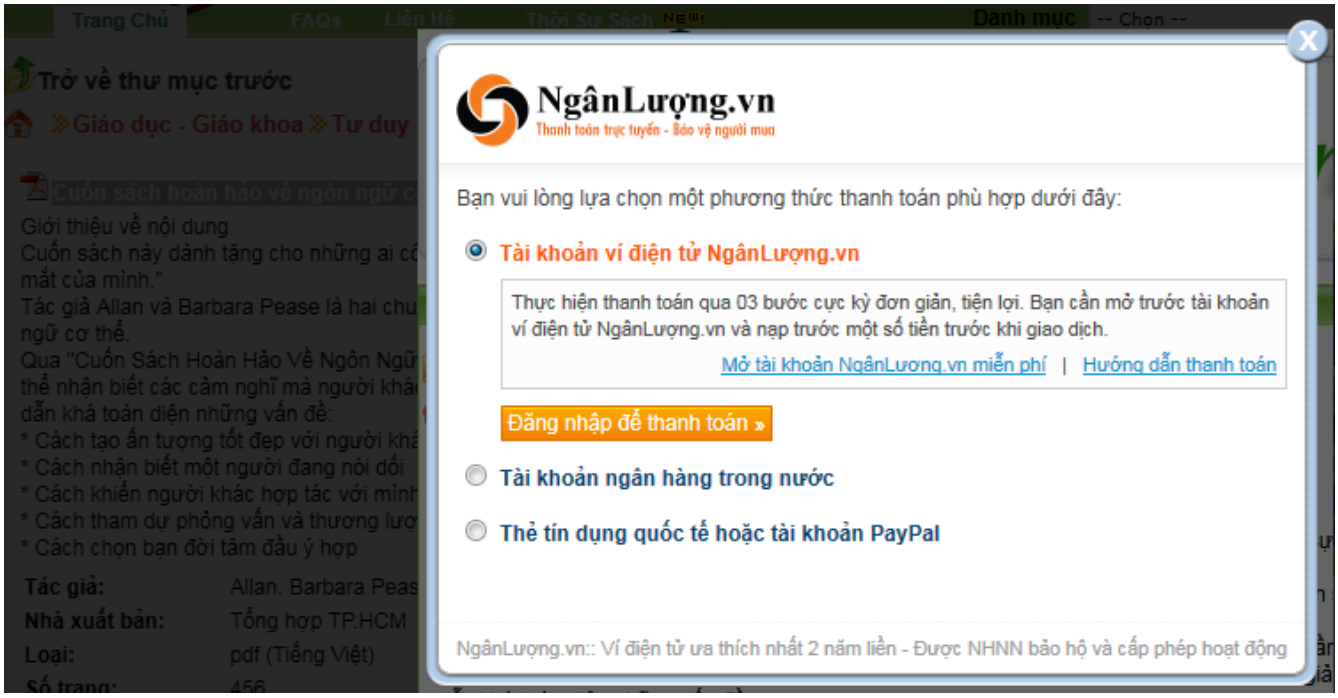
Appendix 01: Describing the payment process

Payment process as the following steps:

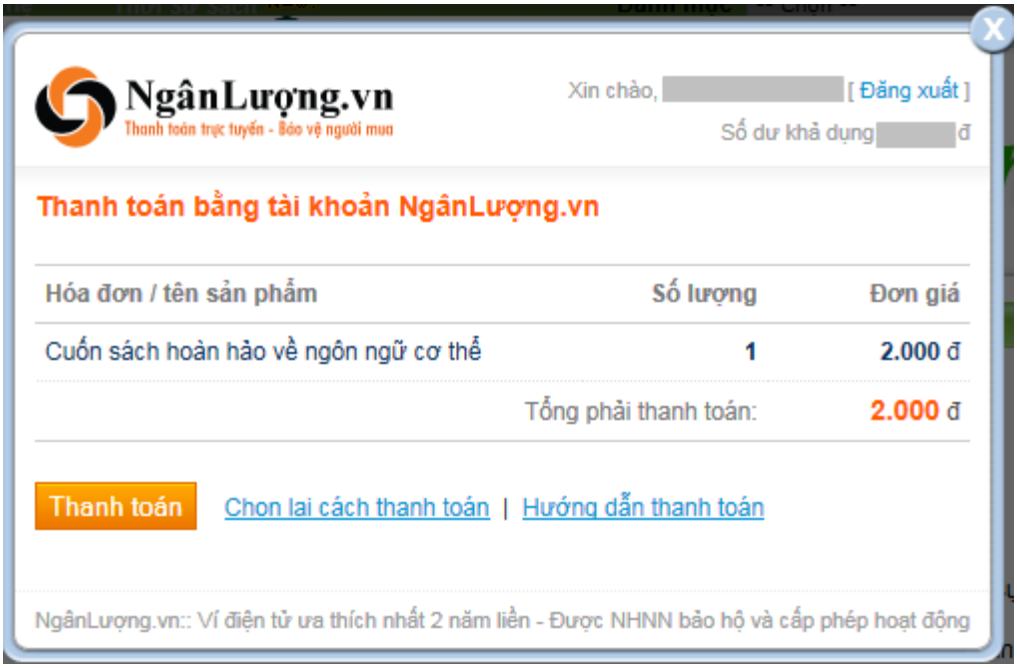
Step 1: the customer chooses the product, service which they want to buy, then click the button "buy now" or "pay" through Nganluong.vn

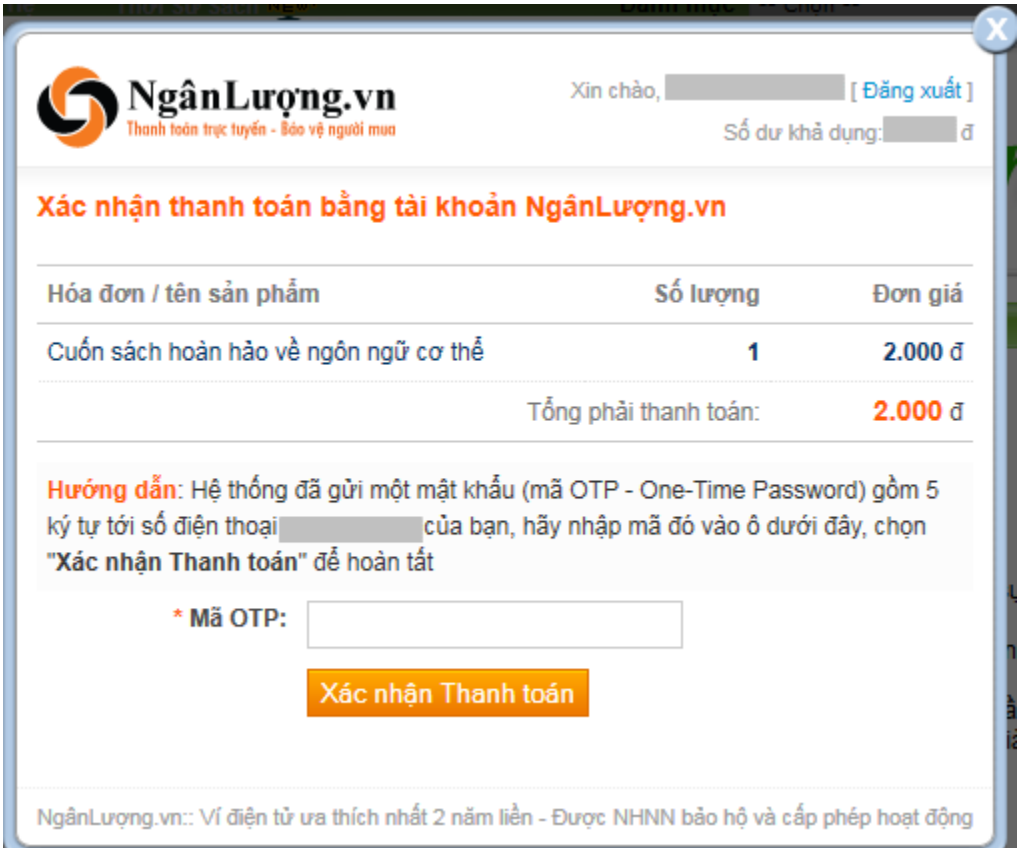


Step 2: Choosing the payment method



Option 1: Paying by Nganluong account balance



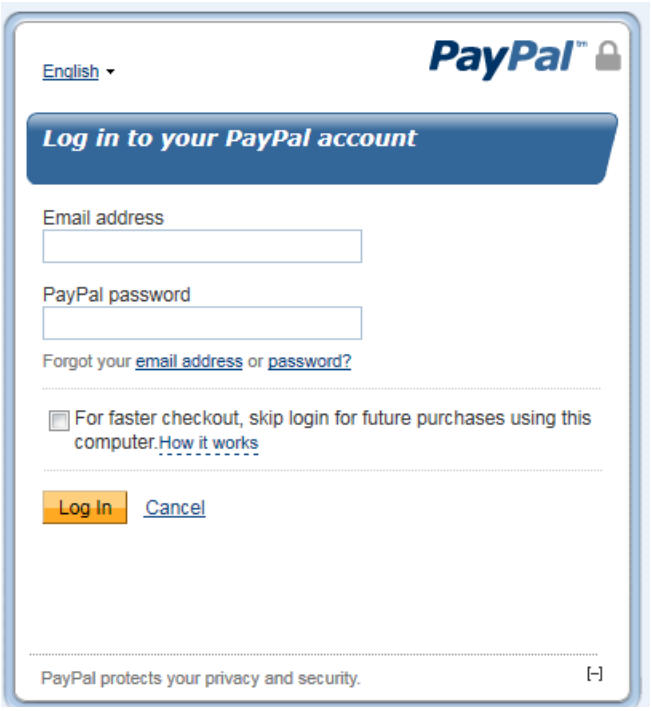


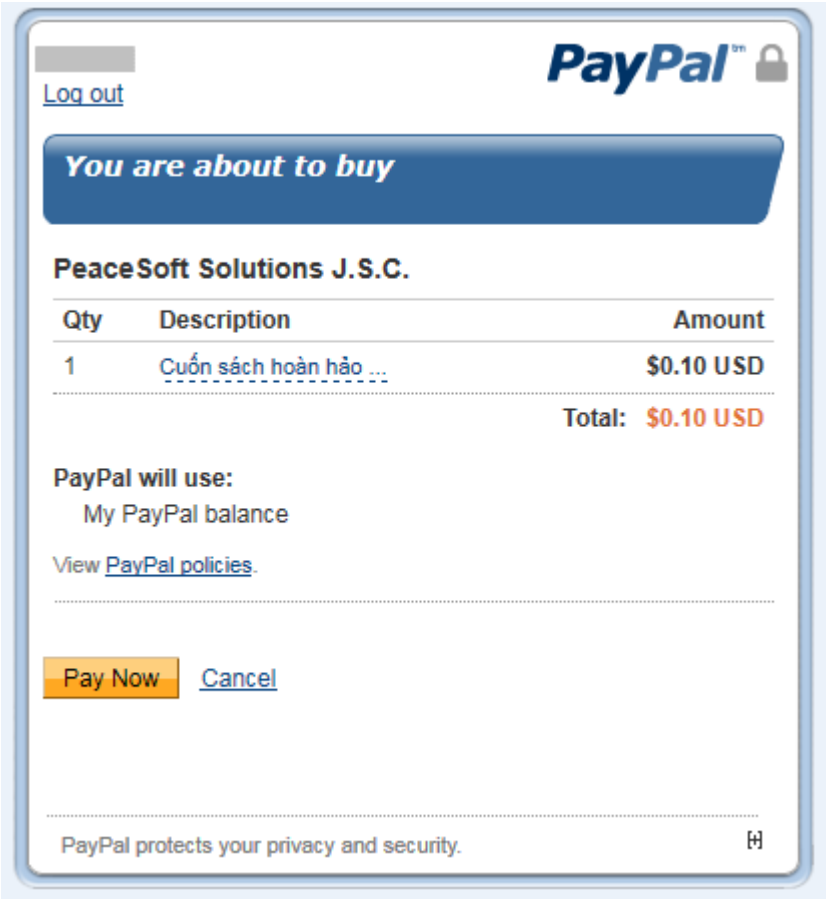
Option 2: paying online by domestic bank account

Option 3: Paying by Paypal account or international credit card

NgânLượng.vn
Thanh toán trực tuyến - Bảo vệ người mua
Bạn vui lòng lựa chọn một phương thức thanh toán phù hợp dưới đây:
Tài khoản ví điện tử NgânLượng.vn
Tài khoản ngân hàng trong nước
Thẻ tín dụng quốc tế hoặc tài khoản PayPal
Thanh toán đơn giản, tiện lợi qua cổng thanh toán trực tuyến được ưu thích nhất thế giới - PayPal.com
Mở tài khoản PayPal miễn phí | Hướng dẫn thanh toán
PAY with PayPal
NgânLượng.vn:: Ví điện tử ưa thích nhất 2 năm liền - Được NHNN bảo hộ và cấp phép hoạt động

NgânLượng.vn
Thanh toán trực tuyến - Bảo vệ người mua
Xin chào, [Đăng xuất]
Số dư khả dụng đ
Thanh toán bằng thẻ tín dụng quốc tế hoặc tài khoản PayPal
Hóa đơn / tên sản phẩm
Số lượng
Đơn giá
Cuốn sách hoàn hảo về ngôn ngữ cơ thể
1
2.000 đ
Tổng phải thanh toán:
2.000 đ
(0,10 USD)
Thanh toán »
Chọn lại cách thanh toán | Hướng dẫn thanh toán
Lưu ý: PayPal.com chưa chấp nhận thanh toán bằng tiền VND. Vì vậy, hệ thống đã tự động quy đổi số tiền thanh toán thành USD theo tỷ giá ngoại tệ của NH Ngoại thương Việt Nam (Vietcombank): 1 USD = 20.890 VND
NgânLượng.vn:: Ví điện tử ưa thích nhất 2 năm liền - Được NHNN bảo hộ và cấp phép hoạt động


English
PayPal
Log in to your PayPal account
Email address
PayPal password
Forgot your email address or password?
For faster checkout, skip login for future purchases using this computer. How it works
Log In
Cancel
PayPal protects your privacy and security.

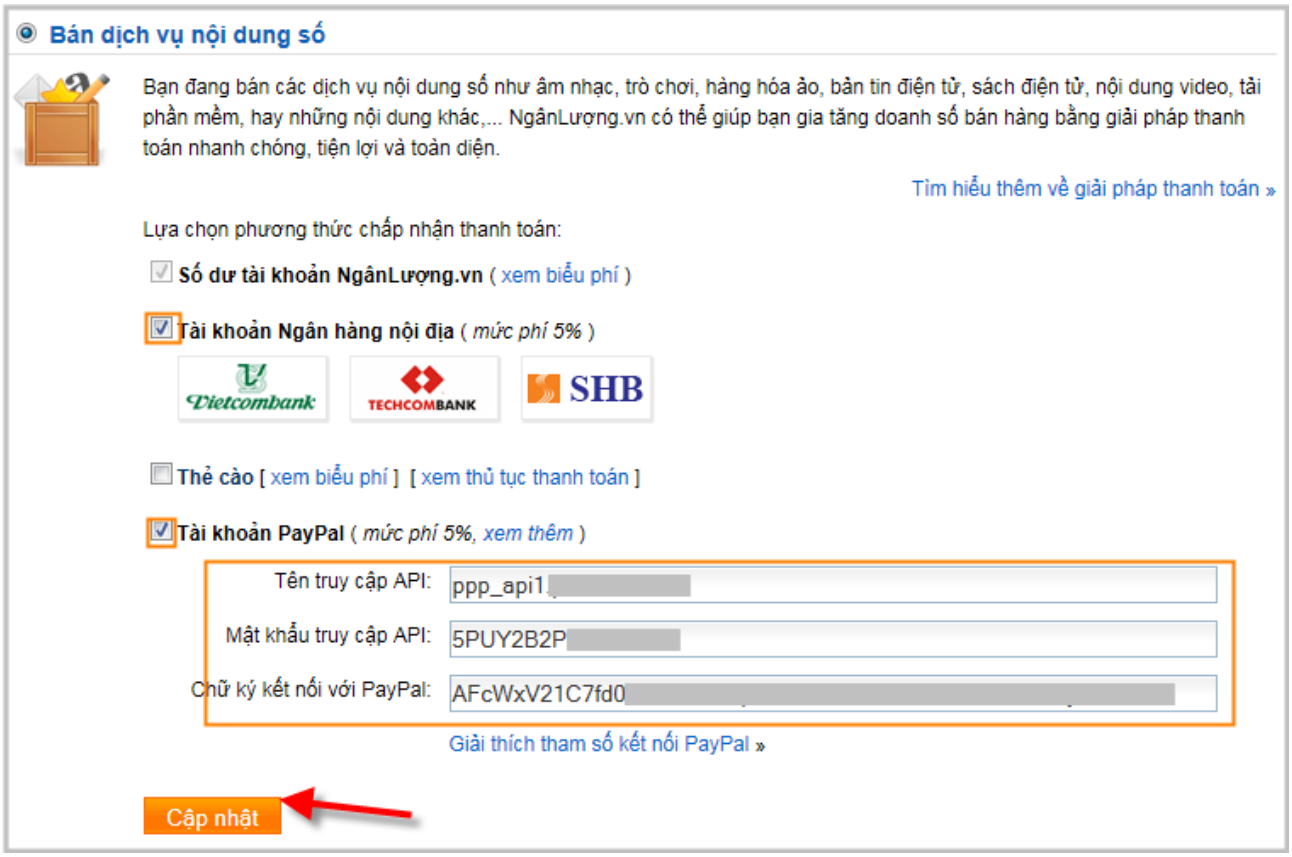

Log out
PayPal
You are about to buy
PeaceSoft Solutions J.S.C.
Qty
Description
Amount
1
Cuốn sách hoàn hảo ...
$0.10 USD
Total: $0.10 USD
PayPal will use:
My PayPal balance
View PayPal policies.
Pay Now
Cancel
PayPal protects your privacy and security.

Appendix 02: Choosing digital goods on Nganluong.vn

- Log in Ngaluong.vn account
- Choosing the section “account information”, clicking “account config” or clicking the following link to get the config :

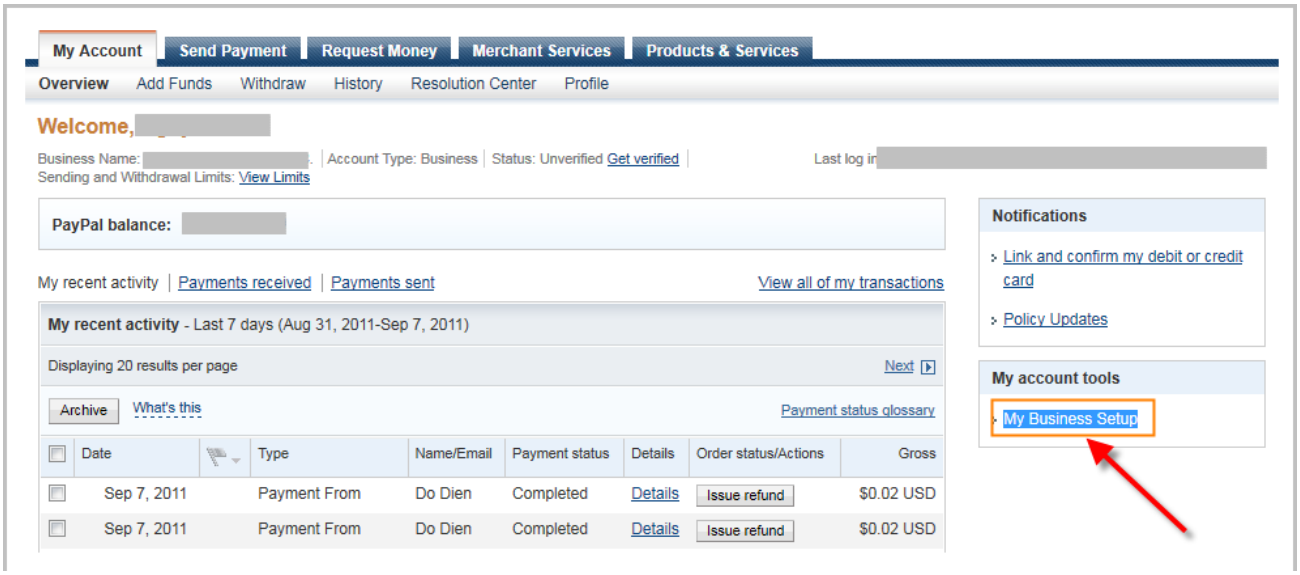
https://www.nganluong.vn/?portal=nganluong&page=user_setup

- clicking the option “sell digital goods” then set up the config (if you use connecting through Paypal, you have to enter 3 information: API username, API Password, signature in the configuration of account). Nganluong.vn configuaration form as the following:

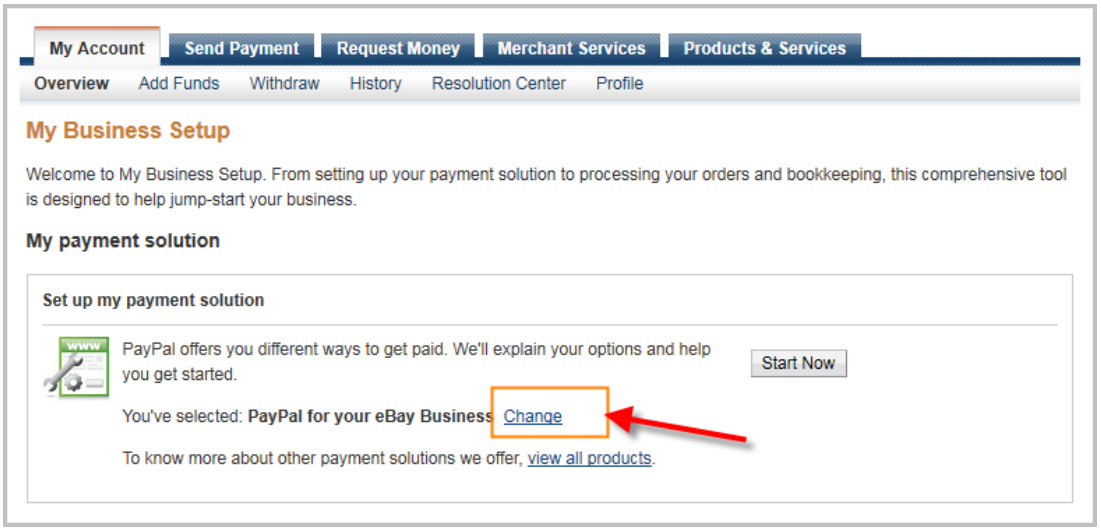


Appendix 03: Choosing digital goods on PayPal.com

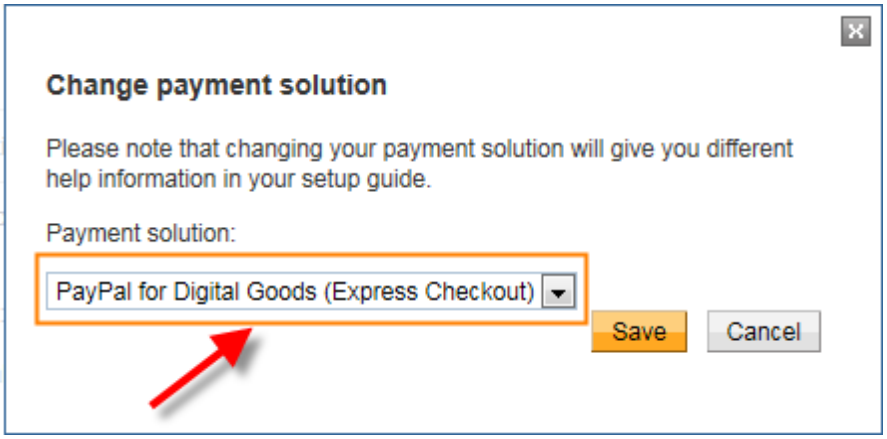
- Login PayPal account at http://paypal.com
- At Overview page, clicking “My Business Setup”



- At my buniness setup, clicking “Change”

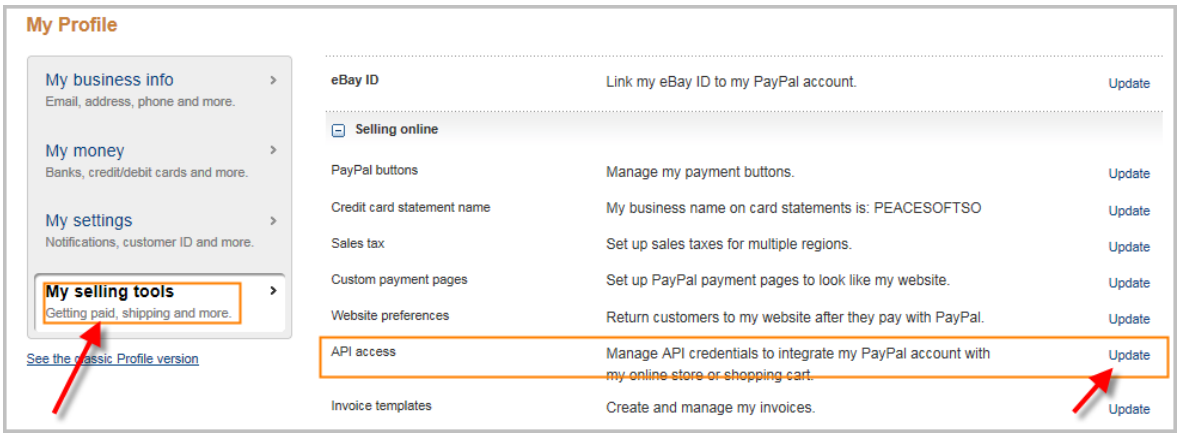


- Clicking “PayPal for Digital Goods (Express Checkout)”, clicking “save”

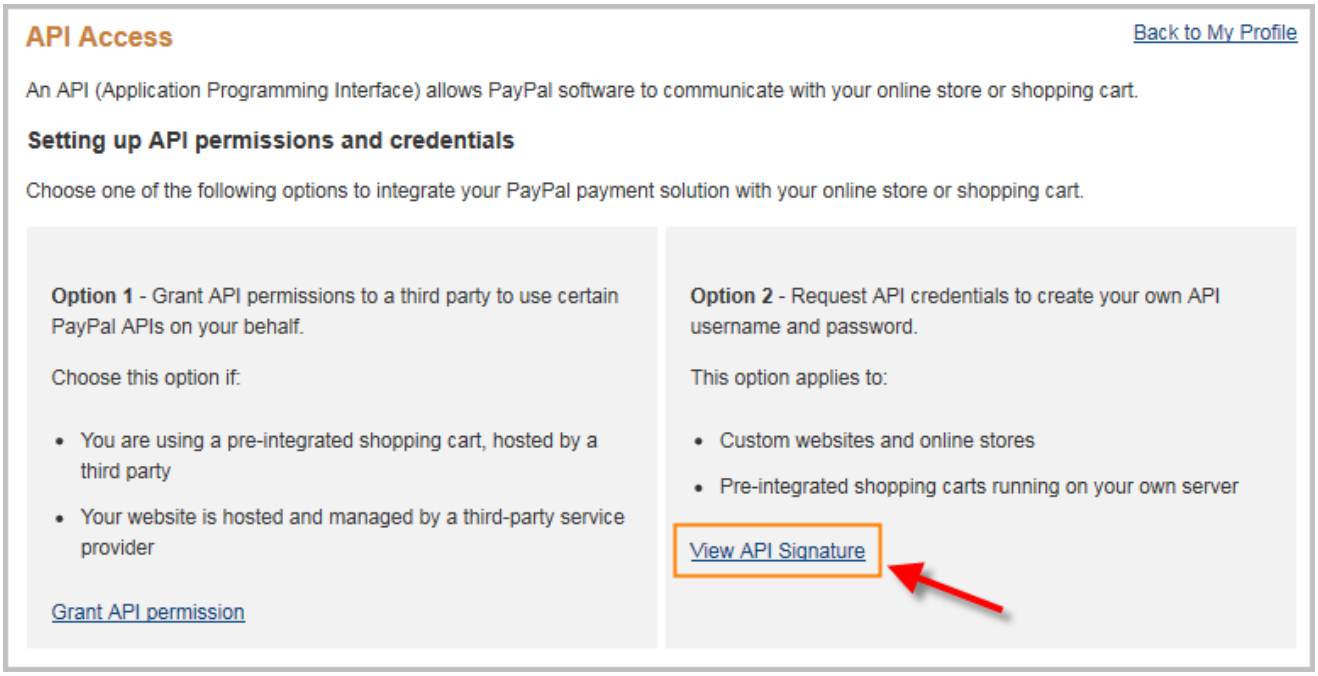


Getting information to connect with PayPal

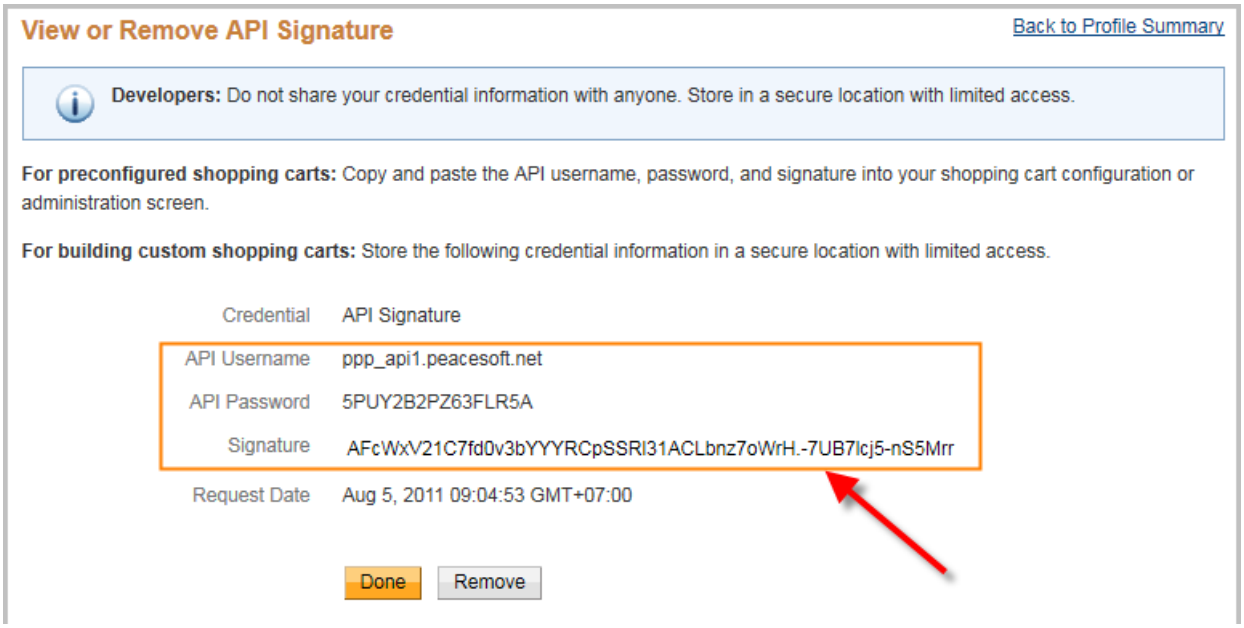
- Choosing the section “profile” at “my account” page



- At API access, choosing “view API signature”

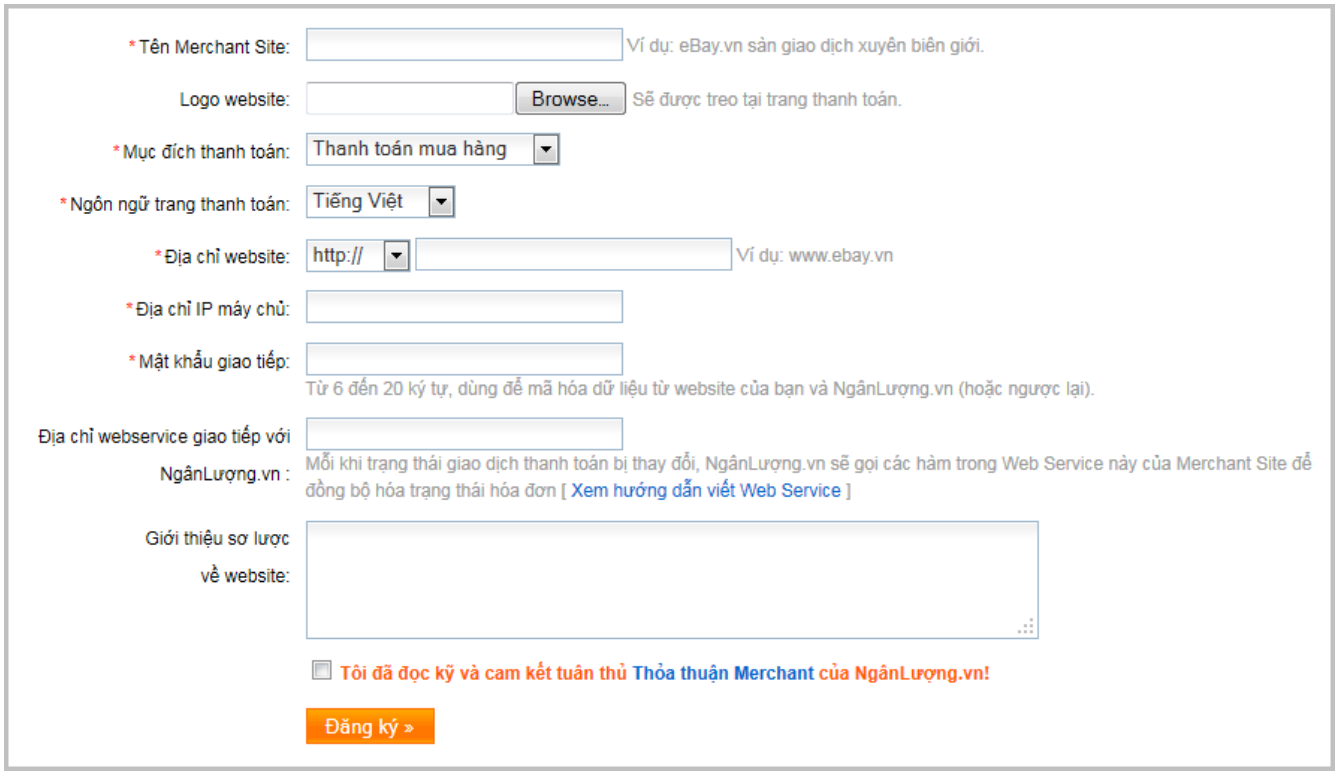


- Getting connection information to save in configuaration of the digital goods of Nganluong.vn



Appendix 04 : Register website to integrate on Nganluong.vn

- Log in Ngaluong.vn account as link https://www.nganluong.vn
- Clicking menu “integrate”, clicking “integrate website B2C”, clicking “register merchant site” (Register website)
- Enter information as the form below, click “register” to add your website
- After registering, you need to upload verification file on hosting where filled the registered website address, click “verify” to finish.



Appendix 05: Describe connection function

Arising function of add funds transaction: SetExpressCheckoutDeposit

input parameter			
	name of parameter	Kind of data	Description
	merchant_site_code	Int(11)	Merchant site code (Nganluong.vn will provide when registering website)
	params	String()	Be a string of parameters that is configured as XML structure
	receiver	String(255)	Email address of Nganluong.vn account used to receive money
	order_code	String(50)	invoice code (unique) which merchant arises, use to automatically update status(for example: add virtual money on the wwebsite of merchant) when NganLuong.vn returns the result
	return_url	String(500)	URL address, Nganluong.vn returns the result when making “add funds transaction” successfully
	cancel_url	String(500)	URL address, Nganluong.vn returns the result when customer denies adding funds.
	language	String(4)	Display language on the interface of Nganluong.vn, have one of 2 following values: VN : Vietnamese EN : English
	example for parameter params = “<params> <receiver>diendc@nganluong.vn</receiver> <language>vn></language> <return_url>http://sandbox.nganluong.vn/demo/update_order.php</return_url> <cancel_url>http://sandbox.nganluong.vn/demo/cancel_order.php</cancel_url> </params>”		
	checksum	String(50)	Code to check valid while accessing API of Nganluong.vn

checksum parameter's structure

checksum = MD5(receiver+ order_code+ return_url+ cancel_url+ language +communication password when register website in Nganluong.vn).

EX: Checksum was made by PHP language

```
$receiver = "diendc@nganluong.vn";
$order_code = "24785324";
$return_url = "http://sandbox.nganluong.vn/demo/update_order.php";
$cancel_url = "http://sandbox.nganluong.vn/demo/cancel_order.php";
$ language="vn";
$password = "2e9ee046bba482cc52e5121c3c9958ff";
$checksum = MD5($receiver+$order_code+$return_url+$cancel_url+$ language +$password);
```

Output parameter

Parameter	Data	Description
result	String()	returned result is a string configured by XML structure, include parameter below
result_code	String(4)	Result returned while calling SetExpressCheckoutPayment function
token	String(70)	Reference code of payment transaction (this code will be used during payment process of nganluong.vn)
link_checkout	String(255)	This is paymentURL (will include in javascript to turn on popup)
time_limit	String(19)	Expiry time is correlative with a token (dd/mm/YYYY, HH:ii:ss
result_description	String(500)	Describing error is correlative with value of result_code

```
"<result>
    <result_code>Mã lỗi</result_code>
    <result_description>Mô tả lỗi</result_description>
    <token>Mã tham chiếu giao dịch</token>
    <link_checkout>Đường link thanh toán (dùng để bật popup)</link_checkout>
    <time_limit>Thời gian timeout của mã token</time_limit>
</result>"
```

Function to request payment transaction: SetExpressCheckoutPayment

Input parameter			
	Name of parameter	Type of data	Description
	merchant_site_code	Int(11)	Merchant site code (provided by NganLuong.vn when registering)
	params	String()	be a string of parameters to be formatted according to the structure of XML. Params received the following parameters
	receiver	String(255)	Email address of Nganluong account to receive the payment
	order_code	String(50)	Invoice code (unique) arised by merchant
	amount	String(20)	Total money of order that customer has to pay
	currency_code	String(5)	Currency code used on the website: VND or USD
	tax_amount	String(20)	Total of tax (if available)
	discount_amount	String(20)	Total of discount
	no_shipping	Int(1)	Does goods need to ship ?, digital gooods value = 1
	fee_shipping	String(20)	Shipping fee, digital product value = 0
	request_confirm_shippin g	Int(1)	Request the buyerto insert shipping information, digital product value = 0
	return_url	String(500)	For URL address, Nganluong.vn returns the result while finishing transaction successfully
	cancel_url	String(500)	For URL address, Nganluong.vn returns the result while cancelling transaction
	language	String(4)	Display language on the form of Nganluong.vn VN : Vietnamese EN: English
	Items	String()	Detail information of product that needs to pay, items saved by XML structure
	<items> <item> <item_name>Product 1</item_name> <item_quanty> Quantity 1</item_quanty> <item_amount>Price 1</item_amount> </item> <item> <item_name> Product 2</item_name>		

	<item_quanty> Quantity 2</item_quanty> <item_amount> Price 2</item_amount>s </item> … </items>		
	EX : Params parameter params = “<params> <receiver>diendc@nganluong.vn</receiver> <order_code>DH-115813-29092011</order_code> <amount>3700</amount> <currency_code>vnd</currency_code> <tax_amount>0</tax_amount> <discount_amount>0</discount_amount> <fee_shipping>0</fee_shipping> <request_confirm_shipping>0</request_confirm_shipping> <no_shipping>1</no_shipping> <return_url>http://sandbox.nganluong.vn/demo/update_order.php</return_url> <cancel_url>http://sandbox.nganluong.vn/demo/cancel_order.php</cancel_url> <language>vn</language> <items> <item> <item_name>Cuốn sách hoàn hảo về ngôn ngữ cơ thể</item_name> <item_quanty>1</item_quanty> <item_amount>2000</item_amount> </item> <item> <item_name>Product 2</item_name> <item_quanty>1</item_quanty> <item_amount>1000</item_amount> </item> <item> <item_name> Product 3</item_name> <item_quanty>1</item_quanty> <item_amount>700</item_amount> </item> </items> </params>"		
	checksum	String(50)	Checking code of validation while accessing API of Nganluong.vn

checksum = MD5(receiver+ order_code+amount+ currency_code + tax_amount + discount_amount + fee_shipping + request_confirm_shipping + no_shipping + return_url+ cancel_url+ communication password when register website in Nganluong.vn)

EX: Checksum was made by PHP language

```
$receiver = “diendc@nganluong.vn”;
$order_code = “24785324”;
$amount = “1000”;
$currency_code = “VND”;
$tax_amount = 0;
$discount_amount = 0;
$no_shipping = 1;
$fee_shipping = 0;
$request_confirm_shipping = 0;
$return_url = “http://sandbox.nganluong.vn/demo/update_order.php”;
$cancel_url = “http://sandbox.nganluong.vn/demo/cancel_order.php”;
$password = “2e9ee046bba482cc52e5121c3c9958ff”;
$checksum = MD5($receiver +  $order_code + $amount + $currency_code + $tax_amount + $discount_amount + $no_shipping + $fee_shipping + $request_confirm_shipping +$return_url+ $cancel_url+$password);
```

Output parameter

Name of parameter	Type of data	Description
result	String()	Result is a string that configured by XML structure, include parameter below
result_code	String(4)	Result code while calling SetExpressCheckoutPayment function
token	String(70)	Reference Code of payment transaction (this code will be used during payment process of nganluong.vn)
link_checkout	String(255)	This is URL for customer to pay (will include in javascript to turn on popup)
time_limit	String(19)	Expiry time is correlative with one token
result_description	String(500)	Describing the error correlative with value of result_code

Result

```
“<result>
    <result_code>Error code</result_code>
    <result_description>Error description </result_description>
```

	<token> Reference Code of payment transaction </token> <link_checkout> This is URL for customer to pay (will include in javascript to turn on popup)</link_checkout> <time_limit> Expiry time is correlative with one token </time_limit> </result>”

Function to get detail transaction information: GetExpressCheckout

Input parameter			
	Name of parameter	Type of data	Description
	merchant_site_code	Int(11)	Merchant site code (Nganluong.vn’ll provide this code)
	params	String(50)	Token code ‘ll be borned by function SetExpressCheckoutDeposit or SetExpressCheckoutPayment. Params is saved by XML structure: <params> <token>token value</token> </params>
	checksum	String(50)	Checking code of validation while accessing API of Nganluong.vn
	checksum = MD5(token+ communication password when register website in Nganluong.vn). EX: Checksum was made by PHP language $token = “b4609b508dc5418f93da6cbc97d5cb61”; $password = “2e9ee046bba482cc52e5121c3c9958ff”; $checksum = MD5($token + $password);		
THAM SỐ ĐẦU RA			
	Tên tham số	Kiểu dữ liệu	Mô tả
1	result	String()	Result is a string that configured by XML structure, include parameter below
	result_code	String(4)	Returned code of process function GetExpressCheckout
	result_description	String(500)	Description of error code
	time_limit	String(19)	Valid time correlative with a token
	merchant_site_code	Int(11)	Registration code of merchant on Nganluong.vn

transaction_id	Int(11)	Transaction code arised on Nganluong.vn
amount	Int(11)	Total money paid
currency_code	String(5)	Curency code on website, accept the values: VND or USD
transaction_type	Int(1)	Method of payment: 1 – immediate Pay 2 – holding payment
transaction_status	Int(1)	Transaction payment status: 1 –unpaid 2 – Paid, holding 3 –failed payment 4 – Paid, Money sent to seller's account
payer_name	String(255)	Buyer's name
payer_email	String(255)	Buyer's email address
payer_mobile	String(20)	Buyer's phone number
receiver_name	String(255)	Recipient name
receiver_address	String(500)	Receivee address
receiver_mobile	String(20)	Recipient's phone number
method_payment_name	String(255)	Name payment method, user in nganluong.vn
card_info	String()	List: kind of card, card's code and price

Result:

```
"<result>
    <result_code></result_code>
    <result_description></result_description>
    <time_limit></time_limit>
    <merchant_site_code></merchant_site_code>
    <transaction_id></transaction_id>
    <amount></amount>
    <currency_code></currency_code>
    <transaction_type></transaction_type>
    <transaction_status></transaction_status>
    <payer_name></payer_name>
    <payer_email></payer_email>
    <payer_mobile></payer_mobile>
    <receiver_name></receiver_name>
    <receiver_address></receiver_address>
    <receiver_mobile></receiver_mobile>
    <method_payment_name></method_payment_name>
```

	<card_info></card_info> </result>”

Description code table of functions

Error Code	Description
00	Successful
01	Arising error but not defined in error table (unknown error.)
02	Merchant sends website code that doesn’t exist or website has registered but unverified.
03	IP server address that calls API functions is not exactly while registering website
04	Checksum code isn’t right (mostly because MD5 parameter order is wrong or communication password is wrong)
05	Arising transaction requests of merchant does not perform (using for SetExpressCheckoutDeposit and SetExpressCheckoutPayment)
06	Token code does not exist (using for GetExpressCheckout)
07	Token code unpaid.