



ALEPAY – CHECKOUT PAYMENT GATEWAY

version 3.0

Hà Nội, Jan-2021

TABLES OF DOCUMENTARY CHANGES

*A – Creat, M – edit, D – Delete

Date	Position	A* M, D	Old version	Description	new version	author
1/2021	total	A	Version 1.0	Creat new api allow payment on microform	Version 1.0	

CONCEPTS, TERMINOLOGIES

Terms	define	Note
MC	merchant	
ALE	Alepay	
ENV	enverironment	
param	parameter	

MỤC LỤC

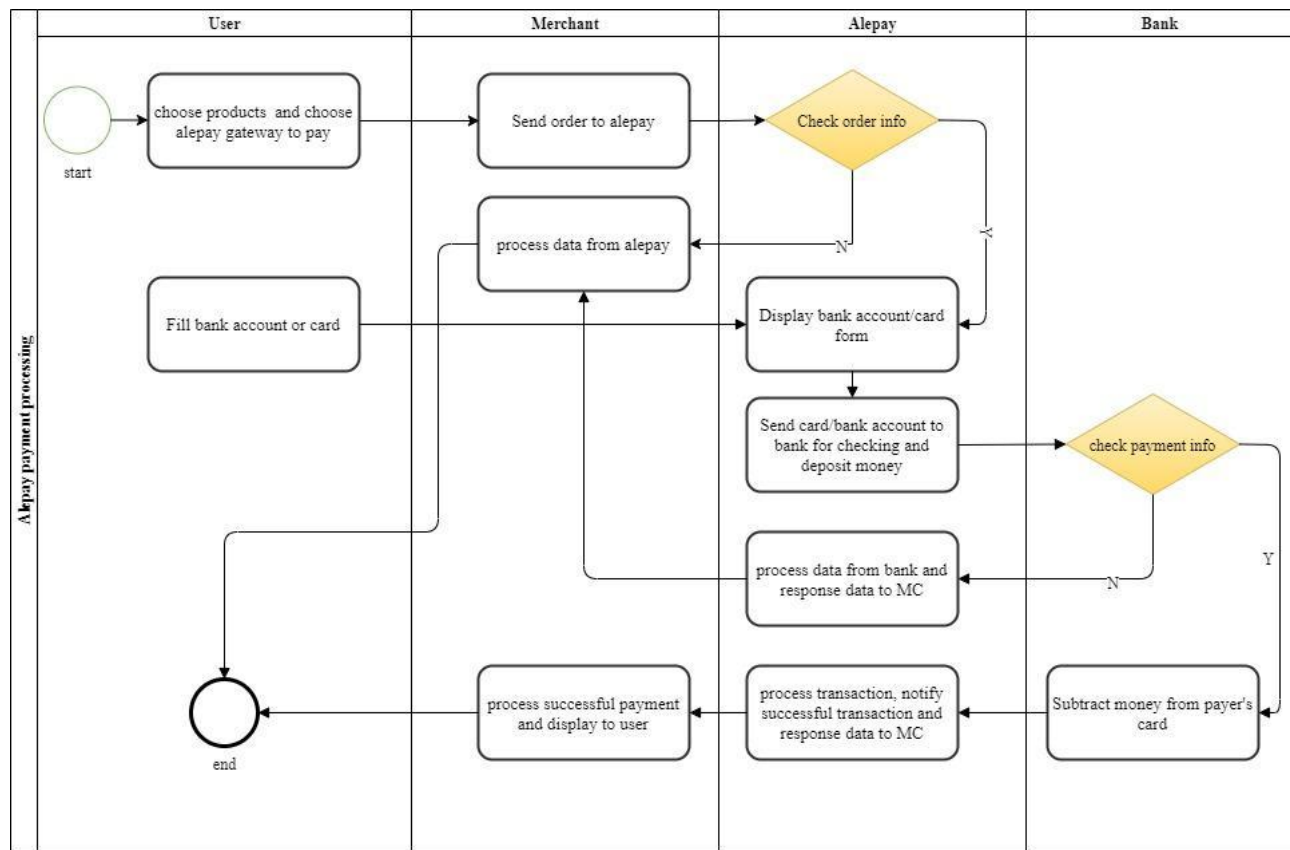
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I. INTRODUCING

- Provide an Api to merchant those allow merchant integrate immediate payment or installment payment using Visa/ Master/ JCB card on microform
- Provide Apis as get transaction detail, refund money, ...

II. PROCESSING

1. Payment processing



(1): Merchant sends payment data to alepay to creat order on alepay gateway as bank code, type of card, price, orderCode... Alepay.

(2): Use fills the card on alepay microform

(3): Alepay sends data to banks or providers

(4): Banks or providers process Alepay data

(5): Alepay receive failed transaction and response to (include error description)

Or:

(6): Alepay receive succeeded transaction:

- Deposit money to merchant account
- Response succeeded transaction to MC

III. ENVIRONMENT

2. Live environment

- **Registry account site:** <https://alepay.vn>
- **Alepay api:** **<BASE_URL>** = <https://alepay-v3.nganluong.vn/api/v3/checkout>
- **Registry merchant:** To get Token key, Encrypt key and Checksum key
<https://alepay-merchant.nganluong.vn/vi/merchant/create>
- **Get Token key, Encrypt key and Checksum key:**
<https://alepay-merchant.nganluong.vn/vi/merchant-api-key/get-keys-merchant-user>

2. Sandbox environment (for testing)

- **Registry account site:**
<https://alepay-v3-dev.nganluong.vn/merchant/vi/dashboard/register>
- **Alepay api:** **<BASE_URL>** =
<https://alepay-v3-sandbox.nganluong.vn/api/v3/checkout>
- **Registry merchant:** To get Token key, Encrypt key and Checksum key
<https://alepay-v3-dev.nganluong.vn/merchant/vi/merchant/create>
- **Get Token key, Encrypt key and Checksum key:**
<https://alepay-v3-dev.nganluong.vn/merchant/vi/merchant-api-key/get-keys-merchant-user>
- Notice:
+ Card test information:

Card type	Card number	Expire month (mm/yy)	CVV (3 digits)
Visa	4456530000001005	12/25	123
Visa	4456530000001096	12/25	123

MasterCard	52000000000001005	12/25	123
JCB	3566111111111113	12/25	123

+ OTP Code: **1234**

3. Key API

Alepay provides 2 types of key to connect:

Key	Description
Token key	To determine which account is used
Checksum key	To create checksum data.

Alepay keys will be generated automatically when an account is registered on Alepay.vn.

IV. DATA STRUCTURE

A. How to create signature

- Using **HMAC_SHA256** algorithm create signature.
- Data input of signature include Checksum key và data.
- data structure: key1=value1&key2=value2... (key1: name of field, value1 = value of key1).
Data is string of input on each API below (not include signature)
- The signature is arranged in alphabetical order.
- Signature structure: **hash_hmac** ("sha256", **string \$data** , **string \$checksumkey**)
- example:
+ data: amount=10000&buyerAddress=Tam Trinh&buyerCity=Ha Noi&buyerCountry=Viet Nam&buyerEmail=lam@gmail.com&buyerName=lam&buyerPhone=0312345678&cancelUrl=http://test/cancel¤cy=VND&customMerchantId=lam123&orderCode=orderTest000&orderDescription=mo ta don hang&returnUrl=http://test/return&tokenKey=0COVspcyOZRNrsMsbHTdt8zesP9m0y&totalItem=1
+ checksumkey: hjuEmsbcohOwgJLCmJlf7N2pPFU1Le

=>> Signature: 4558e851f5e0babc388c1d9221e7627f3a6de725ac860d6db8f597a250aaff59

B. Detail API

1. API create payment

- This API allows Merchant to send payment request to Alepay
- Method send/receive: post json

a. *Http Request*

POST <BASE_URL>/request-payment

b. *Request data (POST json)*

Parameter	Data type	Require	Default value	Description
orderCode	String(255)	T	-	Order of Merchant. That is reference code from merchant to alepay
customMerchantId	String	T		customer id of Merchant
amount	Double	T	-	Order amount (If the currency is VND, then deposit the amount rounded up to 1 VND)
currency	String	T	-	The currency code. Please check at appendix
orderDescription	String	T	-	Order Description (Do not include special characters, will automatically remove special characters from the order description)
totalItem	Integer	T	-	Total item of order
checkoutType	Integer	F	0	<p>0: Normal payment only and installment with international card</p> <p>1: Normal payment only with international card</p> <p>2: Installment payment</p> <p>3: Normal payment with international card and inland (ATM, IB, QRCODE, VIETQR, BANK_TRANSFER_ONLINE), Installment allowDomestic = true</p> <p>4: Normal payment with international card and inland (ATM, IB, QRCODE, VIETQR, BANK_TRANSFER_ONLINE)</p>

				allowDomestic = true
installment	Boolean	F	FALSE	<ul style="list-style-type: none"> - True : Installment only (month, bankCode, paymentMethod must be defined) - False : Installment or Normal payment
month	Integer	F	-	Installment period : 3,6, 9,12,24 months
bankCode	String	F	-	<p>Code of bank which user using to payment with ATM, IB, QRCODE, VIETQR, BANK_TRANSFER_ONLINE (get on api):</p> <p>POST <BASE_URL> /get-list-banks</p> <p>Or code of installment bank (get on api):</p> <p>POST <BASE_URL> /get-installment-info</p>
paymentMethod	String	F	-	<p>With installment: Card type that allow installment payment (JCB, VISA, MASTER, AMERICAN_EXPRESS, NAPAS_CREDIT)</p> <p>With normal payment:</p> <ul style="list-style-type: none"> - ATM_ON: payment with ATM card - IB_ON: payment with IB - QRCODE: payment with QRCODE - VIETQR: payment with QRCODE of napas247 - BANK_TRANSFER_ONLINE: transfer money on bank - VA: Transfer payment 24/7 - APPLEPAY: Pay with Apple Pay <p>If transaction is installment (installment=true): paymentMethod type of card VISA, MASTER, JCB, AMERICAN_EXPRESS, NAPAS_CREDIT</p>
returnUrl	String	T	-	URL Alepay will callback to Merchant when payment is successful.

cancelUrl	String	T	-	URL Alepay will callback to Merchant when user cancel the payment.
buyerName	String	T	-	Buyer's name
buyerEmail	String	T	-	Buyer's email
buyerPhone	String	T	-	Buyer's phone number
buyerAddress	String	T	-	Buyer's address
buyerCity	String	T	-	Buyer's city
buyerCountry	String	T	-	Buyer's country
paymentHours	float	F	-	Time for payment checkout (hours)
promotionCode	String	F	-	Promotion code
allowDomestic	Boolean	F	FALSE	<ul style="list-style-type: none"> - True : allow payment with ATM, IB, QRCODE, VIETQR, BANK_TRANSFER_ONLINE (bankCode, paymentMethod must be defined) - False : allow payment with Visa/ master/ jcb
tokenKey	String	T	-	Token Key provided by Alepay when Merchant registry an account
signature	String	T		the signature, check on A index
language	String	F	vi	<p>The language show on checkout page for user.</p> <p>Get value: vi – vietnammes or en – English</p>

c. Response Data (Json)

Parameter	Type	Description
code	String	error code
message	String	description
transactionCode	String	Transaction code on Alepay

checkoutUrl	String	URL for user to checkout.
signature	String	the signature, check on A index

2. Response data on merchant returnUrl

When user finishes payment on Alepay, Alepay will callback to “returnUrl” which Merchant provided when calling *Payment request* API. Then, Merchant has to call *Get transaction info* API to get transaction’s detail. Below is the description of response parameters from Alepay when performing callback

- Http Request

GET <MERCHANT_RETURN_URL>? transactionCode=xxx&errorCode=000&cancel=false

Parameter	Type	Description
errorCode	String	Error code (detail at index V.1)
transactionCode	String	Transaction code on Alepay
cancel	String	Get value = True: if user hasn’t completed transaction, False : if user completed transaction.

3. Get list installment bank periods API

- API to get all installment info as: bank, payment methods, periods and fees.
- Method send/receive: post json

a. HTTP request

POST <BASE_URL> /get-installment-info

b. Request data

Parameter	Data type	Require	Default value	Description
amount	double	T	-	Installment amount (If the currencyCode is VND, then deposit the amount rounded up to 1 VND)

currencyCode	String	T	-	Currency code. Get value VND or USD
tokenKey	String	T		Token Key provided by Alepay when Merchant registry an account
signature	String	T		the signature, check on A index

c. *Response data*

Alepay will return list of installment periods. Each installment period will include the following parameters:

Parameter	Data type	Description
code	String	error code
message	String	description
data	Array	array of installment periods

The **data data** is list of periods and fee of bank. Each of periods include:

Parameter	Data type	Description
bankCode	String	Code of bank installment
bankName	String	Name of bank installment
paymentMethods	Array	List of payment methods

The *paymentMethods* parameter is an array of payment methods that the bank supports and the periods corresponding to that payment method, the parameters described as follows:

Parameter	Data type	Description	
paymentMethod	String	Payment method	
periods	Array	List of periods	
		<table> <tr> <th>Parameter</th><th>Data type</th><th>Description</th></tr> </table>	Parameter
Parameter	Data type	Description	

		month	Double	Number of installment months
		feeId	Long	ID fee
		minAmount	Double	Minimum amount of payment period
		amountFee	Double	Total fee amountFee = payerFlatFee + %payerPercentFee * amount + payerInstallmentFlatFee + %payerInstallmentPercentFee * amount
		amountFinal	String	The total amount user need pay amountFinal = amount + amountFee
		amountByMonth	String	Amount paid each month
		payerFlatFee	Double	the flat fee
		payerPercentFee	Double	percent fee
		payerInstallmentFlatFee	Double	installment flat fee
		payerInstallmentPercentFee	Double	percent installment fee
		currency	String	currency code

4. Get bankCode of ATM, IB và QRCODE, BANK_TRANSFER_ONLINE, VIETQR api

- To get bankCode when user pays with ATM, IB, QRCODE
- Method send/receive: post json

a. HTTP request

POST <BASE_URL> /get-list-banks

b. Request data

Params	Type	Required	Default	Description
tokenKey	String	T		Token Key provided by Alepay when Merchant registry an account
signature	String	T		the signature, check on A index

c. Response data

Parameter	Data type	Description
code	String	error code
message	String	description
data	Array	list of method payment

Alepay will response list bank that allow payment with ATM, IB and QRCODE, BANK_TRANSFER_ONLINE, VIETQR:

data is array of payment method of the bank:

Parameter	Data type	Description
bankCode	String	Bank code
bankFullName	String	Bank name
tradeName	String	TradeName of the bank that allows the payment
urlBankLogo	String	The logo of the bank that allows domestic payments
bankId	Long	ID of domestic paying bank
methodCode	String	Payment method: <ul style="list-style-type: none"> - ATM_ON: payment with ATM card - IB_ON: payment with IB - QRCODE: payment with QRCODE - VIETQR: payment with QRCODE of napas247

		<ul style="list-style-type: none"> - BANK_TRANSFER_ONLINE: transfer money on bank - VA: payment by bank transfer 24/7
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Ví dụ :

URL	/get-list-banks
Method	POST
Content-Type	application/json
Request data before encrypt	<pre>{ "tokenKey ": "gdgt2353treghdghet3", "signature": "3000000" }</pre>
Response data	<pre>{ "data": [{ "methodCode": "VA", "bankFullName": "Ngân hàng VPBank", "tradeName": "VPBank", "bankCode": "VPBank", "urlBankLogo": "/bank_logo/2017/1/11/-vcb.jpg", "bankId": 31 }, { "methodCode": "ATM_ON", "bankFullName": "NH TMCP Xuất Nhập Khẩu Việt Nam", "tradeName": "Eximbank", "bankCode": "EXIMBANK", </pre>

	<pre> “urlBankLogo”: "/avatar/2016/12/19/-eximbank.png", “bankId”: 91 }] } </pre>
--	---

5. Callback transaction info to webhook

After a successful payment or a change in the status of a transaction (approve / not approve installment, approve / not approve Card review, refund) or a successful card link, Alepay will return transaction info and/or card linked info via the URL callback that Merchant has declared on Alepay (*login alepay, go to account menu -> setting account -> tab “notification” -> click “Update transaction notification URL for each account” -> click “Update webhook” -> fill value to input “Webhook URL”*)

a. HTTP Request

POST <MERCHANT_CALL_BACK_URL>

b. Response

transactionInfo			
Parameter	Data type	Description	
transactionCode	String	Alepay’s transaction code	
orderCode	String	Merchant’s order code	
amount	Double	Order’s amount (If the currency is VND, then deposit the amount rounded up to 1 VND)	
customerFeeAmount	Double	payer fee	
merchantFee	Double	merchant fee	
currency	String	currency code	
buyerEmail	String	Buyer’s email	

buyerPhone	String	Buyer's phone
cardNumber	String	Card number (First 6 digits and last 4digits)
buyerName	String	Buyer's name
status	String	Status's code. Using for checking status of transaction (see V.1 index)
message	String	Status's description
reason	String	Fail reason of transaction
installment	boolean	True : Installment payment False: Normal payment
is3D	boolean	True : 3D secure Card False: 2D secure Card
month	Double	Installment period
bankCode	String	Installment bank's code
bankName	String	name of installment bank
method	String	Card type
transactionTime	Long	Transaction time (millisecond)
successTime	Long	Success time (millisecond)
bankHotline	String	Installment bank's hotline
bankType	string	Type of card bank: - INTERNATIONAL - DOMESTIC
authenCode	string	Authen code (any if)
authenCode	string	the authorization code (any if)

checksum (string)

Checksum code.

Checksum = md5 (orderCode + amount + transactionCode + checksumKey)

with **checksumKey** is checksum key on alepay account

- Example:

```
{
  "transactionInfo": {
    "transactionCode": "ALE1501130624199",
    "orderCode": "1501130574",
    "amount": 1.374E7,
    "currency": "VND",
    "buyerEmail": "nva@gmail.com",
    "buyerPhone": "0987654321",
    "cardNumber": "411111-XXXX-1111",
    "buyerName": "Nguyen Van A",
    "status": "000",
    "message": "Thành công",
    "installment": false,
    "is3D": false,
    "month": 0,
    "bankCode": "SACOMBANK",
    "bankName": "Sacombank",
    "bankHotline": "1900100",
    "method": "VISA",
    "transactionTime": 1501130648119,
```

```

        "successTime": 1501130650759,
        "merchantFee": 0.0,
        "payerFee": 398460.0
    }
    "checksum": "1424gg23gae150113063ff50759"
}
    
```

6. API check and get Transaction Detail info

- API API get transaction info by transaction code
- Method send/receive: post json

a. *Http Request*

POST <BASE_URL> /get-transaction-info

b. *Request data*

Parameter	Data type	Require	Default value	Description
tokenKey	String	T		Token Key provided by Alepay when Merchant registry an account
transactionCode	String	T		Alepay's transaction code
signature	String	T		the signature, check on A index

c. *Response data*

Parameter	Data type	Description
transactionCode	String	Alepay's transaction code
orderCode	String	Merchant's order code

amount	Double	Order's amount
customerFeeAmount	Double	payer fee
merchantFee	Double	merchant fee
currency	String	currency code
buyerEmail	String	Buyer's email
buyerPhone	String	Buyer's phone
cardNumber	String	Card number (First 6 digits and last 4digits)
buyerName	String	Buyer's name
status	String	Status's code. Using for checking status of transaction (see V.1 index)
message	String	Status's description
reason	String	Fail reason of transaction
installment	boolean	True : Installment payment False: Normal payment
is3D	boolean	True : 3D secure Card False: 2D secure Card
month	Double	Installment period
bankCode	String	Installment bank's code
bankName	String	name of installment bank
method	String	Card type
transactionTime	Long	Transaction time (millisecond)
successTime	Long	Success time (millisecond)
bankHotline	String	Installment bank's hotline

bankType	string	Type of card bank: - INTERNATIONAL - DOMESTIC
authenCode	string	the authorization code (any if)
signature	String	the signature, check on A index

V. Appendix

1. errorCode

Error code	Description
000	Success
101	Invalid checksum
102	Invalid encryption
103	IP don't have access permission
104	Invalid data
105	Invalid Token key
106	Token alepay not exists or cancelled
107	Transaction being processed
108	Data not found
109	Order code not found
110	Must have email or buyer phone number
111	Failure

120	Order amount must be greater than 0
121	Invalid currency
122	Order description not found
123	Total item must be greater than 0
124	Invalid URL format (http://, https://)
125	Invalid buyer's name
126	Invalid buyer's email
127	Invalid buyer's phone number
128	Invalid buyer's address
129	Invalid buyer's city
130	Invalid buyer's country
131	Payment hours must be greater than 0
132	Invalid email address
133	Invalid card information
134	Card payment limit reached
135	Transaction was declined by bank issues
136	Transaction code not exists
137	Invalid transaction
138	Merchant account not exists
139	Merchant account not active

140	Invalid Merchant account
142	Bank not support Installment
143	Card is not issued by selected bank
144	Invalid installment period
145	Invalid installment amount
146	Bank issued your card is not support installment
147	Invalid phone number
148	Invalid installment information
149	Invalid card type
150	Card is reviewing
151	Bank not support payment
152	Card number not match with selected card type
153	Transaction not exists
154	Amount limit exceeded
155	Waiting buyer's confirm installment to issued bank
156	Invalid payment amount
157	Email not match with existed profile
158	Phone number not match with existed profile
159	ID must not be empty
160	First name must not be empty

161	Last name must not be empty
162	Email must not be empty
163	City must not be empty
164	Country must not be empty
165	Phone number must not be empty
166	State must not be empty
167	Street must not be empty
168	Postal code must not be empty
169	URL callback must not be empty
170	OTP entered incorrectly more than 3 times
171	Customer's card has been linked on Merchant
172	Link card temporarily banned (exceeded number of times authentication)
173	Incorrect card linked status
174	Cardlink session not found
175	Payment amount of unauthenticated 2D-card exceeds the limit.
176	2D card authentication pending
177	The customer press the cancel button
178	Subscription payment success
179	Payment subscription failed
180	Register subscription success

181	Register subscription failed
182	Alepay token is invalid
183	Plan code is empty
184	URL callback is empty
185	Subscription Plan not existed
186	Subscription plan is inactive
187	Subscription plan expired
188	Subscription Record existed
189	Subscription Record not existed
190	Subscription Record status is invalid
191	Exceeded OTP authentication times
192	Wrong OTP
193	Registration subscription for customer success
194	Customers need to confirm subscription
195	Alepay token status is invalid
196	Send OTP failed
197	End date or maximum payment times invalid
198	Alepay token can not be empty
199	Alepay token is not active
200	Invalid Subscription Plan

201	The start time is invalid
202	The merchant's IP request has not been configured or allowed
203	The subscription file was not found
204	Alepay token is not authenticated
205	Invalid cardholder name
206	Merchant is not allowed to use this service
207	Domestic banks invalid
208	Verify token is invalid
209	Verify amount is invalid
210	Exceeded verify amount times
211	Buyer's name must contains first name and last name
212	Merchant is not allowed to link card
213	Customer not choosen to link card
214	Transaction is not process
215	Not approve card review
216	Card not support
217	Customer's profile is not exists
220	The transaction had been refund
221	The refund transaction had been created
222	The refund transaction is processing

223	Can't refund installment transaction
224	The refund transaction had been canceled
226	Invalid promotionCode
227	Wait until Merchant confirm
228	The bank does not support installments on the statement date
229	The card is expired
230	The card don't been allowed to link
231	Incorrect transaction status
232	Error connect to bank
233	MerchantRefundCode is requested successfully before, could not send the same MerchantRefundCode for one TransactionCode.
234	Total refund amount would be higher to the total payment amount
240	The buyer name haven't been included digits
256	The card is not used for installment payment. Please using another
257	The expire card is not enough for installment payment
237	The installment fee is not configed
236	The date the bank statement is not accepted for installment conversion
265	Your account has been on pilot processing. Please contact with Nganluong to make one contract for using
999	Unknown error. Please contact with Alepay's admin

2. Currency

Code	Currency
VND	Vietnam Dong
USD	US Dollar

3. Loại thẻ

Mã	Loại thẻ
VISA	Thẻ Visa
MASTERCARD	Thẻ Master card
JCB	Thẻ JCB