



MOMO PAYMENT APIs

Version 2.1.5

Changes history

Version	Date	Section	Name	Changes
2.1.5	04.08.2018		Update public key	
2.1.5	12.07.2018		Update document	
2.1.5	09.04.2018		Update new document	
2.1.4	14.12.2017		All MoMo payment methods	POS Payment, All-in-one Payment, App-in-app Payment
2.1.3	23.11.2017		Update refund, query status api	Update refund, query status api



I. ABOUT THIS DOCUMENT

This document is the official MoMo payment APIs.

- Who can read such as technical engineers, R&D engineers, testing engineers for the integrated with MoMo payment.
- Which vendor systems can use this APIs such as any online shopping platforms, cashier systems or POS systems and business mobile app platform that can check out a payment.

II. PAYMENT METHODS IN THIS DOCUMENT

1) All-In-One Online Payment (M2 payment) [[section 7](#)]

- The end-user goes to a Vendor online shopping on PC web, mobile web or mobile app and checkout an order. After user checkout and choice MoMo as payment method, M2 payment will redirect end-user to M2 payment **payUrl** to confirm a payment.
- The end-user using “QUÉT MÃ” called scanner feature on MoMo app and scan the payment QR code displayed within M2 payment **payUrl** when vendor shopping PC web redirect to this.[\[figure 2.1\]](#)
- The end-user entering Vendor shopping mobile web or Vendor mobile app was redirected to M2 payment **payUrl**. M2 payment will open MoMo app that the end-user can confirm payment and return result to vendor.[\[figure 3.1\]](#)

2) POS Payment [[section 6](#)]

The end-user show their “MÃ THANH TOÁN” called QR Code or Barcode in MoMo app and display for the Vendor cashier to scan in order to pay.

3) In-App-Base Online Payment [[section 8](#)]

In-app-based payment know as Mobile App-In-App payment which mobile vendor app call to open MoMo app via MoMo open SDK and confirm pay a transaction.

III. MOMO BUSINESS ACCOUNT

The MoMo Business Platform serves as the functional hub for vendor features related to MoMo payment, including parameter settings, payment data query and statistics, online refunds, and other features.

URL: <https://business.momo.vn/>



IV. DEFINATIONS

Vendor shopping

Any online shopping platforms, cashier systems or POS systems and business mobile app platform.

Partner Code

Unique identify for each Vendor. Can find in MoMo Business Platform

URL: <https://business.momo.vn/>

Access key

Unique identify for each Vendor. Can find in MoMo Business Platform

Signature

The Vendor's backend and the MoMo payment system create the same signature based on the same secret key and algorithm and use it to verify each other's identity. The signature algorithm is created and provided by MoMo. Commonly used signature modes are MD5, SHA1, SHA256, and HMAC.

RSA encryption

RSA Encryption is one of the first public-key cryptosystems and is widely used for secure data transmission. In such a cryptosystem, the encryption key is public and it is different from the decryption key which is kept secret (private). Vendor using public key that MoMo provided to encrypt for secure data transfer.

Hash

Body data Vendor system using RSA encrypt data.

Example:

Before hash:

```
{
  "partnerCode": "MOMOIQA420180417",
  "partnerRefId": "Merchant12355666",
  "requestId": "8374736463"
}
```

After using RSA encrypt this data:

```
jClksw/4LI+IMdBHpfX++fYDKpUg4a8W/heOY3PQbxi7NJI3GFIRQGsi70CSTZuW0KKgBXSuvpIF
d5zpzzxOi7MJg4qqNWRIEn2/PAiHjB2J6R4w+wdnz9yIAGkN8E9P4l4VAKFfR01quOWjlcjFXT7
V8ibOa92dYWtAEtms86Z7QYu4Zlw8m8b1IBgeifxm9T8k5Np3cati0QLUCEfKW+oKEWeV3f3EGpx
c7qFed4kPvxZAcBUzzQZHWUBxUVcH7d3tw7n6eGLI6lk+KvFjQRIMr94wvaPpVFXF049wexoUgPr
i8hUYJyPhEcchZDmeNJUzTWrb/1O1sJLkbSJgQ==
```

MoMo Business Testing account

Username: **mm_bu_test**

Password: **MOMO2018**

Login: <https://test-business.momo.vn/login>



V. INTEGRATION SPECIFICATIONS

Sandbox: <https://test-payment.momo.vn>

Production: <https://payment.momo.vn>

1) POS payment:

Partner code : "MOMOIQA420180417"

Public key :

Java key format:

```
MIIBIjANBgkqhkiG9w0BAQEFAAOCAQ8AMIIBCgKCAQEAKpa+qMXS6O11x7jBGo9W3yxeHEsAdyDE
40UoXhoQf9K6attSicITZMEGfq6gmJm2BogVJtPkvri5/j9mBntA8qKMzzanSQAEBer8FyByHnf226dsL
t1RbJSMLjCd3UC1n0Yq8KKvfHhvmvVbGcWfpgfo7iQTVmL0r1eQxzgnSq31EL1yYNMuaZjpHmQuT2
4Hmxl9W9enRtJyVTUhwKhtjOSOsR03sMnsckpFT9pn1/V9BE2Kf3rFGqc6JukXkqK6ZW9mtmGLSq3
K+JRRq2w8PVMcbcvTr/adW4EL2yc1qk9Ec4HtiDhtSYd6/ov8xLVkKAQjLVt7Ex3/agRPfPrNwIDAQAB
```

C# key format:

```
<RSAKeyValue><Modulus>kpa+qMXS6O11x7jBGo9W3yxeHEsAdyDE40UoXhoQf9K6attSicITZMEGf
q6gmJm2BogVJtPkvri5/j9mBntA8qKMzzanSQAEBer8FyByHnf226dsLt1RbJSMLjCd3UC1n0Yq8KKvf
HhvmvVbGcWfpgfo7iQTVmL0r1eQxzgnSq31EL1yYNMuaZjpHmQuT24Hmxl9W9enRtJyVTUhwKhtj
OSOsR03sMnsckpFT9pn1/V9BE2Kf3rFGqc6JukXkqK6ZW9mtmGLSq3K+JRRq2w8PVMcbcvTr/adW4
EL2yc1qk9Ec4HtiDhtSYd6/ov8xLVkKAQjLVt7Ex3/agRPfPrNw==</Modulus><Exponent>AQAB</Exp
onent></RSAKeyValue>
```

Endpoint: <https://test-payment.momo.vn/pay/pos>

Security method: SSL/TLS encryption protocols and RSA encrypt body data with public key

2) All-in-one-web-based payment:

Partner code: "MOMOIQA420180417"

Access key: SvDmj2cOTYZmQQ3H

Secret key: PPUdXq1KowPT1ftR8DvIQTHhC03aul17

Endpoint: https://test-payment.momo.vn/gw_payment/transactionProcessor

Security method: SSL/TLS encryption protocols and SHA256 signature verify.

3) In-app-based payment:

Partner code : "MOMOIQA420180417"

Public key :

Java key format:

```
MIIBIjANBgkqhkiG9w0BAQEFAAOCAQ8AMIIBCgKCAQEAKpa+qMXS6O11x7jBGo9W3yxeHEsAdyDE
40UoXhoQf9K6attSicITZMEGfq6gmJm2BogVJtPkvri5/j9mBntA8qKMzzanSQAEBer8FyByHnf226dsL
t1RbJSMLjCd3UC1n0Yq8KKvfHhvmvVbGcWfpgfo7iQTVmL0r1eQxzgnSq31EL1yYNMuaZjpHmQuT2
4Hmxl9W9enRtJyVTUhwKhtjOSOsR03sMnsckpFT9pn1/V9BE2Kf3rFGqc6JukXkqK6ZW9mtmGLSq3
K+JRRq2w8PVMcbcvTr/adW4EL2yc1qk9Ec4HtiDhtSYd6/ov8xLVkKAQjLVt7Ex3/agRPfPrNwIDAQAB
```

C# key format:



```
<RSAKeyValue><Modulus>kpa+qMXS6O11x7jBGo9W3yxeHEsAdyDE40UoXhoQf9K6attSicITZMEGf  
q6gmJm2BogVJtPkjvri5/j9mBntA8qKMzzanSQaBEbr8FyByHnf226dsLt1RbJSMLjCd3UC1n0Yq8KKvf  
HhvmvVbGcWfpgfo7iQTVmL0r1eQxzgnSq31EL1yYNMuaZjpHmQuT24Hmxl9W9enRtJyVTUhwKhtj  
OSOsR03sMnsckpFT9pn1/V9BE2Kf3rFGqc6JukXkqK6ZW9mtmGLSq3K+JRRq2w8PVMcbcvTr/adW4  
EL2yc1qk9Ec4HtiDhtSYd6/ov8xLVkKAQjLVt7Ex3/agRPfPrNw==</Modulus><Exponent>AQAB</Exp  
onent></RSAKeyValue>
```

Endpoint: <https://test-payment.momo.vn/pay/app>

Security method: SSL/TLS encryption protocols and RSA encrypt body data with public key

VI. POS PAYMENT TECHNICAL GUIDE

1) Use case

Step 1: User logging in to MoMo app, the end-user tap the “MÃ THANH TOÁN” feature in the home screen show in Figure 1.1

Step 2: Cashier scan bar code or QR Code Figure 1.2 shown in the end-user MoMo app that in step 1 and the transaction order is submitted to the Vendor POS server.

Step 3: Vendor POS server send the transaction include order amount, vendor transaction id and MoMo POS payment code to MoMo POS server. If the payment verified successful, the end-user will see a successful message in MoMo app and error will display when failed in Figure 1.3.



Step 4: Vendor POS terminal server will receive the result from MoMo POS server when verify completed. After received result from MoMo POS server, Vendor POS server send result to Vendor Terminal POS.

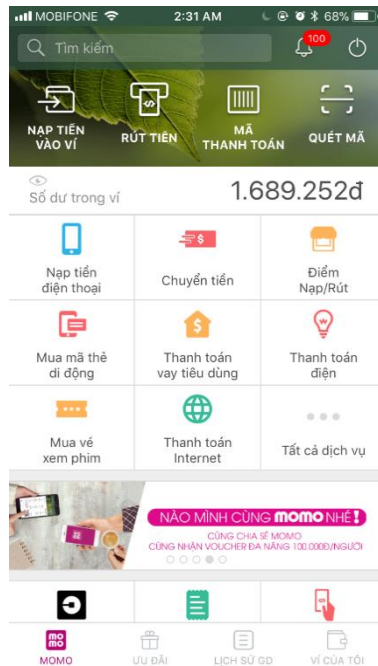


Figure 1.1 MoMo home screen



Figure 1.2 MoMo payment QR code

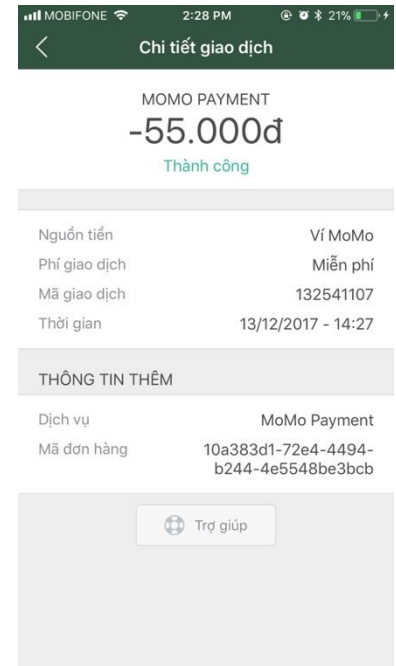


Figure 1.3 transaction result

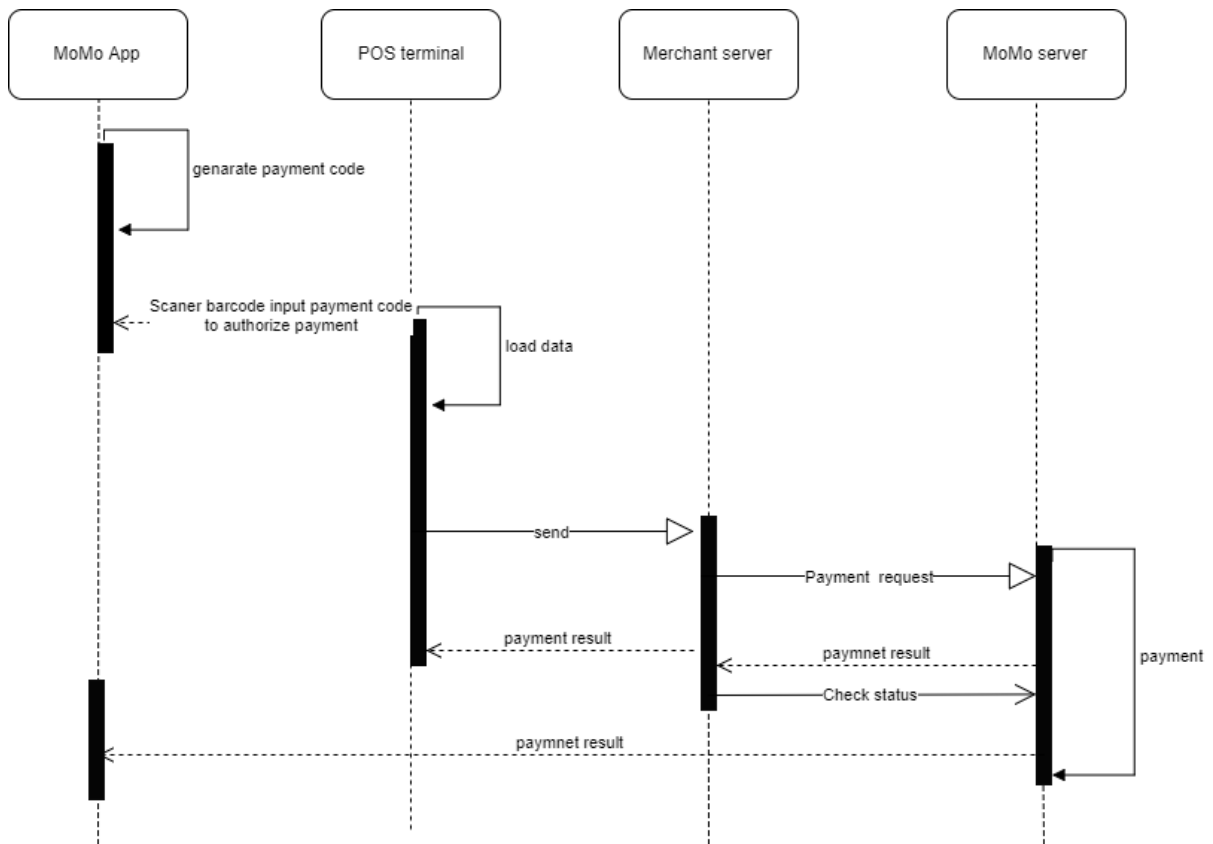
2) Participating Vendors

- Users can experience this method for themselves at stores and super market accepted MoMo POS payment.
- Super market: Co.op mart, Lotte mart
- Coffee: The Coffee House, Gongcha
- Foods and beverages: Gogi, Kichi, Hoàng Yến Buffet
- Cinemas: CGV, Lotte Cinema

Note: The MoMo barcodes are constructed with 20 numbers, with the start value of MM.



3) Work flow



4) Exception Handling

Follow the instructions below to troubleshoot any payment exceptions:

If the Payer cannot find their order in their transaction history when they're prompted of a payment error on MoMo, they will require the Vendor to initiate the order again. If the order is successfully paid for, the Vendor's backend calls the Query Transaction Status API to query the actual payment status again.

5) Submit MoMo POS payment server

After the Cashier scans a bar code or QR code on the MoMo app page shown by the Payer, the payment parameters are transferred to the Vendor POS Server. The Vendor POS server calls the Submit MoMo POS payment server to initiate a payment.

URL: <https://test-payment.momo.vn/pay/pos>

Method: HTTP POST

Request header: application/json

Response header: application/json

Parameter request detail:

Parameter	Data type	Requirement	Description
-----------	-----------	-------------	-------------



partnerCode	String	√	Merchant identify code
partnerRefId	String	√	Transaction ID of Merchant system
description	String		Detail description of transaction
amount	Numeric	√	Payment amount
hash	String	√	RSA_Encrypt({ "partnerCode": "[partnerCode]", "partnerRefId": "[partnerRefId]", "amount": "[amount]", "paymentCode": "[paymentCode]" })
version	Numeric	√	Current version is 2.0 (double value)

a. Example:

```
{
  "partnerCode": "MOMOIQA420180417",
  "partnerRefId": "ref1122334422",
  "description": "thanh toan MoMo",
  "hash": "
VwnYQbw5eg2XGVO6uGgyOETG9dBQXjdOw8OyBptZ5zvsUTPiNxMc4hi1sd7TTRkifG0kaOJ
VgplrLlyogFxcegyZzQ7LtjDr/4FtN8MfFKWozhxSWW2JYQyJ/klegGVpOTSkXkfUoueGdTSI2IJF
S1pe5rxkmBdMWRilbyfOqbTdrWt50gjY2mQbhke7+9puGLgg8mh+NfYCbEZtHDKyDODA0M
VNMNh3ATd31KwfNLm0zx6QQ6KXBq5M04cpTA6rIZ9uz3fxEwTvPycuxJtLvtFDpLapNAuUw
qA2Rej3mTgOTN1+Jq9isqEueA0Ix3ip++d8GbJXJYkvYfr0XgT3zA==",
  "version": 2.0
}
```

b. Detail hash parameter

Parameter	Data type	Requirement	Description
partnerCode	String	√	MoMo provide for Merchant when enter into the contract or find in https://business.momo.vn
partnerRefId	String	√	Transaction ID of Merchant system
amount	Integer	√	Payment amount
paymentCode	String	√	Customer payment code (maximum 20 characters)
storeId	String		The Merchant store ID
storeName	String		The Merchant store name

c. Example:



```
{
  "partnerCode": "MOMOIQA420180417",
  "partnerRefId": "Merchant123556666",
  "amount": 30000,
  "paymentCode": "MM627755248085056826",
  "storeId": "1",
  "storeName": "Cua hang doi tac MoMo"
}
```

Encrypted Hash string

VwnYQbw5eg2XGVO6uGgyOETG9dBQXjdOw8OyBptZ5zvsUTPiNxMc4hi1sd7TTRkifG0ka
OJVgplrLlyogFxcegyZzQ7LtjDr/4FtN8MfFKWozhxSWW2JYQyJ/klegGVpOTSXkfUoueGdTSI2IJF
S1pe5rxkmBdMWRilbyfOqbTdrWt50gjY2mQbhke7+9puGLgg8mh+NfYCbEZtHDKyDODA0MV
NMNh3ATd31KwfNLm0zx6QQ6KXBq5M04cpTA6rIZ9uz3fxEwTvPycuxJtLvtFDpLapNAmUwqA
2Rej3mTgOTN1+Jq9isqEueA0lx3ip++d8GbJXJYkvYfr0XgT3zA==

4) Parameter response detail:

Parameter	Data Type	Description
status	String	Result code
message	Json	Detail of the result code
transid	Number	MoMo transaction ID
description	String	Description of transaction
amount	Number	amount of transaction

a. Example:

```
{
  "status": 0,
  "message": {
    "transid": 12436514111,
    "description": "Thành công",
    "amount": 30000
  }
}
```

6) Query transaction status

URL: <https://test-payment.momo.vn/pay/query-status>

Method: HTTP POST

Request header: application/json

Response header: application/json

Parameter request detail:

Parameter	Data type	Requirement	Description
partnerCode	String	√	MoMo provide for Merchant when enter into the contract or find in https://business.momo.vn
partnerRefId	String	√	Transaction ID of Merchant system
momoTransId	String		Unique MoMo transaction Id



description	String		Detailed description of transaction
hash	String	√	RSA_Encrypt(<pre>{ "partnerCode": "[partnerCode]", "partnerRefId": "[partnerRefId]", "requestId": "[requestId]" }</pre>)
version	Numeric	√	Current version is 2.0 (double value)

Example:

```
{
  "partnerCode": "MOMOIQA420180417",
  "partnerRefId": "Merchant12355666",
  "description": "thanh toan MoMo",
  "hash": "
jClksw/4LI+IMdBHpfX++fYDKpUg4a8W/heOY3PQbxi7NJI3GFIRQGsi70CSTZuW0KKgBXSuvpl
Fd5zpzzxOi7MJg4qqNWRIEn2/PAiHjB2J6R4w+wdnz9yIAGkN8E9P4I4VAKFfr01quOWjlcjFfX
T7V8ibOa92dYWtAEtms86Z7QYu4Zlw8m8b1IBgeifxm9T8k5Np3cati0QLUCEFkW+oKEWeV3
f3EGpxc7qFed4kPvxZAcBUzzQZHWUBxUVcH7d3tw7n6eGLI6lk+KvFjQRIMr94wvaPpVFXF04
9wexoUgPri8hUYJyPhEcchZDmeNJUZTWrb/1O1sJLkbsJgQ=",
  "version": 2.0
}
```

Detail hash parameter

Parameter	Data type	Requirement	Description
partnerCode	String	√	Merchant identify code
partnerRefId	String	√	Transaction ID of Merchant system
requestId	String	√	Unique request id generated by Merchant
momoTransId	String		Unique MoMo transaction Id

Example:

```
{
  "partnerCode": "MOMOIQA420180417",
  "partnerRefId": "Merchant12355666",
  "requestId": "8374736463"
}
```

Encrypted "Hash" string

```
jClksw/4LI+IMdBHpfX++fYDKpUg4a8W/heOY3PQbxi7NJI3GFIRQGsi70CSTZuW0KKgBXSuvplFd5zp
zxOi7MJg4qqNWRIEn2/PAiHjB2J6R4w+wdnz9yIAGkN8E9P4I4VAKFfr01quOWjlcjFfXT7V8ibOa92dYWtAEt
```



ms86Z7QYu4Zlw8m8b1IBgeifxm9T8k5Np3cati0QLUCEFKW+oKEWeV3f3EGpxc7qFed4kPvxZAcBUzzQZHW
UBxUVcH7d3tw7n6eGLI6lk+KvFjQRIMr94wvaPpVFXF049wexoUgPri8hUYJyPhEcchZDmeNJUZTWrb/1O1sJ
LKbSJgQ==

Parameter response detail:

Parameter	Data type	Description
status	Number	Status of request
message	String	Detail message of request
data	Json	Status of transaction

Example:

```
{
  "status": 0,
  "messages": "Thành công",
  "data": {
    "status": 1014,
    "message": "Mật khẩu bạn nhập không chính xác.",
    "partnerCode": "MOMOIQA420180417",
    "billId": "Merchant123556666",
    "amount": 30000,
    "discountAmount": 0,
    "fee": 0,
    "phoneNumber": "0938***061",
    "storeId": null,
    "requestDate": "2018-07-12 09:46:32.872",
    "responseDate": "2018-07-12 09:46:33.646",
    "customerName": "DOAN CAO KHANG",
    "transid": 147938695
  }
}
```

7) Refund transaction

URL: <https://test-payment.momo.vn/pay/refund>

Method: HTTP POST

Request header: application/json

Response header: application/json

Parameter request detail:

Parameter	Data Type	Requirement	Description
partnerCode	String	√	MoMo provide for Merchant when enter into the contract or find in https://business.momo.vn
requestId	String	√	Unique request id per request refund
hash	String	√	RSA_Encrypt({



			"partnerCode": "[partnerCode]", "partnerRefId": "[partnerRefId]", "amount": "[amount]", "momoTransId": "[momoTransId]" })
version	double	√	Current is 2.0

Example:

```
{
  "partnerCode": "MOMOIQA420180417",
  "requestId": "1512529262248",
  "hash": "
J0PyqdM8Mn8ZJAY8GSe1F/CwI9V4pYE66edb/lxKqRNboWh5ely203M1xOpfisOmVTRuD5sF
DcVXjzWncQHi++75620shnFoh/ZPBqo2kQK8PhMcLjE5+aj+LkQo7ClqYh1o/ZFNDKDSvp2K+Y
MgMFSpFW3sW7fdamxqMxjQpA0yxUykQg4w0uEzU8ARCa5rcYfWqO9k75zJdKAYZhSrM3I
9a2DMZW5G8/PKka1G+wonLinKiuzCZpf4P2gHNldob2aalBMdqptzlh/nsZ0ALRuXH3GzvWfE
FUNZCb/BLqQWBy4840rcjQDFJCa4UP4iXVvzkcv647481Si47TrXQ==",
  "version": 2.0
}
```

Detail hash parameter:

Parameter	Data type	Requirement	Description
partnerCode	String	√	MoMo provide for Merchant when enter into the contract or find in https://business.momo.vn
partnerRefId	String	√	Transaction ID of Merchant system
momoTransId	String	√	Unique request ID generated by Merchant
amount	Number	√	MoMo amount

Example:

```
{
  "partnerCode": "MOMOIQA420180417",
  "partnerRefId": "Merchant12355666",
  "momoTransId": " 147938695 ",
  "amount": 30000
}
```

Encrypted "Hash" field string

J0PyqdM8Mn8ZJAY8GSe1F/CwI9V4pYE66edb/lxKqRNboWh5ely203M1xOpfisOmVTRuD5sFDcVXjz
WncQHi++75620shnFoh/ZPBqo2kQK8PhMcLjE5+aj+LkQo7ClqYh1o/ZFNDKDSvp2K+YMgMFSpFW
3sW7fdamxqMxjQpA0yxUykQg4w0uEzU8ARCa5rcYfWqO9k75zJdKAYZhSrM3I9a2DMZW5G8/PK



Ka1G+wonLlnKiuzCZpf4P2gHNldob2aalBMdqptzlh/nsZ0ALRuXH3GzvWfEFUNZCb/BLqQWBy4840r
cjQDFJCa4UP4iXVvzkcV647481Si47TrXQ==

Parameter response detail:

Parameter	Data type	Description
status	String	Status of request
message	String	Detail message of request
transid	number	Status of transaction
amount	Number	Amount of refund transaction
partnerRefId	String	Vendor transaction id

Example:

```
{  
  "status": 0,  
  "message": "Thành công"  
  "transid": 12436514111,  
  "amount": 30000,  
  "partnerRefId": "Merchant12355666"  
}
```

8) Error code

Preference in [section 9](#)

VII. ALL-IN-ONE ONLINE PAYMENT TECHNICAL GUIDE (M2 Payment)

1) Use case

Step 1: End User send request payment to Vendor server.

Step 2: Vendor server call M2 Payment system to get **payUrl**.

Step 3: Vendor submit request (redirect request) **payUrl** that returned in step 2.

Step 4: M2 payment show payUrl and user interact with **M2 payment** in [figure 2.1](#) (Mobile web) or [figure 3.2](#) (PC web). After paid successful, **M2 payment** return result to **Vendor server** and **end-user**.



If the end-user entering Vendor online shopping on Mobile website

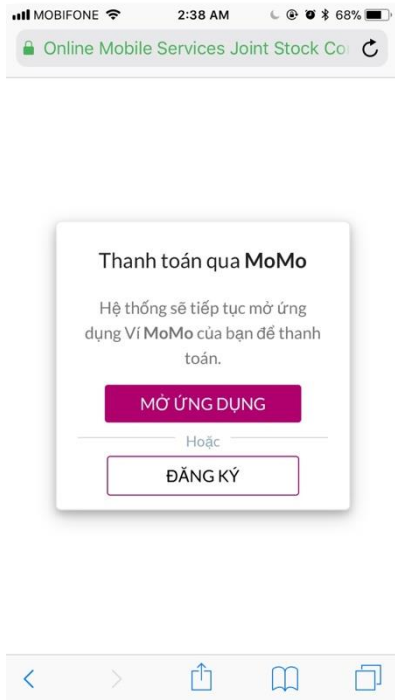


Figure 2.1 M2 payment mobile web

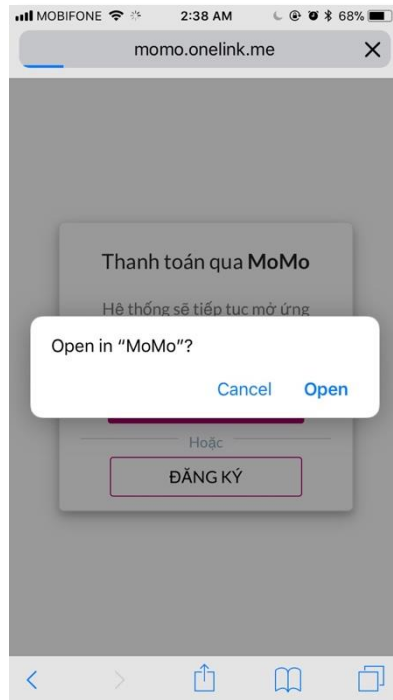


Figure 2.2 opening MoMo app



Figure 2.3 Login MoMo account

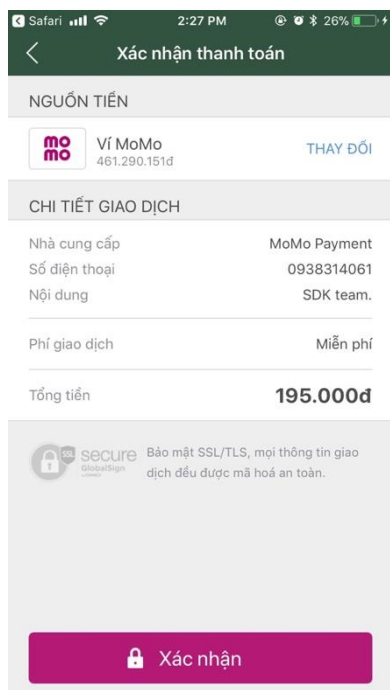


Figure 2.4 confirm payment screen

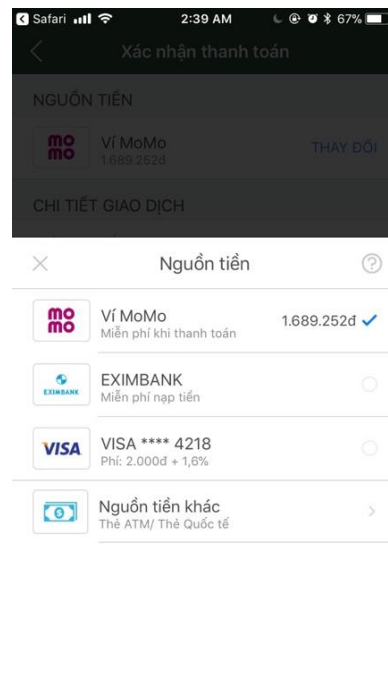


Figure 2.4 choose another money source

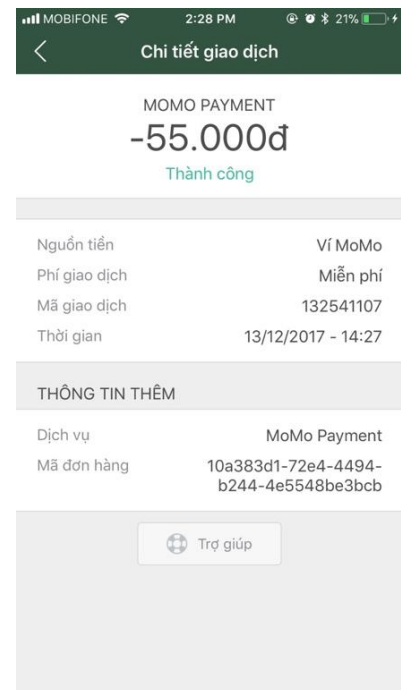


Figure 2.5 MoMo transaction result



If the end-user entering Vendor online shopping on PC web. M2 payment will show QR code for user scan and pay.

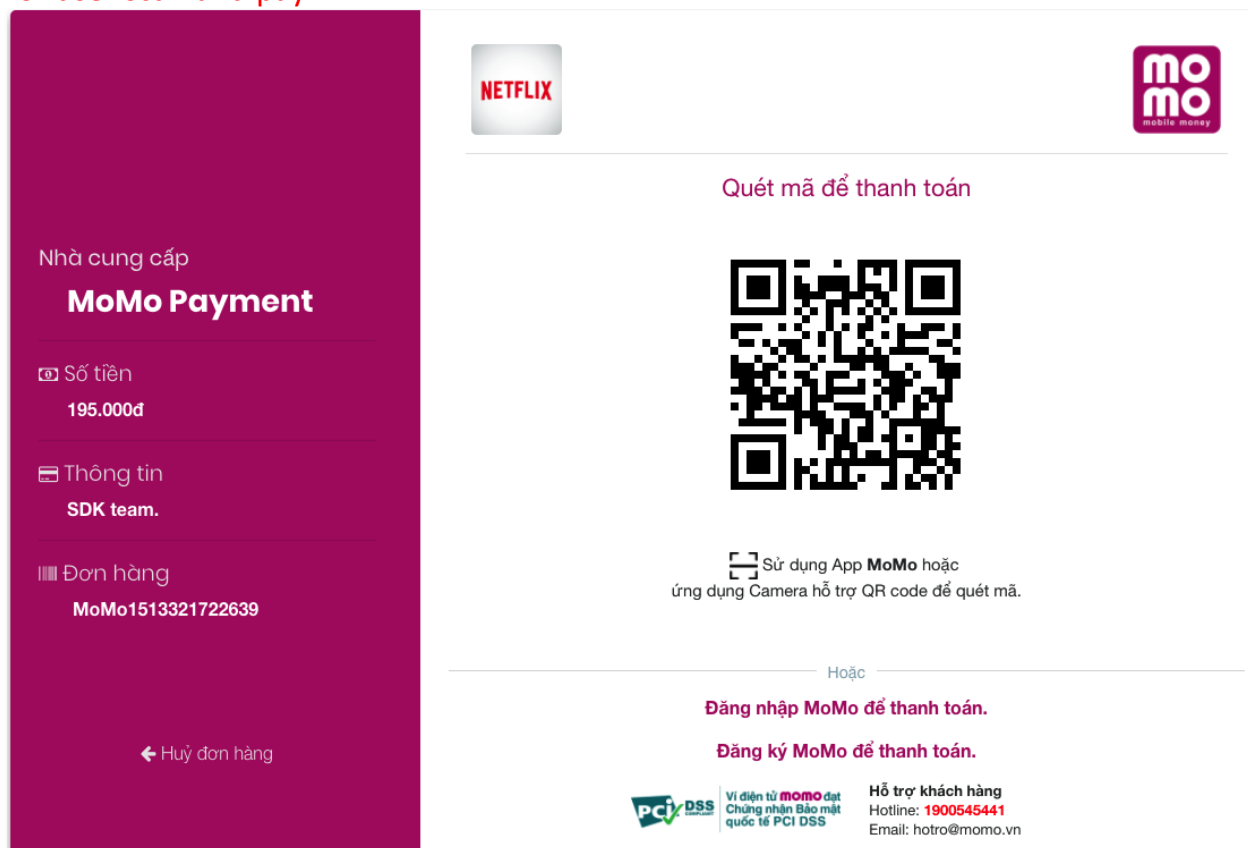


Figure 3.1 M2 payment show QR code on PC web

Payment Rules:

Amount should be greater than 1,000 VND

Expire order depend on vendor, default is 10 minutes

2) Participating Vendors

Shopping: Robins Online, Akulaku

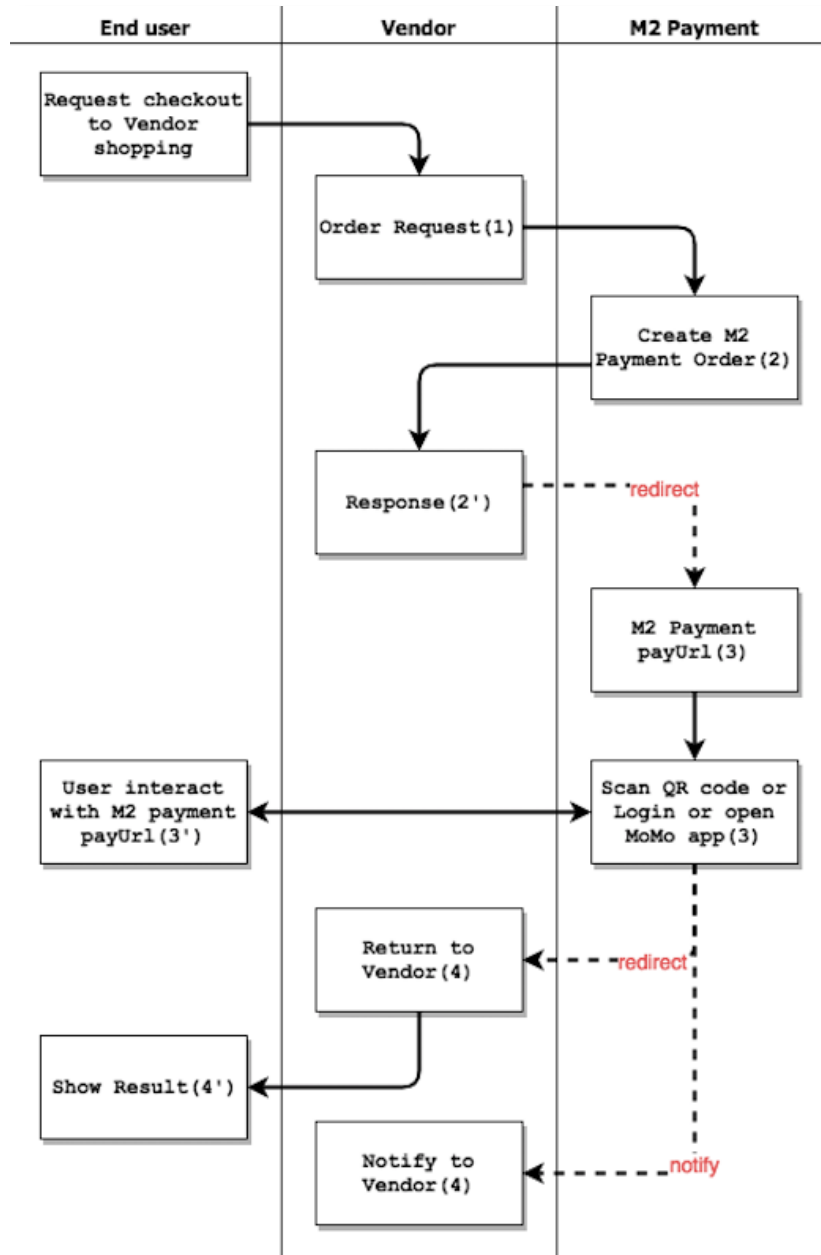
Online ticket: CGV, Ticket box, VnTrip

Entertainment: Bigo Live, Online Games, ...

Other: VTV Cab, Utilities,...



3) Work flow



4) Exception Handling

Follow the instructions below to troubleshoot any payment exceptions:

If the Payer cannot find their order in their transaction history when they're prompted of a payment error on MoMo, they will require the Vendor to initiate the order again. If the order is successfully paid for, the Vendor's backend calls the Query Transaction Status API to query the actual payment status again.



5) Submit M2 payment to get payUrl

URL: https://test-payment.momo.vn/gw_payment/transactionProcessor

Method: HTTP POST

Request header: application/json

Response header: application/json

Parameter request detail:

Parameter	Data Type	Description
partnerCode	String	MoMo provide for Merchant when enter into the contract or find in https://business.momo.vn
accessKey	String	MoMo provide for Merchant when integration or find in https://business.momo.vn
requestId	String	Request ID is unique for each request
amount	String	Order amount in VND ($\geq 1,000$ vnd).
orderId	String	Unique, transaction id of request (≤ 100 characters)
orderInfo	String	Order information for each request
returnUrl	String	URL M2 payment redirect to Vendor to notify result for end user with HTTP GET request type. M2 Payment will get this information default if merchant passes empty value.
notifyUrl	String	After user pay successfully, M2 payment will notify this URL 01 times at server side to server side. Vendor server need to build this URL to receive results from M2 Payment send to with HTTP POST request type. M2 will get default if Vendor passes empty value.
extraData	String	String contains extra data
requestType	String	Request type is captureMoMoWallet
signature	String	Signature for security. Signature is a string was hashed by HMAC_SHA256 algorithm with format partnerCode=\$partnerCode&accessKey=\$accessKey&requestId=\$requestId&amount=\$amount&orderId=\$orderId&orderInfo=\$orderInfo&returnUrl=\$returnUrl&notifyUrl=\$notifyUrl&extraData=\$extraData

Example:

```
{  
  "partnerCode": "MOMOIQA420180417",  
  "accessKey": "F8BBA842ECF85",  
  "requestId": "112233445566",  
  "amount": "10000",  
  "orderId": "1505359852755",  
  "orderInfo": "order info",  
}
```



```
"returnUrl": "https://momo.vn/return",
"notifyUrl": "https://momo.vn/notify",
"requestType": "captureMoMoWallet",
"signature": "b11f56378efd8810186e9...71be292d891ca4b6089"
}
```

Return parameter detail:

Parameter	Description
requestId	Request ID is unique for each request
payUrl	URL that Merchant server submit request (redirect)
errorCode	Error code
orderId	Merchant transaction is stored on M2 payment system
message	Error message in English
localMessage	Error message In Vietnamese
requestType	Request type is captureMoMoWallet
signature	Signature for security. Signature is a string was hashed by HMAC_SHA256 algorithm requestId=\$requestId&orderId=\$orderId&message=\$message&localMessage=\$localMessage&payUrl=\$payUrl&errorCode=\$errorCode&requestType=\$requestType

Example:

```
{
  "requestId": "112233445566",
  "orderId": "1505359852755",
  "errorCode": "Error Code",
  "payUrl":
    "https://payment.momo.vn:18081/gw_payment/payment/?command=pay&partner_code=123456&access_key=F8BBA842ECF85&order_id=MoMo1507190134118&order_info=Test%20MoMo%20Web%20payment&amount=98000&signature=7c32e644649fad1947bb816b82c6c229210db147cc2086f174b3b07bc37b7ff5&return_url=https://payment.momo.vn:18081/gw_payment/test_momo_pay&notify_url=https://payment.momo.vn:18081/gw_payment/test_momo_pay&extra_data=",
  "message": "Success",
  "localMessage": "Thành công",
  "requestType": "captureMoMoWallet",
  "signature": "b11f56378efd8810186e98d6...df71be292d891ca4b6089"
}
```

6) Processing the response from M2 payment server

Use case:

When user confirm the payment M2 Payment will response to **returnUrl** and **notifyUrl** after end user payment completed, M2 Payment will return result for Vendor with URLs that vendor provided in steps (2) include **returnUrl** and **notifyUrl**.

Method:



NotifyUrl: **HTTP POST, x-form-url-encoded**

ReturnUrl: **HTTP GET, get parameter from URL.**

Both notifyUrl and returnUrl are same parameter from M2 Payment.

Parameter	Description
partnerCode	MoMo provide for Merchant when enter into the contract or find in https://business.momo.vn
accessKey	MoMo provide for merchant when integration
requestId	Request ID for each request
amount	Amount in VND that user purchased
orderId	Transaction ID of Merchant
orderInfo	Order information
orderType	Transaction type is momo_wallet
transId	Momo transaction
message	Description about status of transaction in English
localMessage	Description about status of transaction in Vietnamese
responseTime	Transaction response time.
errorCode	Status code of transaction.
payType	web or qr
extraData	Extra data
signature	Signature for security. Signature is a string was hashed by HMAC HMAC_SHA256 algorithm partnerCode=\$partnerCode&accessKey=\$accessKey&requestId=\$requestId&amount=\$amount&orderId=\$orderId&orderInfo=\$orderInfo&orderType=\$orderType&transId=\$transId&message=\$message&localMessage=\$localMessage&responseTime=\$responseTime&errorCode=\$errorCode&payType=\$payType&extraData=\$extraData

7) Query transaction status

Use case:

- When merchant want to know exactly the status of one transaction that MoMo return from notifyUrl and returnUrl
- When merchant want to check the status of transaction when need.

URL: https://test-payment.momo.vn/gw_payment/transactionProcessor

Method: HTTP Post

Request header: application/json

Response header: application/json

Parameter request detail



Parameter	Data Type	Description
partnerCode	String	MoMo provide for Merchant when enter into the contract or find in https://business.momo.vn
accessKey	String	MoMo provide for merchant when integration
requestId	String	Request ID is unique for each request
orderId	String	Merchant transaction ID
requestType	String	Request type is transactionStatus
signature	String	Signature for security. Signature is a string was hashed by HMAC_SHA256 algorithm with format partnerCode=\$partnerCode&accessKey=\$accessKey&requestId=\$requestId&orderId=\$orderId&requestType=\$requestType

Example:

```
{  
  "partnerCode": "MOMOIQA420180417",  
  "accessKey": "F8BBA842ECF85",  
  "requestId": "112233445566",  
  "orderId": "1505359852755",  
  "requestType": "transactionStatus",  
  "signature": "b11f56378efd8810186e98d6ace...f71be292d891ca4b6089"  
}
```

Parameter response detail:

Parameter	Description
partnerCode	MoMo provide for Merchant when enter into the contract or find in https://business.momo.vn
accessKey	MoMo provide for Merchant when enter into the contract or find in https://business.momo.vn
requestId	Request ID is unique for each request
orderId	Merchant transaction ID
errorCode	Error code
amount	Payment amount
transId	MoMo transaction ID
message	Error message in English
localMessage	Error message In Vietnamese
extraData	Extra data
requestType	Request type
payType	Type payment: web or qr
signature	Secure transaction in SHA256 verify with signature by HMAC_SHA256 algorithm with format partnerCode=\$partnerCode&accessKey=\$accessKey&requestId=\$requestId&orderId=\$orderId&errorCode=\$errorCode&transId=\$transId



	<code>\$transId&amount=\$amount&message=\$message&localMessage=\$localMessage&requestType=\$requestType&payType=\$payType&extraData=\$extraData</code>
--	--

Example:

```
{
  "partnerCode": "partner Code",
  "accessKey": "access key",
  "requestId": "request id",
  "orderId": "Merchant transaction Id",
  "amount": "Momo account",
  "errorCode": "Error code",
  "transId": "MoMo transaction ID",
  "message": "SUCCESS",
  "localMessage": "Description result of transaction",
  "requestType": "Request Type",
  "signature": "secure string"
}
```

8) Refund MoMo wallet

URL: https://test-payment.momo.vn/gw_payment/transactionProcessor

Method: HTTP Post

Request header: application/json

Response header: application/json

Parameter request detail:

Parameter	DataType	Description
partnerCode	String	MoMo provide for Merchant when enter into the contract or find in https://business.momo.vn
accessKey	String	MoMo provide for Merchant when enter into the contract or find in https://business.momo.vn
requestId	String	Request ID is unique for each request
amount	String	Refund amount
orderId	String	Transaction ID of Merchant
transId	String	MoMo SALE transaction ID
requestType	String	Request type is refundMoMoWallet
signature	String	Signature for security. Signature is a string was hashed by HMAC_SHA256 algorithm <code>partnerCode=\$partnerCode&accessKey=\$accessKey&requestId=\$requestId&amount=\$amount&orderId=\$orderId&transId=\$transId&requestType=\$requestType</code>



Example:

```
{
  "partnerCode": "MOMOIQA420180417",
  "accessKey": "F8BBA842ECF85",
  "requestId": "112233445566",
  "amount": "10000",
  "orderId": "1505359852755",
  "transId": "4756463547",
  "requestType": "refundMoMoWallet",
  "signature":
  "b11f56378efd8810186e98d6ace63d8867860ba1d2cdf71be292d891ca4b60
  89"
}
```

Parameter response detail:

Parameter	Description
partnerCode	MoMo provide for Merchant when enter into the contract or find in https://business.momo.vn
accessKey	MoMo provide for Merchant when enter into the contract or find in https://business.momo.vn
requestId	Request ID is unique for each request
orderId	Merchant transaction ID
errorCode	Error code
transId	MoMo refund transaction ID
message	Error message in English
localMessage	Error message In Vietnamese
requestType	Request type
signature	Signature for security. Signature is a string was hashed by HMAC_SHA256 algorithm partnerCode=\$partnerCode&accessKey=\$accessKey&requestId=\$requestId&orderId=\$orderId&errorCode=\$errorCode&transId=\$transId&message=\$message&localMessage=\$localMessage&requestType=\$requestType

Example:

```
{
  "partnerCode": "MOMOIQA420180417",
  "accessKey": "SvDmj2c0TYZmQQ3H",
  "requestId": "1533362283",
  "orderId": "1533362283",
  "amount": "10000",
  "errorCode": "0",
  "transId": "149164337",
  "message": "Success",
  "localMessage": "Thành công",
  "requestType": "Request Type",
}
```



```
}  "signature": "2597d8e9f20f2a2016d9a457087b32869de9c6417552718c667da948d74f6b32"
```

9) Query refund status

- URL: https://test-payment.momo.vn/gw_payment/transactionProcessor
 - o Method: HTTP Post
 - o Request header: application/json
 - o Response header: application/json
- Parameter request detail:

Parameter	DataType	Description
partnerCode	String	MoMo provide for Merchant when enter into the contract or find in https://business.momo.vn
accessKey	String	MoMo provide for Merchant when enter into the contract or find in https://business.momo.vn
requestId	String	Request ID is unique for each request
orderId	String	Merchant's transaction
requestType	String	Request type is refundStatus
signature	String	Signature for security. Signature is a string was hashed by HMAC_SHA256 algorithm partnerCode=\$partnerCode&accessKey=\$accessKey &requestId=\$requestId&orderId=\$orderId&requestType=\$requestType

Example:

```
{  
  "partnerCode": "MOMOIQA420180417",  
  "accessKey": "F8BBA842ECF85",  
  "requestId": "112233445566",  
  "orderId": "1505359852755",  
  "requestType": "refundStatus",  
  "signature": "b11f56378efd8810186e98d6ace...f71be292d891ca4b6089"  
}
```

Parameter response detail:

Parameter	Description
partnerCode	MoMo provide for Merchant when enter into the contract
accessKey	MoMo provide for merchant when integration
requestId	Request ID is unique for each request
orderId	Merchant SALE transaction ID
errorCode	Error code
amount	Amount of transaction
transId	MoMo transaction ID



message	Error message in English
localMessage	Error message In Vietnamese
requestType	Request type
signature	Secure transaction in SHA256 verify with signature <code>partnerCode=\$partnerCode&accessKey=\$accessKey&requestId=\$requestId&orderId=\$orderId&errorCode=\$errorCode&transId=\$transId&amount=\$amount&message=\$message&localMessage=\$localMessage&requestType=\$requestType</code>

Example:

- When have 1 refund transaction

```
{
  "partnerCode": "PCODE_7S20171227",
  "accessKey": "YDTbS8NIUbbRedLg",
  "requestId": "1519305242170",
  "orderId": "1519305242170",
  "amount": "150000",
  "errorCode": 24,
  "requestType": "queryRefund",
  "transId": "137192601",
  "message": "Amount is larger than the remains",
  "localMessage": "Amount is larger than the remains",
  "signature": "a9ac22c41528597b103fe73b2e70e347eda02a...0396ed"
}
```

- When have more than 1 refund transaction

```
[
  {
    "partnerCode": "PCODE_7S20171227",
    "accessKey": "YDTbS8NIUbbRedLg",
    "requestId": "1519303850746",
    "orderId": "MM1519133538275",
    "amount": "3000",
    "errorCode": 0,
    "transId": "137101515",
    "requestType": "queryRefund",
    "message": "Success",
    "localMessage": "Thành công",
    "signature": "0d6e226c0c0a496ae2a1d0...21904deebc0bc5b998450f"
  },
  {
    "partnerCode": "PCODE_7S20171227",
    "accessKey": "YDTbS8NIUbbRedLg",
    "requestId": "1519303850746",
    "orderId": "MM1519133538275",
    "amount": "3000",
    "errorCode": 0,
    "transId": "137101827",
    "requestType": "queryRefund",
    "message": "Success",
    "localMessage": "Thành công",
  }
]
```




```
    "signature": "0498136e88129f6088b61e1dd...73b2dbece4aff7f31e1c"
  },
  {
    "partnerCode": "PCODE_7S20171227",
    "accessKey": "YDTbS8NIUbbRedLg",
    "requestId": "1519303850746",
    "orderId": "MM1519133538275",
    "amount": "3000",
    "errorCode": 0,
    "transId": "137101873",
    "requestType": "queryRefund",
    "message": "Success",
    "localMessage": "Thành công",
    "signature": "2f7593f5fd9bbc17ce70...5e77567e3f5d171d94ef64064"
  }
]
```

10) Error Code

Error Code	Message
0	SUCCESS
-1	Transaction not exist or wrong format
1	Empty accessKey or partnerCode
2	Ordeld is wrong format
3	Command is wrong
4	Amount is invalid should be between 1,000đ and 20,000,000đ
5	signature is wrong. Check raw signature before signed
6	OrderId exists
7	Pending transaction
8	Expired transaction
9	Rejected transaction
10	General failed
11	General system failure. Contact MoMo system admin
12	Duplicate request ID
13	Cannot find your request
14	Partner is not activated
15	General system failure. MoMo system busy
22	Invalid Wallet Id
29	System maintenance. Please try in few minutes
30	System maintenance. Please try in few minutes
31	User failed authentication in MoMo system
32	Transaction was purchased
33	Cannot refund transaction
34	Transaction refunded
35	Time out transaction
36	Expired transaction



37	Insufficient funds or capset exceeded
38	Insufficient funds
39	Login too many
44	Service not support your request
49	Order was canceled by user
63	Pay by bank source is failure
99	General system failure

VIII. APP-IN-APP ONLINE PAYMENT TECHNICAL GUIDE

1) Use case

Step 1: Merchant Mobile App get token through MoMo app

Step 2: The end-user confirm payment on MoMo app and MoMo app response token

Step 3: Merchant Mobile app receive data package from MoMo app and send this package to Vendor server.

Step 4: Merchant server update payment data and send to MoMo Payment server.

Step 5: MoMo Payment server do payment and response to Vendor server.



Step 6: Vendor server notify result to Vendor app.

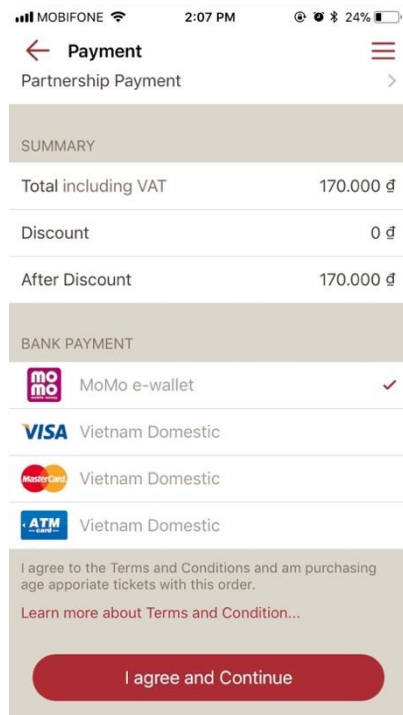


Figure 4.1 Vendor checkout screen

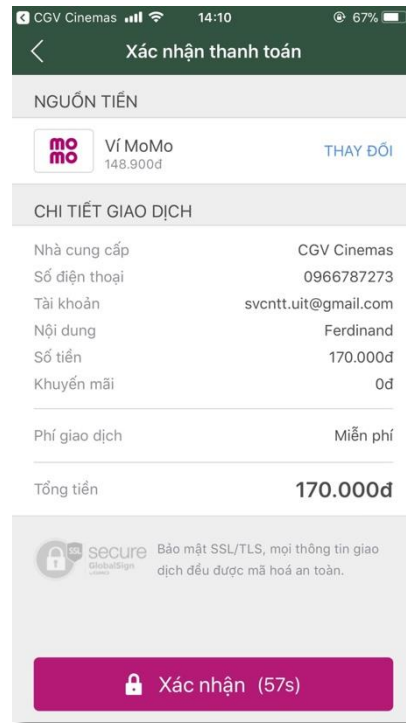


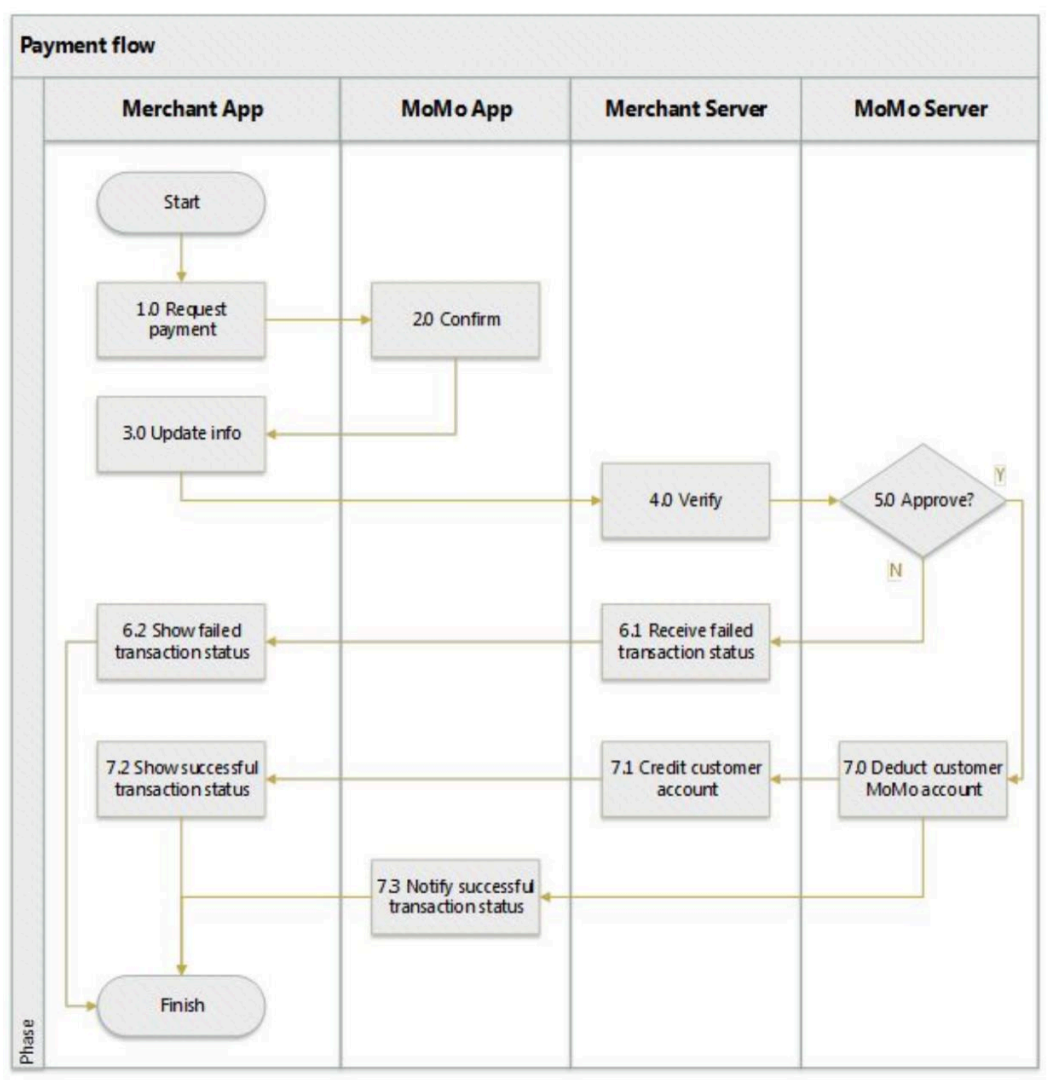
Figure 4.2 MoMo confirm payment screen

2) Participating Vendor

Online: CGV, Tiki, Ahamove, VNtrip



3) Work flow



4) Exception Handling

Follow the instructions below to troubleshoot any payment exceptions:

- If the Payer cannot find their order in their transaction history when they're prompted of a payment error on MoMo, they will require the Vendor to initiate the order again. if the order is successfully paid for, the Vendor's backend calls the Query Transaction Status API to query the actual payment status again.

5) Mobile integration

- Request MoMo app parameter in step 1

Parameter	Description	Required
merchantname	Vendor brand name is brand name	√



merchantcode	MoMo provider known as partnerCode	√
merchantnamelabel	Vendor name	
amount	Amount of transaction	√
fee	Service fee	
description	Description of order	√
username	Account/email of customer	
extra	Additional information	
appScheme	IOS ONLY. Config in CFBundleURLTypes Plist MoMo will callback to partner app when user action on confirm payment screen include cancellation and confirmation button	√

5) Response parameters from MoMo app in step 2

Parameter	Description
status	Status (0: success)
message	Message
data	Data returned from MoMo app, will be send to MoMo server (call as Token)
phonenummer	Customer phone number

6) Status defination

Status	Description
0	SUCCESS. Continue to step 3 with [data,phonenummer] to Merchant Server
1	Please input MoMo Password
2	Please choose money source (MoMo Wallet or bank account)
3	Transaction timeout (60s)
4	User cancel transaction

***Only status=0, Vendor App send [data.phonenummer] to Vendor Server**

7) Example:

Android: <https://github.com/momo-wallet/mobile-sdk>



IOS: <https://github.com/momo-wallet/mobile-sdk>

6) Submit to MoMo App-in-App Payment server

After the receive token from MoMo app, Vendor server build data and send to MoMo App-in-App payment server

URL: <https://test-payment.momo.vn/pay/app>

Method: HTTP POST

Request header: application/json

Response header: application/json

Parameter request detail:

Parameter	Datatype	Requirement	Description
partnerCode	String	√	MoMo provide for Merchant when enter into the contract or find in https://business.momo.vn
partnerRefId	String	√	Transaction ID of Merchant system
customerNumber	String	√	MoMo customer phone number. Data received from MoMo Application (Android/iOS)
amount	Integer		Payment amount
appData	String	√	MoMo App data. Data received from MoMo Application (Android/iOS)
hash	String	√	RSA_Encrypt({ "partnerCode": "[partnerCode]", "partnerRefId ": "[partnerRefId]", "amount": [amount], "partnerTransId": "[partnerTransId]", "userName": "[userId]" })
description	String		Detail description of transaction
version	Numeric	√	Current version is 2.0 (double value)

Example:

```
{  
  "customerNumber": "0966787273",  
  "partnerCode": "MOMOIQA420180417",
```



```
"partnerRefId": "Merchant12355666",
"appData":
"v2/qml0PbOlRBYjFIzVXwRWjoMpmFmvqStTJt4DCXfE0cgMtyH5Akv+FxL2Nu8IDmxt0P3Mu
+YeCGB+UffwXICo7D07jR6f2VhauglozphNgkK7724sO3qVKC9ZI8KCdr0k4AHuuUNF4AT6ly2
rOmaCVF1WeyS/y/n2E4DArwaHG2J+8StiawfZPiKoUGvywNHV",
"hash":
"
A7WFmmnnpn6TRX42Akh/iC5DdU5hhBT9LR5QSG6rJAI70hfEkkGUx2pTCai8s+M9KMVUcJ7m
52iv74yhmeEjjN10TtEJoqITBIYBG2bqcTprhDijyhV4ePU7ytDNuLxzzlvGfTYyvsEJ2jZTSf556y
od12vhYqOJSFL/U2hVuxjUahf5Rnu5R/OLalg8QmlU6nQooEuNdZEXPMd6j9EaxOCiB2oM5/9
QiTN0tCNSTIVvPtnlHu5mlbBHChcwftoIL4IAiD1nbnrlduBX//CZcrZj6hFqjvU31yb/DuG02c3aq
WxbZKZ8csOwF9bL30m/yGr/0BQUWgunpDPrmCosf9A==",
"description": "Thanh toan cho don hang Merchant12355666 qua MoMo",
"version": 2.0
}
```

Detail hash parameter:

Parameter	Data type	Requirement	Description
partnerCode	String	√	MoMo provide for Merchant when enter into the contract or find in https://business.momo.vn
partnerName	String		Merchant name
partnerRefId	String	√	Transaction ID of Merchant system
partnerTransId	String		Unique request id generated by vendor
amount	Number	√	MoMo amount
description	String		Description of transaction
customerNumber	String		Customer phone number
userName	String		Customer username
storeId	String		The partner store id
storeName	String		The partner store name

Example:

```
{
  "partnerCode": "MOMOIQA420180417",
  "partnerRefId": "Merchant12355666",
  "partnerTransId": "8374736463",
  "amount": 40000,
  "description": "Thanh toan momo"
}
```

Encrypted: Hash string

```
A7WFmmnnpn6TRX42Akh/iC5DdU5hhBT9LR5QSG6rJAI70hfEkkGUx2pTCai8s+M9KMVUcJ7m52iv7
4yhmeEjjN10TtEJoqITBIYBG2bqcTprhDijyhV4ePU7ytDNuLxzzlvGfTYyvsEJ2jZTSf556yod12vhYqOJ
```



SFL/U2hVuxjUahf5Rnu5R/OLalg8QmlU6nQooEuNdzEXPMd6j9EaxOCiB2oM5/9QiTN0tCNSTIVvPtn
IHu5mlbBHChcwftoIL4IAiD1nbnrIDuBX//CZcrZj6hFqjvU31yb/DuG02c3aqWxbZKZ8csOwF9bL30m/y
Gr/0BQUWgunpDPmCosf9A==

Return parameter detail:

Parameter	Description
status	MoMo status transaction
message	Status message
transid	MoMo transaction ID
amount	Amount return by MoMo
signature	Signature for security. Signature is a string was hashed by HMAC_SHA256 algorithm status=\$status&message=\$message&amount=\$amount&transid=\$transid

Example:

```
{  
  "status":0,  
  "message": "Thành công",  
  "amount": 40000,  
  "transid": "43121679",  
  "signature": "307b0ee753798e3aff6eb69b2d7966bf0fab29f88336ce0763532fcfafadbe28"  
}
```

7) Query transaction status

Preference in [section 6.6](#)

8) Refund transaction

Preference in [section 6.7](#)

IX. ERROR CODE

Code	Description	Note
0	Success	
-1	Transaction not exist or wrong format	
3	Agent not found	
4	Agent not registered	
6	Agent suspended	
7	Access denied	
8	Bad password	
9	Password expired	



11	Password retry exceed	
13	Target not found	
14	Target not registered	
17	Invalid amount	
23	Amount too small	
27	Agent expired	
29	Invalid password	
31	User not exist in MoMo system	
32	Request expired	
33	Transaction reversed	
34	Transaction error	
45	In timeout	
46	Amount out of range	
47	Target is not special	
48	Billpay account invalid	
151	Amount not in range from [A] to [B]	
153	Decrypt hash data fail	
161	Payment capset limited by user. Current user payment capset is [X]. Please contact MoMo customer support for assistance	
162	The payment code has been used	
208	Partner is not active	
210	Service maintenance	
403	Permission denied	
404	Request not found	
1001	Insufficient funds	
1002	Transaction recovered	
1003	Wallet Balance Exceeded	
1004	Wallet Cap Exceeded	
1006	System Error	
1007	DB Error	
1008	Bad request	
1013	Auth expired	
1014	Wrong password	
1020	Invalid param required	



2101	User not login	
2111	The payment information was missing	
2117	Bill expired	
2125	Cannot refund transaction	
2126	Partner is not config	
2127	Partner config not found or wrong format	
2128	Duplicate request ID	
2129	Signature not match	
2131	Bill not exist or expired	
2132	Transaction processed	
2135	Partner payment fail	
2137	Partner account had linked	
2400	Bad format data	
9000	Transaction processing	