

# **Gkash Unified Payment Integration Guide**

Version 1.5.5



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# 1. Document History

Version	Date	Remarks
1.0.0	15 Jul 2017	First version.
1.1.0	7 Aug 2017	Changed hashing algorithm from MD5 to SHA512
1.2.0	22 Aug 2017	Updated posting URL to <a href="https://api.pay.asia/">https://api.pay.asia/</a>
1.2.1	13 Aug 2018	Update base url to <a href="https://api-staging.pay.asia/">https://api-staging.pay.asia/</a>
1.2.2	18 Mar 2019	Updated epkey constant string to "MONTHLY" and "ANNUAL"
1.3.0	15 Jul 2019	Added optional parameter "TerminalID" to Section 4 Payment Request Parameters  Added Section 7 Void Transaction
1.3.1	23 Aug 2019	Added parameter "Version" to Section 6 Payment Status Query
1.4.0	20 Sep 2019	Added optional parameter "v_productdesc" to Section 4 Payment Request Parameters
1.5.0	26 Sep 2019	Added optional parameter "preselection" to Section 4 Payment Request
1.5.1	21 Oct 2019	Corrected host-to-host posting URL Added description for parameter "preselection" Updated description for parameter "wechatauthcode"
1.5.2	12 Feb 2020	Added a parameter "PaymentType" to Section Payment Response for Unified Payment
1.5.3	23 Mar 2020	Added parameter "signature" to Section Host to Host Response
1.5.4	28 April 2020	Added new section 9.Test Data
1.5.5	25 Aug 2020	Added parameter "PaymentType" in example of Host to Host Response.

## 2. Overview

This document explains the procedures that allow the merchant to integrate with Gkash unified payment system.

### Merchant ID and Signature Key

Merchant would have to obtain a merchant id and signature key with Gkash prior to integration development.

Merchant ID is used to uniquely identify a merchant's request.

Signature key is used by the merchant to compute the signature hash before sending the request to Gkash unified payment system.

### Merchant Server's IP Address

For security measures, merchants would have to whitelist the IP address of the server that is going to send and receive data to the Gkash unified payment system.

### Integration Method

Merchant would have to be aware of the correct type of integration method with respective to the payment channels that the merchant is subscribing to.

`Host-to-Host` integration applies for the following payment channels:

- Visa Recurring Card Payment
- Mastercard Recurring Card Payment

`Web-to-Web` integration applies for the following payment channels:

- Visa Card Payment
- Mastercard Card Payment
- Internet Banking Payment
- E-Wallet Payments

### 3. Merchant Integration

#### Host-to-Host Request

Merchant sends a server-to-server HTTP request with properties specified below.

Request URL	https://api-staging.pay.asia/api/payment/submit
Request Method	POST
Content Type	application/x-www-form-urlencoded
Character Set	UTF8
Data Format	URL encoded string. See <a href="#">4. Payment Request Parameters</a> for details.

#### Host-to-Host Response

Upon receiving and processing payment requests, Gkash unified payment system would respond with the payment status in the output.

The format of response output would be as below:

```
{
  "status" : "88 - Transferred",
  "description" : "",
  "PaymentType" : "TnG QR Scan",
  "POID" : "M102-PO-999",
  "cartid" : "123456789",
  "amount" : "100.00",
  "currency" : "MYR",
  "signature" :
    "a1accb5b95d752e76d9d5587264cee67c3086c75436093aa34ec66c4b212c
98  c0d47199653a39cae3c23ff528cac6a97d210de89dce94aca177c1e94f7dce8
b"
}
```

See [5. Payment Response Parameters](#) for details.

## Web-to-Web Request

Merchants generate a HTML form that redirects users to Gkash unified payment system using the details specified below.

Request URL	https://api-staging.pay.asia/api/PaymentForm.aspx
Request Method	POST
Content Type	application/x-www-form-urlencoded
Character Set	UTF8
Data Format	HTML Form. See <a href="#">4. Payment Request Parameters</a> for details.

## Web-to-Web Response

Gkash unified payment system would redirect the user back to the URL specified in the `returnurl` parameter of the payment request.

Request URL	As specified in the <code>returnurl</code> parameter of payment request
Request Method	POST
Content Type	application/x-www-form-urlencoded
Character Set	UTF8
Data Format	HTML Form. See <a href="#">5. Payment Response Parameters</a> for details.

## Payment Status Callback

If a `callbackurl` parameter is specified in the payment request, the merchant would receive `server-to-server` HTTP request payment status notification with properties specified below.

Request URL	As specified in the <code>callbackurl</code> parameter of payment request
Request Method	POST
Content Type	application/x-www-form-urlencoded
Character Set	UTF8
Data Type	URL encoded string. See <a href="#">5. Payment Response Parameters</a> for details.

Merchant system shall output string `OK`, upon successful receiving payment status notification from Gkash unified payment system.

## 4. Payment Request Parameters

Merchant sends payment request details to Gkash unified payment system with the following parameters.

Name	Description	Example
version*	Version number. Constant string: '1.5.1'.	1.5.0
CID*	Merchant ID	M102-C-999
v_currency*	Payment currency	ISO 4217 currency code, e.g. MYR
v_amount*	Payment amount	100.00
v_cartid*	Merchant cart id	123456789
v_firstname	Billing first name	Ede
v_lastname	Billing last name	Chow
v_billemail	Billing email	a@example.com
v_billstreet	Billing address	1, Jalan Sultan Ismail
v_billpost	Billing postcode	12345
v_billcity	Billing city	Kuala Lumpur
v_billstate	Billing state	Wilayah Persekutuan
v_billcountry	Billing country	ISO 3166-1 Alpha-2 country code, e.g. MY
v_billphone	Billing contact	03-22228888
v_shipstreet	Shipping address	1, Jalan Sultan Ismail
v_shippost	Shipping postcode	12345
v_shipcity	Shipping city	Kuala Lumpur
v_shipstate	Shipping state	Wilayah Persekutuan



v_shipcountry	Shipping country	ISO 3166-1 Alpha-2 country code, e.g. MY
returnurl	URL to redirect user, required for Web-to-Web integration	http://example.com
callbackurl	URL to receive payment status callback	http://example.com
clientip	User client ip address	1.0.0.1
v_productdesc	Product Description	1 x Apple
preselection	Pre-select payment method. (Supported on web-to-web transactions only)	ECOMM - For Credit/Debit Card tab EBANKING - For Internet Banking tab EWALLEt - For Ewallet tab
signature*	SHA512 Signature	See section Signature Hash below
<b>VISA / MASTERCARD / UNIONPAY CARD PAYMENT</b>		
v_cardholder**	Cardholder first name	Ede
v_cardholder_last	Cardholder last name	Chow
v_cardnum*	Card number	1234123412341234
v_month**	Card expiry month	01
v_year**	Card expiry year	2017
v_cvv2**	Card security code	123
v_pmode**	Card type Constant string: 'visa', 'mastercard', or 'unionpay'	visa
<b>RECURRING PAYMENT ***</b>		
recurringtype**	Recurring payment type	"MONTHLY" "ANNUAL"
epkey**	Recurring payment token	123456789
<b>E-WALLET PAYMENT</b>		

wechatauthcode**	E-Wallet QR code	abcde123456789
terminalID**	Terminal Id Provided by Gkash	M147-TD-382
<b>INTERNET BANKING</b>		
ebankid**	Refer <a href="#">Appendix Bank List</a>	01

\* This field is mandatory.

\*\* This field is mandatory for its intended payment channel.

\*\*\* Only supported by Visa / Master card payment

## Signature Hash

Compute the SHA512 signature hash using the input format as below :

UpperCase (<SignatureKey>;<CID>;<v\_cartid>;<v\_amount>;<v\_currency>)

Note:

<v\_amount> shall consist only of digits. 100.00 shall be converted to 10000.

The concatenated string shall be uppercased before the SHA512 hash computation.

Example:

```
sha512 ( 'ABC12345;M102-C-999;123456789;10000;MYR' )
```

The result of SHA512 hash function above:

```
be7a51205546e4fc4815169124a2bdf34b24fcbf0d4068827f713061163a02cf89acc  
cdc75d690dfe8e4bc470da2b7904e4b324a2bb7ed3ae0e77a9c1240f55c
```

## 5. Payment Response Parameters

Upon processing the payment request, Gkash unified payment system would respond to merchants with the following parameters.

Name	Description	Example
status	Payment status	88 - Transferred 66 - Failed 11 - Pending
description	Status description	Failed reason, or URL to display WeChat QR Code
CID	Merchant ID	M102-C-999
POID	Order reference no.	M102-PO-999
cartid	Merchant cart id	123456789
amount	Payment amount	10.00
currency	Payment currency	ISO 4217 currency code, e.g. MYR
epkey*	Recurring payment token	123456789
PaymentType***	Payment method	Card Payment - "Visa Debit" Ewallet - "GrabPay ECOMM"
signature***	SHA512 signature	See section Signature Hash below

\* This field presents in the payment request and payment status callback response for recurring payment channel only.

\*\* This field presents in payment status callback response only.

\*\*\*This field presents in payment status callback response for Unified Payment channel only.

## Signature Hash

Compute the SHA512 signature hash using the input format as below :

```
UpperCase (<SignatureKey>;<CID>;<POID>;<cartid>;<amount>;<currency>;<status>)
```

**Note:**

<amount> shall consist of only digits. 100.00 shall be converted to 10000.

The concatenated string shall be uppercased before the SHA512 hash computation.

**Example:**

```
sha512 ( 'ABC12345;M102-C-999;M102-PO-999;123456789;10000;MYR;88 -  
TRANSFERRED' )
```

**The result of SHA512 hash function above:**

```
ae1accb5b95d752e76d9d5587264cee67c3086c75436093aa34ec66c4b212c98c0d47  
199653a39cae3c23ff528cac6a97d210de89dce94aca177c1e94f7dce8b
```

## 6. Payment Status Query

### Submit Request

Merchant shall send a `server-to-server` HTTP request with properties specified below.

Request URL	https://api-staging.pay.asia/api/payment/query
Request Method	POST
Content Type	application/x-www-form-urlencoded
Character Set	UTF8
Data Type	URL encoded string. See section Parameters below for details.

### Parameters

Merchant shall send the parameters specified below to PAY e-Bill system.

Name	Description	Example
version	Version number. Constant string: '1.3.0'	1.3.0
CID	Merchant ID	M102-C-999
cartid	Merchant cart id	123456789
amount	Payment amount	10.00
currency	Payment currency	ISO 4217 currency code, e.g. MYR
signature	SHA512 Signature	See section Signature Hash below.

## Signature Hash

Compute the SHA512 signature hash using the input format as below :

```
UpperCase (<SignatureKey>;<CID>;<cartid>;<amount>;<currency>)
```

Note:

<amount> shall consist of only digits. 100.00 shall be converted to 10000.

The concatenated string shall be uppercased before the SHA512 hash computation.

Example:

```
sha512 ( 'ABC12345;M102-C-999;123456789;10000;MYR' )
```

The result of SHA512 hash function above:

```
be7a51205546e4fc4815169124a2bdf34b24fcbf0d4068827f713061163a02cf89acc  
cdc75d690dfe8e4bc470da2b7904e4b324a2bb7ed3ae0e77a9c1240f55c
```

## Response

The format of response output would be as below:

```
{  
  "refundstatus": "00 - Refund Successful",  
  "refundamount": "0.10",  
  "refunddate": "2019-08-16 17:01:06",  
  "status": "88 - Transferred",  
  "description": "SUCCESS",  
  "CID": "LOCAL-C-10314",  
  "POID": "M147-PO-41042",  
  "cartid": "M161-C-17920190816165907",  
  "amount": "0.10",  
  "currency": "MYR"  
}
```

## 7. Void transaction

### Submit Request

If a customer requests a refund on a paid transaction prior to settlement, merchants can call this API to void the transaction. In this case, the system will deduct the amount from the merchant's wallet, and deposit it back to the customer's wallet.

Request URL	<a href="https://api-staging.pay.asia/api/payment/refund">https://api-staging.pay.asia/api/payment/refund</a>
Request Method	POST
Content Type	application/json
Character Set	UTF8
Body	Json Format

### Payment Refund Request Parameters

Name	Description	Example
version*	Version number. Constant string. '1.3.1'.	1.3.1
CID*	Merchant ID	M102-C-999
cartid*	Cart ID of the payment	M161-C-179-20181023131421
currency*	Payment currency	ISO 4217 currency code,e.g. MYR
amount*	Payment Amount (When calculate signature, it shall consist of digits only , 100.00 shall be converted to 10000)	100.00
signature*	SHA512 Signature	See signature session

## Payment Refund Response Parameters

Name	Description	Example
status	Payment status	00 - Refund Successful 01 - Refund Failed
description	Status description	Failed reason
CID	Merchant ID	M102-C-999
POID	Order reference no.	M102-PO-999
cartid	Merchant card id	12345678
amount	Payment amount	100.00
currency	Payment currency	ISO 4217 currency code,e.g. MYR

## Signature Hash

Compute the SHA512 signature hash using the input format as below :

```
UpperCase (<SignatureKey>;<CID>;<cartid>;<amount>;<currency>)
```

**Note:**

<amount> shall consist of only digits. 100.00 shall be converted to 10000.

The concatenated string shall be uppercased before the SHA512 hash computation.

**Example:**

```
sha512 ( 'ABC12345;M102-C-999;123456789;10000;MYR' )
```

The result of SHA512 hash function above:

```
Be7a51205546e4fc4815169124a2bdf34b24fcbf0d4068827f713061163a02cf89acc  
cdc75d690dfe8e4bc470da2b7904e4b324a2bb7ed3ae0e77a9c1240f55c
```



## 8. Appendix

### Bank List




Bank ID	Bank Name
01	Malayan Banking Bhd
02	CIMB Bank Bhd
03	Public Bank Bhd
04	Hong Leong Bank Bhd
05	RHB Bank Bhd
06	Affin Bank Bhd
07	AmBank (M) Bhd
08	Bank Islam Malaysia Bhd
09	Bank Rakyat Bhd
10	Bank Muamalat Malaysia Bhd

## 9. Test Data


### 9.1. Credit / Debit Card

#### Payment

CREDIT / DEBIT CARD
INTERNET BANKING
E-WALLET

ACCEPTED CARD TYPES:




NAME ON CARD
Testing Card

CARD NUMBER
4111111111111111


CVV
123

EXPIRY DATE
Jan
2023

CONTINUE
CANCEL PAYMENT

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### Test Card

Card Number	4111 1111 1111 1111
Expiry Date	01/23
CVV	123

### 9.2. FPX Online Banking

-No testing environment, not able to test

### 9.3. Ewallet

-Test Wechat only

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