

Documentation of connection of 9Pay Payment Gateway

I. Overview

1. Purpose

- Step-by-step instructions for connecting to an intermediary payment gateway API

2. Scope

- Merchant's technical system

3. Environment

→ Sandbox: <https://sand-payment.9pay.vn/>

4. Test account

ClientID: 232534

Secret Key: ZctvnVvtCqnQWakYTM8YN6O2nWxT2wZfVvtCqnQ2xcx

5. Format

a, Returned result

All results will be returned as the JSON format:

- Success

- Failed

II. Integration

1. Authorization

Each API call uses the following parameters in header

| Field name | Data type | Required | Default value | Description |
|---------------|-----------|----------|---------------|---|
| Authorization | string | Yes | | <p>Format:</p> <p>Signature<space>Algorithm=<algorithm>, </p> <p>Credential=<credential>, SignedHeaders=<signedheaders>, Signature=<signature></p> <ul style="list-style-type: none"> - <algorithm> = “HS256” : for HMAC-SHA256 signature - <algorithm> = “RS256” : for RSA-SHA256 signature <p>(View 3.Signature for more information)</p> |

| | | | | |
|-------------|--------|-----|--|-----------------------------|
| Date | number | Yes | | Request timestamp/unix time |
|-------------|--------|-----|--|-----------------------------|

2. Payment

2.1 Payment integration via portal

2.1.1 End point portal

Sandbox environment

- <https://sand-payment.9pay.vn/portal>

Product environment

- <https://payment.9pay.vn/portal>

2.1.2 Parameter required (**data**)

| Field name | Data type | Required | Default value | Description |
|---------------|-----------|----------|---------------|---|
| amount | number | Yes | | |
| method | string | No | | <p>If possible, the system only enables the method by</p> <ul style="list-style-type: none"> - ATM_CARD, CREDIT_CARD, 9PAY |

| | | | | |
|--------------------|--------|-----|--|--|
| return_url | string | Yes | | Url redirects to customers when the transaction is successful |
| invoice_no | string | Yes | | Order code provided by Merchant. Must be unique per transaction |
| description | string | Yes | | |
| currency | string | No | | “USD”, “VND”. Default currency code is VND |
| time | int | Yes | | Example: 1335939007 |
| merchantKey | string | Yes | | Customer identification, provided by 9Pay |
| back_url | string | No | | Url merchant wishes to return when the customer selects to cancel |

- After building the link, the customer’s system will redirect to the newly built link.
- **Ex:**
<https://drive.google.com/file/d/1YfqGkeQNihUJXJjTMDIUjTX2peBKjHQP/view?usp=sharing>

2.1.3 Receive transaction results

Merchant will receive results returned for the transaction flow by 2 ways as below: (Note: Merchant should handle the duplicate transaction in case of receiving ONE result only for both ways)

Return: Once the payment process is completed, the data are sent to the RETURN URL. Merchant uses this information to display a successful or failed payment for the customer.

IPN: JSON data will be submitted to the Merchant IPN address registered to 9Pay. Merchant use this result to process the backend business. Only when the transaction is successful, the IPN will be sent

- IPN data response:

| Field name | Data type | Required | Default value | Description |
|-----------------|-----------|----------|---------------|--------------------------------|
| result | string | Yes | | Transaction information |
| checksum | string | Yes | | |

- Return data response:

| Field name | Data type | Required | Default value | Description |
|-----------------|-----------|----------|---------------|--|
| result | string | Yes | | Transaction information after json_encode and base64_encode |
| checksum | string | Yes | | |

- *Data after decode:*

| Field name | Data type | Required | Default value | Description |
|-------------------|-----------|----------|---------------|------------------------------|
| payment_no | number | Yes | | Payment code of 9pay gateway |

| | | | | |
|-----------------------|-----------|-----|--|--|
| invoice_no | string | Yes | | Order code provided by Merchant. Must be unique per transaction |
| currency | string | Yes | | |
| amount | number | Yes | | |
| description | string | Yes | | |
| method | string | Yes | | 'CREDIT_CARD' 'ATM_CARD' |
| card_brand | string | Yes | | |
| status | number | Yes | | |
| failure_reason | string | Yes | | |
| created_at | date/time | Yes | | |
| card_info | array | No | | When paying, if customers chose to save tokens, the return data will have one more field card_info |

- The value in card_info field:

| Field name | Data type | Required | Default value | Description |
|------------|-----------|----------|---------------|-------------|
|------------|-----------|----------|---------------|-------------|

| | | | | |
|--------------------|--------|-----|--|-------------------------------------|
| card_name | string | Yes | | Cardholder's name |
| issuer | string | Yes | | Card issuer |
| card_brand | string | Yes | | Card brand |
| scheme | string | Yes | | Card type |
| card_number | string | Yes | | Card number with format 99xxx999 |
| expire_date | string | Yes | | Expiration date |
| token | string | Yes | | Card token |

2.2 Inquiry

2.2.1 URL

/payments/{payment_no}/inquire

2.2.2 Method

GET

2.2.3 Response

| Field name | Data type | Required | Default value | Description |
|-------------|-----------|----------|---------------|---------------|
| code | number | Yes | | Response code |

| | | | | |
|----------------|------------|----|--|--------|
| message | string | No | | |
| data | json array | No | | * Data |

** Data:*

| Field name | Data type | Required | Default value | Description |
|-----------------------|-----------|----------|---------------|-------------|
| payment_no | string | Yes | | |
| invoice_no | string | Yes | | |
| currency | string | Yes | | ‘VND’,’USD’ |
| amount | number | Yes | | |
| description | string | Yes | | |
| method | string | Yes | | |
| card_brand | string | Yes | | |
| status | number | Yes | | |
| failure_reason | string | No | | |

| | | | | |
|-------------------|----------|-----|--|--|
| created_at | datetime | Yes | | |
|-------------------|----------|-----|--|--|

2.4 Delete payment token

2.5.1 URL

card_token/{token}/delete

2.5.2 Method

POST

2.5.3 Response

| Field name | Data type | Required | Default value | Description |
|----------------|-----------|----------|---------------|---------------|
| code | number | Yes | | Response code |
| message | string | No | | |

3. Signature

*** Note:** Select UTF-8 for all encoding

3.1 Signature for creating payment

a, *HMAC-SHA256 signature:*

Signature =base64_encode(HMACSHA256(<Http request method> +"\n"<uri>
+"<timestamp> +"\n"<canonicalized resources>, <client_secret>))

b, *RSA-SHA256 signature:*

Signature =base64_encode(*RSA-SHA256*(<Http request method> +"\n"+<uri> +"\n"+<timestamp> +"\n"+<**canonicalized resources**>, <**Merchant Public key**>))

Description for <**canonicalized resources**>:

- 1) Enumerated all required parameters, sorted by name in alphabetical order
- 2) Appended the name and the value of the parameter corresponding with the '=' character. Each paired parameter should be appended by '&' character

Please refer to sample code

3.2 Authentication of returned data

a. POST method response:

\$secretKeyChecksum (required to be separately provided for checksum)

\$ninePayResult = [

'result' => 'string result',

'checksum' => 'string checksum',

'version' => 'v1',

];

b. Check the checksum code and get the payment information data

// Check the checksum code

```
if (strtoupper(hash('sha256', $ninePayResult['result'] . $secretKeyChecksum)) ===  
$ninePayResult['checksum']) {
```

// Returned payment data

```
$arrayParams = json_decode(base64_decode($ninePayResult['result']), true);
```

}

III. Payment status

| STATUS | DESCRIPTION |
|--------|--|
| 1 | The transaction has been initiated |
| 2 | The transaction is being processed |
| 3 | The transaction is under reviewed because it could be in suspicious list |
| 4 | The transaction was successful but the merchant's balance has not been added yet |
| 5 | The transaction was successful and the merchant's balance has been added |
| 6 | Transaction is failed |
| 7 | The transaction has been refunded |

| | |
|----|---|
| 8 | The transaction was cancelled by customer |
| 10 | The transaction was refunded |
| 12 | 9Pay is holding merchant's transaction amount temporarily because the transaction could be in suspicious list |
| 14 | The transaction is error |
| 15 | The processing time was exceeded |

IV. Response code

| CODE | NAME | DESCRIPTION |
|------|-------------------------------|---------------------------------|
| 0 | OK | Success |
| 01 | FAIL | Failure |
| 07 | NOT_FOUND | Data in the request is empty |
| 08 | NOT_ACCEPTABLE_PAYMENT_AMOUNT | Payment amount is not accepted |
| 09 | NOT_ACCEPTABLE_PAYMENT_METHOD | Payment method is not supported |

| | | |
|----|-------------------------|--|
| 16 | BLACK_LIST | IP Address or Device ID is in a black list, merchant cannot create payment |
| 18 | INVALID_CARD_TOKEN | Invalid payment token |
| 19 | MERCHANT_INVALID_METHOD | Method is invalid |
| 20 | UNIQUE_INVOICE_NO | Invoice No has already existed |
| 21 | PAYMENT_REFUNDED | The transaction has been refunded |
| 22 | INVALID_STATUS | Invalid status |

V. List of banks

1. Ngân hàng Nông nghiệp và Phát triển Nông thôn (AGRIBANK)
2. Ngân hàng TMCP Đầu tư và Phát triển Việt Nam (BIDV)
3. Ngân hàng TMCP Công thương Việt Nam (VIETINBANK)
4. Ngân hàng TMCP Á Châu (ACB)
5. Ngân hàng TMCP Đông Nam Á (SEABANK)
6. Ngân hàng TMCP Sài Gòn Thương tín(SACOMBANK)

7. Ngân hàng TMCP Sài Gòn Công thương(SAIGONBANK)
8. Ngân hàng TMCP An Bình(ABBANK)
9. Ngân hàng Phát triển nhà Đồng bằng sông Cửu Long (MHB)
10. Ngân hàng TMCP Nhà Hà Nội (HABUBANK)
11. Ngân hàng TMCP Đại Dương (OCEANBANK)
12. Ngân hàng TMCP Phương Tây(WESTERNBANK)
13. Ngân hàng Xăng dầu Petrolimex(PGBANK)
14. Ngân hàng liên doanh Việt Nga(VRB)
15. Ngân hàng TMCP Đại Tín (TRUSTBank)
16. Ngân hàng TMCP Nam Á (NAMABANK)
17. Quỹ Tín dụng Nhân dân Trung Ương (CCF)
18. Ngân hàng Thương mại TNHH Một Thành Viên Dầu khí Toàn cầu (GPBANK)
19. Ngân hàng TMCP Đại Á (DAIABANK)
20. Ngân hàng Ngoại thương Việt Nam (VIETCOMBANK)
21. Ngân hàng TMCP Kỹ thương (TECHCOMBANK)
22. Ngân hàng TMCP Sài Gòn (SCB)
23. Ngân hàng TMCP Nam Việt (NAVIBANK)
24. Ngân hàng TMCP Tiên Phong (TIENPHONGBANK)
25. Ngân hàng TMCP Phương Nam (SOUTHERNBANK)

26. Ngân hàng TMCP Việt Á (VIETABANK)
27. Ngân hàng TMCP Quốc tế (VIBANK)
28. Ngân hàng TMCP Thịnh Vượng (VPBANK)
29. Ngân hàng TMCP Xuất nhập khẩu (EIB)
30. Ngân hàng TMCP Hàng Hải (MSB)
31. Ngân hàng Phát triển nhà tp Hồ Chí Minh (HDBANK)
32. Ngân hàng TNHH Indo Vina Bank (IVB)
33. Ngân hàng TMCP Sài Gòn Hà Nội (SHB)
34. Ngân hàng Liên doanh VID Public(VIDPUBLICBANK)
35. Ngân hàng TMCP Bắc Á (NASBANK)
36. Ngân hàng TMCP Phương Đông (OCB)
37. Ngân hàng TNHH MTV Standard Chartered (SCVN)
38. Ngân hàng TNHH MTV Hong Leong VN (HLBVN)
39. Ngân hàng TMCP Liên Việt (LVB)
40. Ngân hàng TMCP Đông Á (DONGABANK)