

# OneFin Payment Gateway Integration guide

*Version 1.0*



Author	Version	Status	Details	Time
thaita@onefin.vn	Version 1.0	Init		03/2022



<b>OVERVIEW</b>	<b>4</b>
<b>HOW TO INTEGRATE ONEFIN PAYMENT GATEWAY</b>	<b>4</b>
Using existing design	4
Using Merchant design	7
<b>SEQUENCE DIAGRAM</b>	<b>11</b>
Using existing design	11
Using Merchant design	13
<b>INTEGRATION GUIDE</b>	<b>14</b>
Select payment method (Optional)	14
Request payment	15
Redirect to OneFin payment gateway	17
Handle callback from OneFin payment gateway	17
OneFin payment gateway redirect to merchant site	17
Check payment status	18
<b>API Specification</b>	<b>18</b>
Request payment	18
Check transaction status	19
Callback with status	20
<b>Reference and testing data</b>	<b>20</b>
Code	20
<b>Signature generation/verification</b>	<b>21</b>
Test data	21

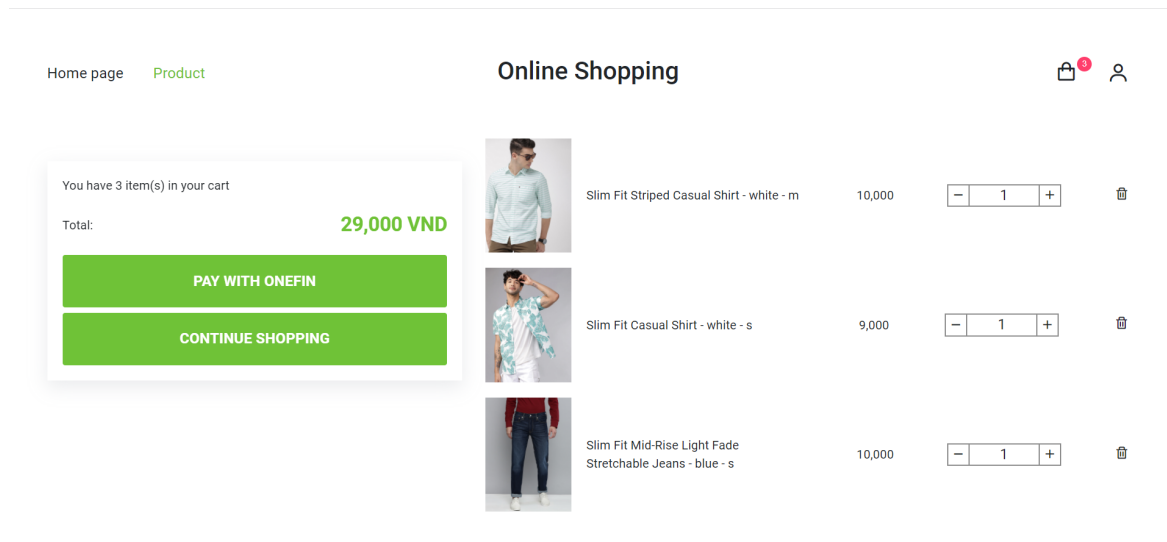
## 1. OVERVIEW

- This document details the information to implement the OneFin payment gateway (OPG) for merchants.
- Payment method supported:
  - o OneFin ewallet
    - Scan Merchant QR code.
    - Login by E-wallet account.
  - o ATM card
  - o Visa/Master/JCB

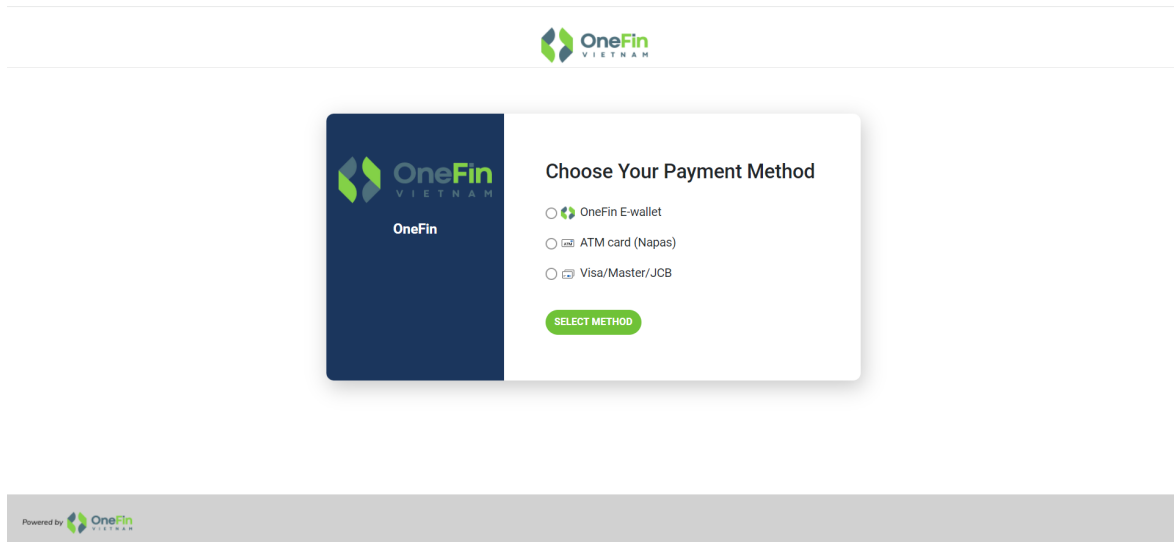
## 2. HOW TO INTEGRATE ONEFIN PAYMENT GATEWAY

### 2.1. Using existing design

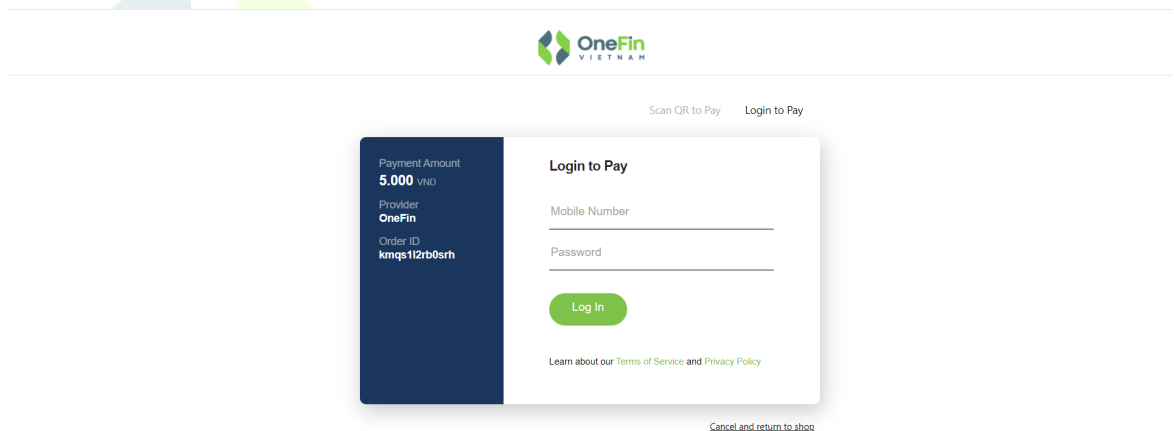
Step 1: Merchant website create checkout button to call to OneFin API to get the Payment URL




Step 2: Onefin return the URL, Merchant redirect to this site



Step 3: User select payment method, user enter payment information ( OneFin wallet, ATM - NAPAS, Visa/Master/JCB)





This transaction will be end in 14:22

Sub Total  
**5.000** VND


Provider  
**OneFin**


Order ID  
**kmqs112rbgjc**


Payment Amount  
**5.000** VND

**ATM Card**

[Cancel and return to shop](#)

Powered by 

The security of this transaction is in compliance with 



This transaction will be end in 14:58

Sub Total  
**5.000** VND


Provider  
**OneFin**


Order ID  
**kmqs112rbq58w**

Payment Amount  
**5.000** VND

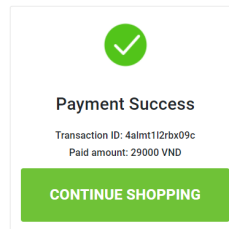
**Credit/Debit Card**

[Cancel and return to shop](#)

Powered by 

The security of this transaction is in compliance with 

Step 4: OneFin Payment Gateway redirect to merchant callback URL



## 2.2. Using Merchant design

Step 1: Merchant design payment select method page ( OneFin Wallet, ATM - NAPAS, Visa/Master/JCB)

[Home page](#)   [Product](#)

### Online Shopping



You have 2 item(s) in your cart

Total: **22,000 VND**

**ORDER NOW**

**CONTINUE SHOPPING**



Men Navy Solid Round Neck T-shirt -  
white - m

11,000




- 2 +



### Order Summary

Total: **22,000 VND**

#### Choose Your Payment Method

- ☐  OneFin E-wallet
- ☐  ATM card (Napas)
- ☐  Visa/Master/JCB/Amex/Discover/Diners

**ORDER NOW**

Step 2: Merchant calls OneFin API with payment method code in the request body. OneFin will return the URL, merchant will redirect to this page



[Scan QR to Pay](#) [Login to Pay](#)

Payment Amount  
**5.000 VND**

Provider  
**OneFin**

Order ID  
**kmqs12rb0srh**

### Login to Pay

Mobile Number  
\_\_\_\_\_

Password  
\_\_\_\_\_

**Log In**

[Learn about our Terms of Service and Privacy Policy](#)

[Cancel and return to shop](#)





Sub Total

5.000 VND

Provider

OneFin

Order ID

kmqs1l2rbgzc

Payment Amount

5.000 VND

ATM Card

Card number

Card bank

Card holder name

Issue date

Email address for receipt (optional)

Process



### Step 3: User enter payment information

#### Step 4: OneFin Payment Gateway redirect to merchant callback URL



**Payment Success**

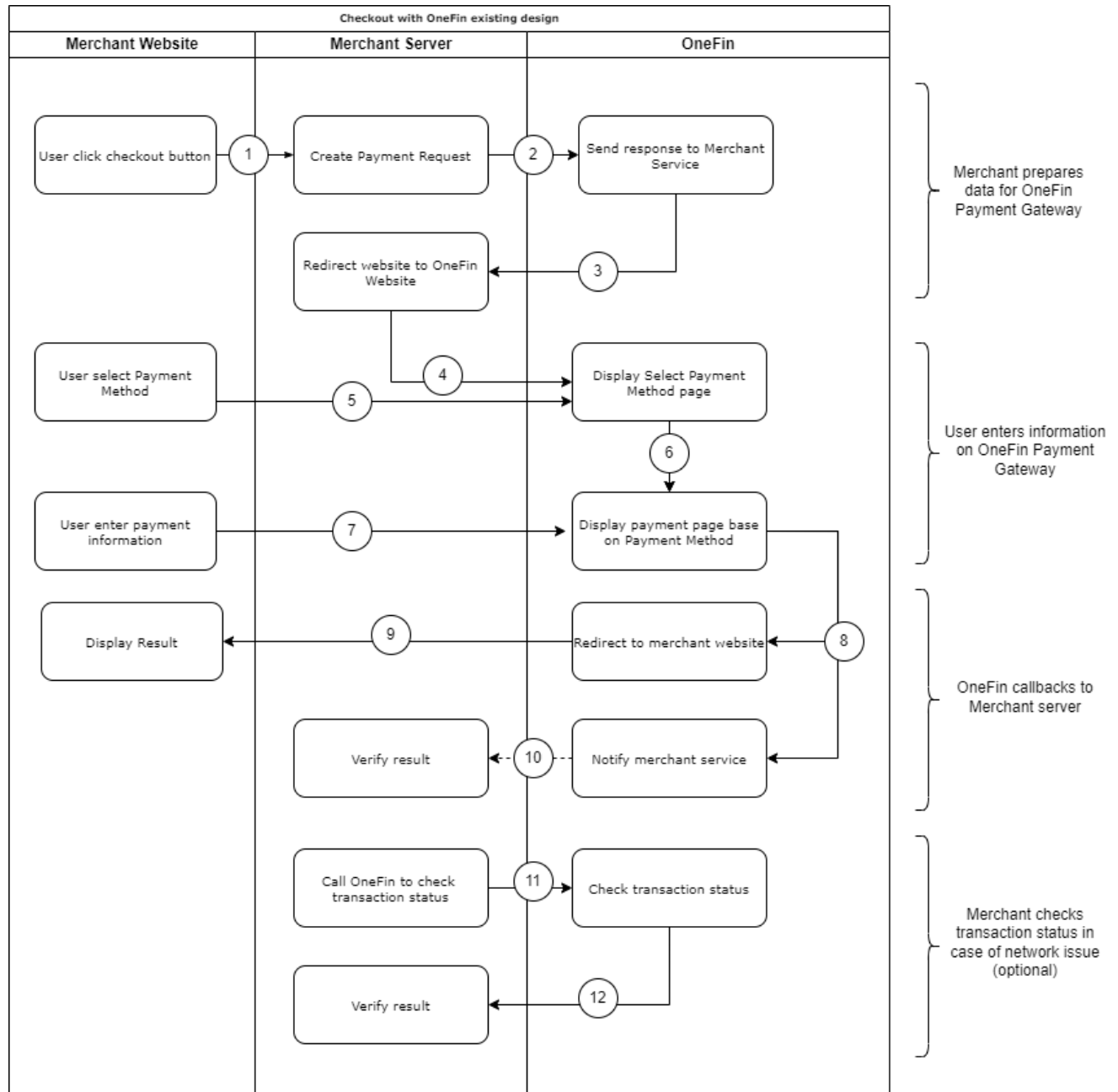
Transaction ID: 4almt112rbx09c  
Paid amount: 29000 VND

**CONTINUE SHOPPING**



### 3. SEQUENCE DIAGRAM

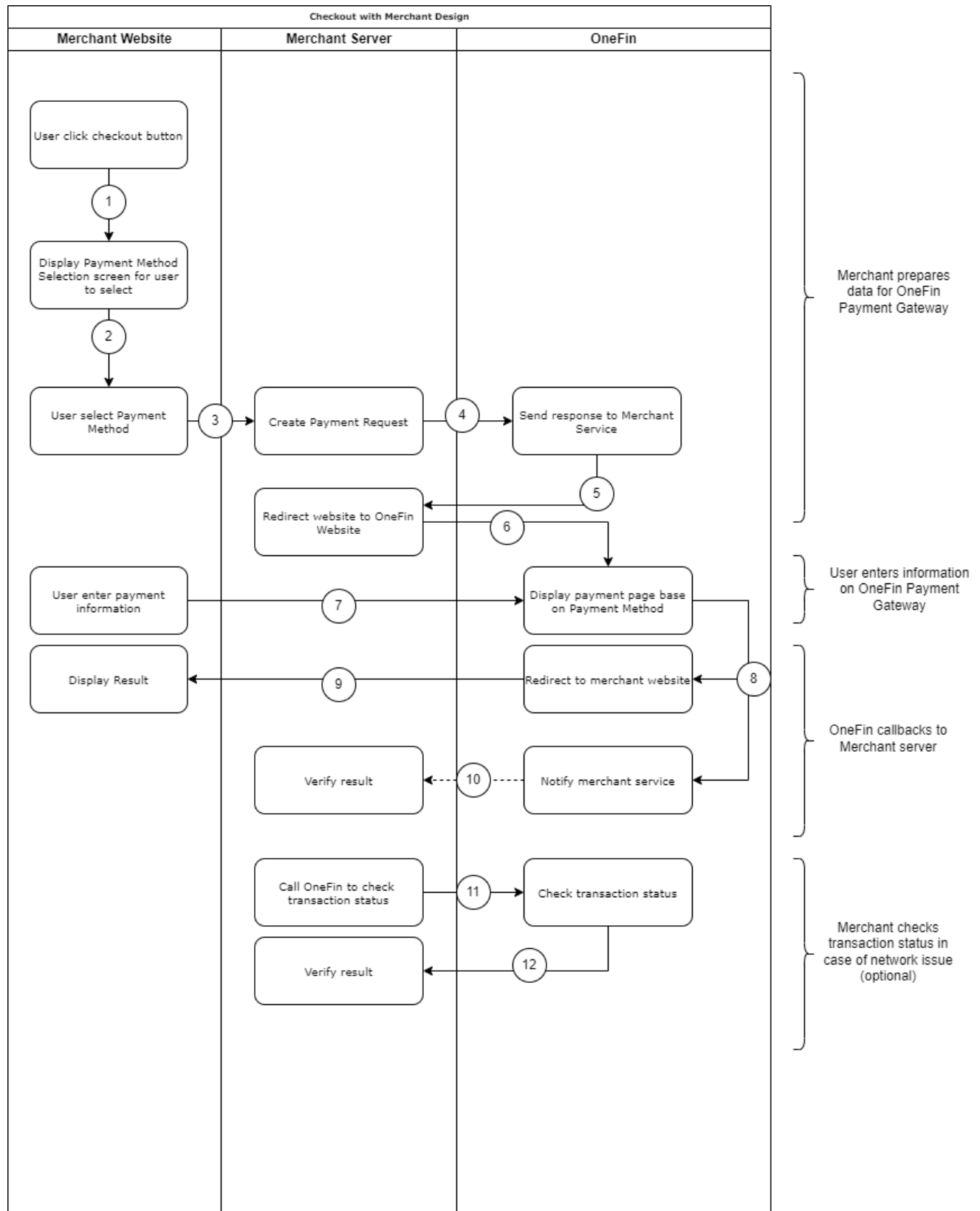
#### 3.1. Using existing design



Step	Chi tiết
Step 1:	User click checkout button on merchant website, merchant website send API to Merchant Server
Step 2:	Merchant Server create request body request and signing (4.2)

Step 3:	OneFin return callback URL
Step 4:	Merchant Server verify signature and redirect to callback URL (4.3)
Step 5:	User select payment method on OneFin Payment Gateway
Step 6:	OneFin Payment Gateway display payment information input page
Step 7:	User enter payment information
Step 8:	OneFin Payment Gateway process the payment and redirect to merchant website with status code, also send the call back to Merchant server
Step 9:	Merchant Website display the result (4.5)
Step 10:	Merchant Server verify and process the transaction on merchant demand (4.4)
Step 11:	(Optional) Merchant call to OneFin to check transaction status. This action should be perform after 15 minutes since payment creation in case of network error
Step 12:	(Optional) OneFin returns the result to the Merchant Server. Merchant Server verify and processing payment on merchant demand

### 3.2. Using Merchant design

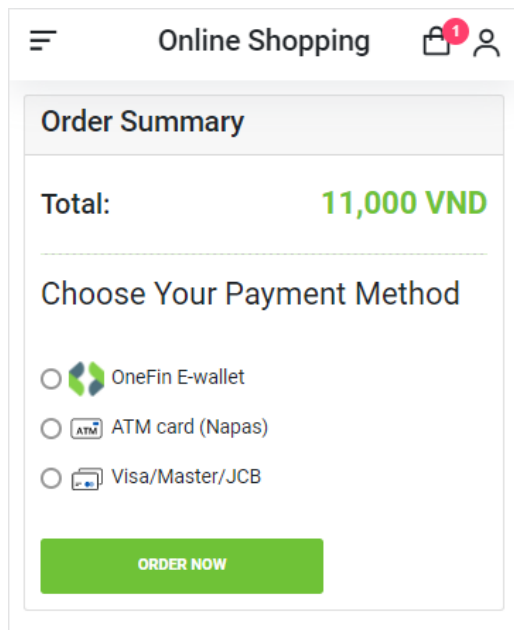


Bước	Chi tiết
Step 1:	User click checkout button on merchant website, merchant website navigate their payment selection method page (4.1)
Step 2:	User select payment method on merchant site
Step 3:	After user select payment method on merchant website, it send an API to Merchant Server
Step 4:	Merchant Server create request body request and signing (4.2)
Step 5:	OneFin return callback URL
Step 6:	Merchant Server verify signature and redirect to callback URL (4.3)
Step 7:	User enter payment information
Step 8:	OneFin Payment Gateway process the payment and redirect to merchant website with status code, also send the call back to Merchant server
Step 9:	Merchant Website display the result (4.5)
Step 10:	Merchant Server verify and process the transaction on merchant demand (4.4)
Step 11:	(Optional) Merchant call to OneFin to check transaction status. This action should be perform after 15 minutes since payment creation in case of network error
Step 12:	(Optional) OneFin returns the result to the Merchant Server. Merchant Server verify and processing payment on merchant demand

## 4. INTEGRATION GUIDE

### 4.1. Select payment method (Optional)

Merchant creates the payment page as the following then customer can request payment.

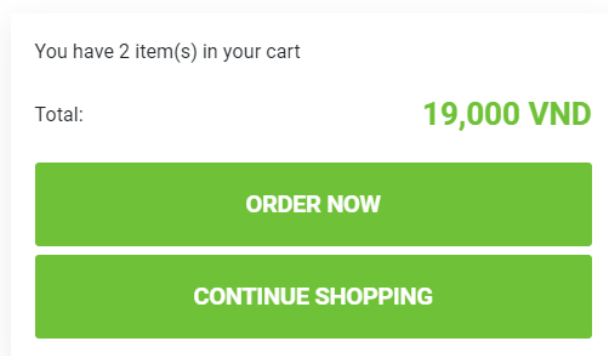


The screenshot shows the 'Online Shopping' interface. At the top, there is a navigation bar with a menu icon, the text 'Online Shopping', and a shopping cart icon with a red notification bubble containing the number '1'. Below the navigation bar is a section titled 'Order Summary'. It displays 'Total: 11,000 VND' in green text. Underneath, there is a section titled 'Choose Your Payment Method' with three radio button options: 'OneFin E-wallet' (selected), 'ATM card (Napas)', and 'Visa/Master/JCB'. At the bottom of this section is a green button labeled 'ORDER NOW'.

Customer clicks on “order now” to send a request to create payment (Step 2.2)

If Merchant want consumer select payment method on OneFin, they can skip this step

Home page    Product



The screenshot shows a checkout overlay on a blurred background of the OneFin logo. The overlay contains the text 'You have 2 item(s) in your cart'. Below this, it shows 'Total: 19,000 VND' in green. At the bottom of the overlay are two green buttons: 'ORDER NOW' and 'CONTINUE SHOPPING'.

Go directly to steps 2.2

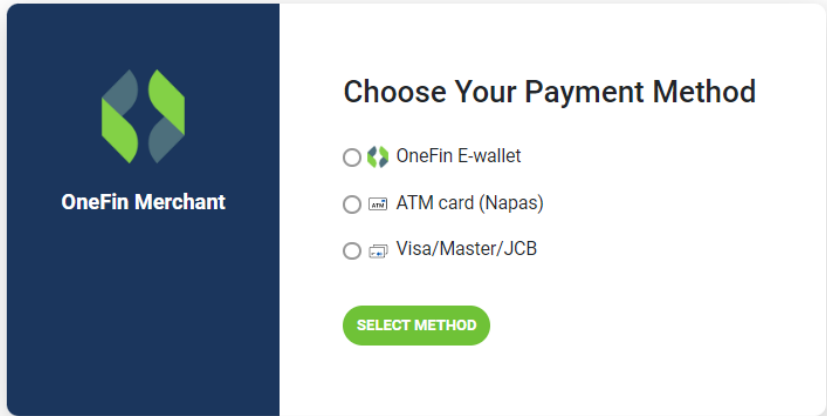
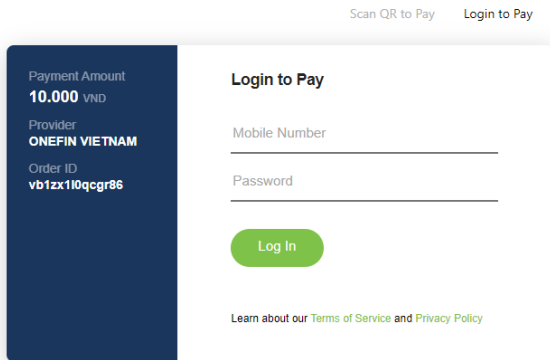
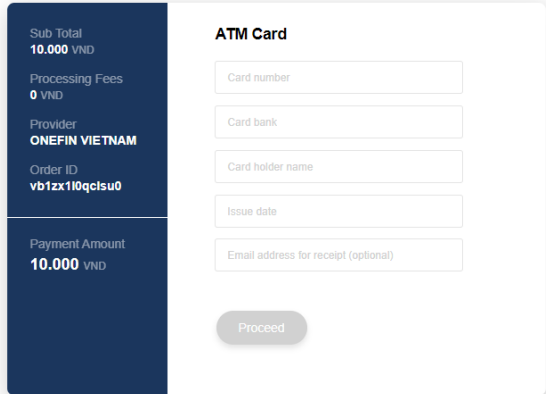
## 4.2. Request payment

After User click "Order now", Browser sends a request to create payment to Merchant Server. Merchant Server call request payment API of OneFin Server. At the same time, the merchant should initiate a setTimeout function (15 minutes), after this time the merchant server will actively call OPG to check the

transaction status (in case the connection between the Merchant and OPG is interrupted when processing the client's transaction).

**API: Request payment (3.1 Request payment)**

Note: Use the correct transactionMethod parameter in request payment API, corresponding to each form of payment model

Parameter	Screen
transactionMethod = null	
transactionMethod = 11 (OneFin E-wallet)	
transactionMethod = 10 (ATM card – Napas)	



<p>transactionMethod = 5 (Visa/Master/JCB)</p>	<div style="text-align: right; font-size: small;">This transaction will be end in 14:48</div> <div> <div> <p>Sub Total <b>10.000 VND</b></p> <p>Processing Fees <b>0 VND</b></p> <p>Provider <b>ONEFIN VIETNAM</b></p> <p>Order ID <b>vb1zx1l0qcnjwn</b></p> <p>Payment Amount <b>10.000 VND</b></p> </div> <div> <p><b>Credit/Debit Card</b></p> <p>Card number <input type="text"/></p> <p>Card holder name <input type="text"/></p> <p>Expiry date <input type="text"/> CVV <input type="text"/></p> <p>Email address for receipt (optional) <input type="text"/></p> <p><input type="button" value="Proceed"/></p> </div> </div> <div style="text-align: right; font-size: x-small;">Cancel and return to shop</div>
--	--

### 4.3. Redirect to OneFin payment gateway

OPG will response the details along with the “paymentURL”, after Merchant sent request (step 2.2) successfully. Merchant uses “paymentURL” to redirect users to OPG site. User continue to process the payment step.

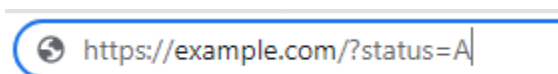
### 4.4. Handle callback from OneFin payment gateway

After user made the payment successfully, OPG will callback (3.3 Callback with status) to Merchant Server to notify the result (via “backendURL” field registered at step 2.2)

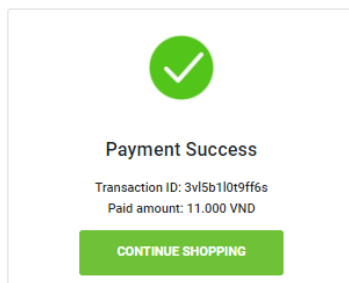
### 4.5. OneFin payment gateway redirect to merchant site

After user made the payment or other exception, OPG will redirects to Merchant site (via “responsePageURL” field registered at step 2.2) and merchant site displays the payment result **with status code - A: Approved, T: Timeout, F: Failed**

Onefin return URL:



Merchant display example:



## 4.6. Check payment status

After 15 minutes in step 2.2 (transaction's timeout is 15 minutes), Merchant Server sends a request (3.2 Check transaction status) to OPG Server to get payment status.

## 5. API Specification

### 5.1. Request payment

- URL:
  - o Sandbox: <https://sit-pgw.onefin.vn/public/mweb/generatePayment>
  - o Production: <https://pgw.onefin.vn/public/mweb/generatePayment>
- Method: POST
- Content-type: application/json

Request / Response	Fields (level 1)	Fields (level 2)	Mandatory	Data Type	Remarks
Request	signature		Y	String	Signature of message JSON string (4.2 Signature generation/verification)
	messages		Y	String (JSON)	JSON String of the data to initiate payment request.
		merchantCode	Y	String (255)	Merchant Code (generated by OneFin server upon merchant registration)
		currency	Y	String (255)	Currency type. Refer <b>4.1 Code</b>
		amount	Y	String (255)	Amount of the transaction, multiply payment amount with 100 (amount = payment amount * 100) Note: <ul style="list-style-type: none"> <li>- Amount &gt;= 5000 VND (transactionMethod = 10)</li> <li>- Amount &gt; 0 VND (transactionMethod = 5, 11)</li> </ul>
		trxRefNo	Y	String (50)	Client transaction reference number, must be unique for each merchant code
		backendURL	Y	String (255)	URL that receives the callback ( <b>3.3 Callback with status</b> ) from OneFin server
		responsePageURL	Y	String (255)	URL that the browser will be route to after the transaction is done
		mobileNo	Y	String (255)	Merchant mobile number
		transactionMethod	Y	String (255)	Refer <b>4.1 Code</b> for transaction method reference (only mandatory when actionMethod = 0)
		actionMethod	Y	String (255)	Refer <b>4.1 Code</b> for action method reference
		email	Y	String (255)	Merchant email ( <b>mandatory only for "Credit / Debit Card (CYBS) – transactionMethod = 5"</b> ).
		addressLine1	N	String (255)	Address of the user
		addressLine2	N	String (255)	Address of the user
		addressLine3	N	String (255)	Address of the user
		city	N	String (255)	User city of residence
		postcode	N	String (255)	User postal code

Response		firstName	N	String (255)	User first name
		LastName	N	String (255)	User last name
		memberId	N	String (255)	Mandatory for bind card option to be available
		paymentToken	N	String (255)	Token from binded card (only mandatory when actionMethod = 1)
	signature		Y	String	Signature of message JSON string (4.2 Signature generation/verification)
	messages		Y	String (JSON)	JSON String of the data to initiate payment response.
		merchantCode	Y	String (255)	Merchant Code (generated by OneFin server upon merchant registration)
		merchantName	Y	String (255)	Merchant name
		currency	Y	String (255)	Currency type
		amount	Y	String (255)	Amount of the transaction
		trxRefNo	Y	String (50)	Client transaction reference number, must be unique for each merchant code
		paymentURL	Y	String (255)	URL that requires the browser to redirect to get the payment page

## 5.2. Check transaction status

- URL:
  - o Sandbox: <https://sit-pgw.onefin.vn/public/mweb/checkPayment>
  - o Production: <https://pgw.onefin.vn/public/mweb/checkPayment>
- Method: POST
- Content-type: application/json

Request / Response	Fields (level 1)	Fields (level 2)	Mandatory	Data Type	Remarks
Request	signature		Y	String	Signature of message JSON string (4.2 Signature generation/verification)
	messages		Y	String (JSON)	JSON String of the data to check status request.
		merchantCode	Y	String (255)	Merchant Code (generated by OneFin server upon merchant registration)
		trxRefNo	Y	String (50)	Client transaction reference number
Response	signature		Y	String	Signature of message JSON string (4.2 Signature generation/verification)
	messages		Y	String (JSON)	JSON String of the data to check status response.
		merchantCode	Y	String (255)	Merchant Code (generated by OneFin server upon merchant registration)
		currency	Y	String (255)	Currency type. Refer <b>4.1 Code</b>
		amount	Y	String (255)	Amount of the transaction
		processingFee	Y	String (255)	Charges for the transaction
		trxRefNo	Y	String (50)	Client transaction reference number, must be unique for each merchant code
		transactionId	Y	String (255)	Transaction ID in OneFin server
		statusId	Y	String (255)	Status ID of the transaction status. Refer to <b>4.1 Code</b> for status reference
		gatewayTransactionId	Y	String (255)	Transaction ID from payment gateway
		orderId	Y	String (255)	Order ID sent to payment gateway

		paymentToken	Y	String (255)	Payment Token used
		errorCode	Y	String (255)	Error code returned from payment gateway
		errorMessage	Y	String (255)	Error message returned from payment gateway

### 5.3. Callback with status

- Method: POST
- Content-type: application/json

Request / Response	Fields (level 1)	Fields (level 2)	Mandatory	Data Type	Remarks
Request	signature		Y	String	Signature of message JSON string (4.2 Signature generation/verification)
	messages		Y	String (JSON)	JSON String of the data to Callback request.
		merchantCode	Y	String (255)	Merchant Code (generated by OneFin server upon merchant registration)
		currency	Y	String (255)	Currency type. Refer <b>4.1 Code</b>
		amount	Y	String (255)	Amount of the transaction
		processingFee	Y	String (255)	Charges for the transaction
		trxRefNo	Y	String (50)	Client transaction reference number, must be unique for each merchant code
		transactionId	Y	String (255)	Transaction ID in OneFin server
		statusId	Y	String (255)	Status ID of the transaction status. Refer to <b>4.1 Code</b> for status reference
		gatewayTransactionId	Y	String (255)	Transaction ID from payment gateway (mandatory pay via Napas)
		orderId	Y	String (255)	Order ID sent to payment gateway (mandatory pay via Napas)
		paymentToken	N	String (255)	Payment Token used
		errorCode	N	String (255)	Error code returned from payment gateway
		errorMessage	N	String (255)	Error message returned from payment gateway

## 6. Reference and testing data

### 6.1. Code

Transaction Status ID	Transaction Status	Description
100	APPROVED	Success transaction
106	OPENED	Transaction pending response from payment gateway
102	DECLINED	Failed transaction
104	SETTLED	Transaction successfully processed by EOD reporting, can no longer be voided
105	CANCELED	Transaction canceled
107	VOIDED	Transaction successfully voided

Currency Type	Description
VND	Vietnamese dong

TransactionMethod	Description
5	Visa, Master, JCB (CYBS)
10	ATM card (Napas)
11	OneFin E-Wallet

ActionMethod	Description
0	Spending With Card
1	Spending With Token (Not support now)

Web status code	Description
A	Spending With Card
1	Spending With Token (Not support now)

## 6.2. Signature generation/verification

- Algorithm: SHA1WithRSA
- Data: Message
- Result: Hex String
- Sample code: Refer attachment file

## 6.3. Test data

- Merchant code and key exchange: Refer attachment file
- Testing payment method
  1. OneFin ewallet:

<https://drive.softspace.biz/wallet/onefin/SIT/Android/index.html>

<https://drive.softspace.biz/wallet/onefin/SIT/iOS/index.html>

Installation guide:

Step 1: Uninstall current OneFin app

Step 2:

- For Android, just click the download link and the app will automatically install from the .apk . file
- For iOS, after clicking on the download link, follow these steps:
  - Go to your phone's "Settings" icon
  - Select "General" --> "Device Management" --> "Soft Space Sdn. Bhd"

- Select "Trust Soft Space Sdn. Bhd App"
- After these two steps, you can start using the application.
- Note:
  - This is the test environment SIT
  - To start testing, you need to register for a wallet account, then:
    - Implement eKYC (real information)
    - Link with "Card testing for ATM/Debit Card"

## 2. Card testing for ATM/Debit Card

Card number	Card holder name	Effective date	Static OTP	Note
9704000000000018	Nguyen Van A	03/07	otp	Host form at Napas
9704020000000016				Host form at Napas
9704000000000026				Host form at Napas
9704000000000034				Host form at Napas
9704000000000042				Host form at Napas
9704020000000018				Host form at Napas
9704000000000075				Host form at Napas
9704000000000091				Host form at Napas
9704000000000083				Host form at Napas
9704000000000059				Host form at Napas
9704020000000016				Host form at Bank

## 3. Card testing for Credit / Debit Card (CYBS)

Card number	Card holder name	Expiration date	CVV	Pass for 3D secure
VISA: 4111111111111111	Any name	12/2022	any num (3 digits)	
MasterCard: 5555555555554444	Any name	12/2022	any num (3 digits)	
JCB: 3566111111111113	Any name	12/2022	any num (3 digits)	
VISA 3D: 4000000000000002	Any name	12/2022	123	1234
VISA 3D: 4000000000000127	Any name	12/2022	123	1234
MasterCard 3D: 5200000000000007	Any name	12/2022	123	1234
MasterCard 3D: 5200000000000106	Any name	12/2022	123	1234

- Demo page using merchant design (2.2): <https://sit-merchant-demo.onefin.vn>

- Payment Request generator example page:  
<https://sit-pgw.onefin.vn/public/web/webPayment/generator>

