

UPC Secure Page

API Integration

Version 3.1

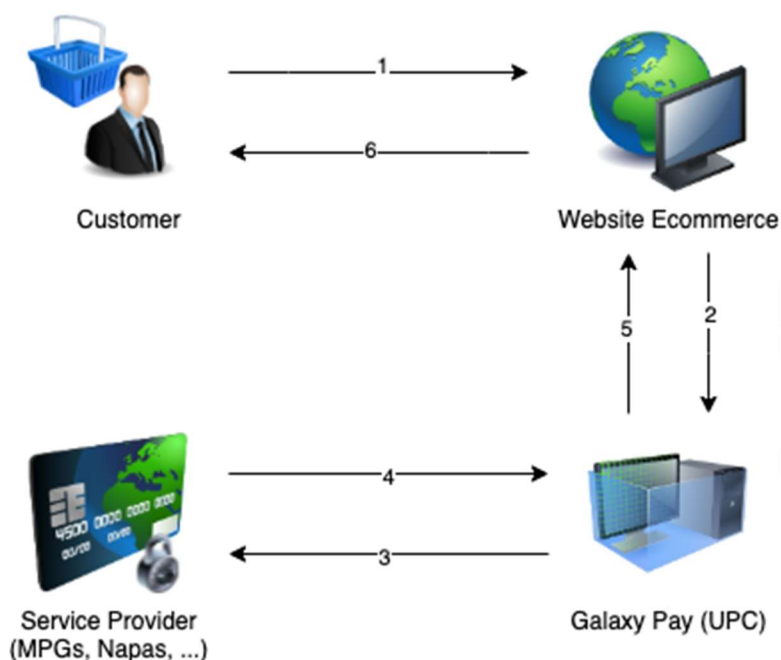
Version	Date	Author	Note
1.0	09-03-2022	Huỳnh Hữu Lộc	
2.0	10-03-2022	Huỳnh Hữu Lộc	Add Integration Flow and Demo section
3.0	06-05-2022	Huỳnh Hữu Lộc	BREAKING CHANGE <ul style="list-style-type: none">- Update Signature logic- Update API Request & Response- Add Extra data
3.1	07-06-2022	Huỳnh Hữu Lộc	Add support for Hosted Merchant

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1 Overview

1.1 Integration Flow



1.2 Demo

Demo		Link
Live Demo		https://uat-merchant.galaxypay.vn
Source Demo	.NET	https://gitlab.com/gpay-sample/upc/upc-dotnet

1.3 Message Structure

- Service: REST API
- HTTP Method: POST
- Content Type: application/json

The request structure:

#	Component	Level	Param	Description
1	Request Header	L1	APIKey	Key for authentication request. Provided by UPC .
2		L1	Signature	Request signature, created with SHA256 & Salt
3		L1	Accept	Accept encoding: application/json
4		L1	Content-Type	Request content type: application/json
5	Request Body	L1		Content of request

1.4 Integration Keys

Name	Value	Note
Endpoint	https://uat-secure.galaxypay.vn/transaction	Use for UAT only
SHA 256 Salt	UPC will provided detail when integration	Use for Signature/Checksum
API Key	UPC will provided detail when integration	Use in Request authenticate

1.5 Response Code Table

Response Code	Description
200	Success
400	Bad Request due to missing required fields
401	Unauthorized (Invalid Merchant Key)
409	Duplicate Request
499	Cancel by User

1.6 Signature Algorithm

- Apply hash algorithm **SHA256** with **Salt**.

Signature = SHA256(SignData + Salt)

Example:

Salt	GO@2021
JSON Data	<pre>{ "requestID": "14653fa1-2f69-4f4f-9d4b-240e1bebbdf3", "requestDateTime": 20220426083322, "requestData": { "orderID": "2a43e4b9-c5df-49e6-8b18-42af9bcd150e", "orderNumber": 205249008064, "orderAmount": 100000, "orderCurrency": "VND", "orderDateTime": 20220426083322, "orderDescription": "DEMO TRANSACTION", "cardType": "atm", "bank": "970437", "otp": "on", "request": "purchase", "token": "", "language": "vi" } }</pre>
Sign Data (JSON String)	<pre>{"requestID":"14653fa1-2f69-4f4f-9d4b-240e1bebbdf3","requestDateTime":20220426083322,"requestData":{"orderID":"2a43e4b9-c5df-49e6-8b18-42af9bcd150e","orderNumber":205249008064,"orderAmount":100000,"orderCurrency":"VND","orderDateTime":20220426083322,"orderDescription":"DEMO TRANSACTION","cardType":"atm","bank":"970437","otp":"on","request":"purchase","token":"","language":"vi"}}</pre>
Signature	ca1421b4227600b2ef1803d9401625a36e8e37fe8ef285268ce02192a954d7e9

1.7 Wallet Table

Wallet	Code
MoMo Wallet	MOMO

1.8 Card BIN Table

Viet Nam Local Banks	BIN
Ngân hàng TMCP Á Châu	970416
Ngân hàng TMCP Ngoại thương Việt Nam	970436
Ngân hàng Wooribank	970457
Ngân hàng TMCP Bưu Điện Liên Việt	970449
Ngân hàng TNHH Indovina	970434
Ngân hàng TMCP Nam Á	970428
Ngân hàng Liên Doanh Việt Nga	970421
Ngân hàng TMCP Đại Chúng Việt Nam	970412
Ngân hàng TMCP Sài Gòn Thương Tín	970403
Ngân hàng Nông Nghiệp và Phát triển Nông Thôn Việt Nam	970405
Ngân hàng TMCP Sài Gòn Công Thương	970400
Ngân hàng TMCP Xăng Dầu Petrolimex	970430
Ngân hàng TMCP Kiên Long	970452
Ngân hàng TMCP Bản Việt	970454
Ngân hàng TMCP Việt Nam Thương Tín	970433
Ngân hàng TNHH MTV Shinhan Việt Nam	970424

Ngân hàng TMCP Quốc Tế	970441
Ngân hàng TMCP Đông Á	970406
Ngân hàng TMCP Sài Gòn - Hà Nội	970443
Ngân hàng TMCP Đầu tư và Phát triển Việt Nam	970418
Ngân hàng TMCP Quốc Dân	970419
Ngân hàng TMCP Việt Á	970427
Ngân hàng TMCP Hàng Hải Việt Nam	970426
Ngân hàng TMCP An Bình	970425
Ngân hàng TMCP Phương Đông	970448
Ngân hàng TMCP Sài Gòn	970429
Ngân hàng TMCP Đông Nam Á	970440
Ngân hàng TMCP Xuất nhập khẩu Việt Nam	970431
Ngân hàng TMCP Công Thương Việt Nam	970415
Ngân hàng TNHH MTV Public Việt Nam	970439
Ngân hàng TMCP Việt Nam Thịnh Vượng	970432
Ngân hàng TMCP Quân Đội	970422
Ngân hàng TMCP Bảo Việt	970438
Ngân hàng TMCP Đại Dương	970414
Ngân hàng TNHH MTV Hongleong Việt Nam	970442
Ngân hàng TMCP Kỹ thương Việt Nam	970407
Ngân hàng TM TNHH MTV Dầu Khí Toàn Cầu	970408

Ngân hàng TMCP Phát Triển Thành Phố Hồ Chí Minh	970437
Ngân hàng TMCP Tiên Phong	970423

1.9 Card Test Information

1.9.1 International (via MPGs)

Network	Card Number	Expiry Date	CVV	3DS Secure
Mastercard	5123450000000008	01 / 39	100	Y
	2223000000000007	01 / 39	100	Y
	5111111111111118	01 / 39	100	N
	2223000000000023	01 / 39	100	N
Visa	4508750015741019	01 / 39	100	Y
	4012000033330026	01 / 39	100	N

1.9.2 Viet Nam Local Banks (via Napas)

Card Number	Card Holder Name	Issue Date	OTP
9704000000000018	Nguyen Van A	03/07	otp
9704020000000016	Nguyen Van A	03/07	otp

2 API Specification

2.1 Definition Table

Definition	Remark
Mandatory (M)	Required when call API
Optional (O)	DOT NOT Required when call API
Condition (C)	Base on Condition of another field when call API, that field can be Required or Optional

2.2 Data Format

Definition	Remark
Alpha	String data, including capital letters (A-Z), usually (a-z)
Numeric	Numeric data, consisting only of numeric characters (0-9)
Alphanumeric	Numeric data, including uppercase, lowercase, and numeric characters
JSON Object	JSON object data
JSON Array	JSON array data

2.3 Secure Page API

Use to create a payment request to UPC Secure Page.

2.3.1 Request Message

Header					
Level	Field Name	Data Type	Length	Required	Description
1	apiKey	Alphanumeric		M	Request authenticate
1	signature	Alphanumeric		M	Request signature
Body					
Level	Field Name	Data Type	Length	Required	Description
1	requestID	Alphanumeric	50	M	Unique ID for each transaction request Recommend: GUID
1	requestDateTime	Numeric	14	M	yyyyMMddHHmmss
1	requestData	JSON Object			
2	orderID	Alphanumeric	50	M	Transaction ID at Merchant
2	orderNumber	Alphanumeric	20	O	Order Number or Bill Number
2	orderAmount	Numeric	16	M	Transaction Amount
2	orderCurrency	Alpha	3	M	VND or USD
2	orderDateTime	Numeric	14	M	yyyyMMddHHmmss
2	orderDescription	Alphanumeric	250	M	Transaction Description
2	cardType	Alpha	20	M	atm or international or wallet atm: Napas Local Bank international: Visa and Master Card wallet: MoMo wallet, ...
2	bank	Alphanumeric	20	C	When cardType = atm Send Local BIN (view Card BIN Table) 970437 : HD Bank 970403 : Sacombank ... When cardType = international Send VISA or MASTER ... When cardType = wallet Send wallet code (View Wallet Table) MOMO : MoMo Wallet

2	otp	Alpha	3	M	Set default value: on
2	request	Alpha	20	M	Set default value: purchase
2	language	Alpha	2	M	vi or en vi: Vietnamese en: English
2	cardNumber	Numeric	19	O	Use for Hosted Merchant only
2	cardHolderName	Alphanumeric	19	O	Use for Hosted Merchant only
2	cardIssueDate	Alphanumeric	5	O	Use for Hosted Merchant only Format: MM/YY
2	cardExpireDate	Alphanumeric	5	O	Use for Hosted Merchant only Format: MM/YY
2	cardVerificationValue	Numeric	3	O	Use for Hosted Merchant only CVV/CVC
2	extraData	JSON Object		O	Extra data
3	customer	JSON Object		O	Customer information
4	firstName	Alphanumeric	50	O	Customer first name
4	lastName	Alphanumeric	50	O	Customer last name
4	identityNumber	Numeric	50	O	Customer national ID
4	email	Alphanumeric	50	O	Customer email
4	phoneNumber	Numeric	50	O	Customer phone number
4	phoneType	Alpha	1	O	Customer phone type F : Fixed-line or M : Mobile
4	gender	Alpha	1	O	Customer gender M : Male, F : Female
4	dateOfBirth	Numeric	8	O	Customer birth day yyyyMMdd
4	title	Alphanumeric	50	O	Customer title
3	device			O	Device information
4	browser	Alphanumeric	50	O	Browser information
4	fingerprint	Alphanumeric	100	O	Unique identifier for the device
4	hostName	Alphanumeric	50	O	The name of merchant server
4	ipAddress	Alphanumeric	50	O	The ip address of merchant server

4	deviceId	Alphanumeric	50	O	Mobile device identifier
4	deviceModel	Alphanumeric	50	O	Mobile device model
3	application			O	Application information
4	applicationID	Alphanumeric	50	O	Application Identifier
4	applicationChannel	Alpha	50	O	Application channel Mobile, Web, POS
3	airline			O	Airline information
4	recordLocator	Alphanumeric	50	O	Passenger name record (PNR)
4	journeyType	Numeric	1	O	Oneway: 1, Roundtrip: 2
4	departureAirPort	Alphanumeric	50	O	Departure air port
4	departureDateTime	Numeric	14	O	Departure date time yyyyMMddHHmmss
4	arrivalAirPort	Alphanumeric	50	O	Arrival air port
4	arrivalDateTime	Numeric	14	O	Arrival date time
4	services	JSON Array		O	Airline services information
5	serviceCode	Alphanumeric	50	O	Service code
5	quantity	Numeric	10	O	Service quantity
5	amount	Numeric	16	O	Service amount
5	tax	Numeric	6	O	Service tax
5	fee	Numeric	6	O	Service fee
5	currency	Alpha	3	O	Service amount currency VND or USD
4	flights	JSON Array		O	Airline flights information
5	airlineCode	Alphanumeric	50	O	Airline code
5	carrierCode	Alphanumeric	50	O	Carrier code
5	flightNumber	Numeric	50	O	Flight number
5	travelClass	Alphanumeric	50	O	Class of service
5	departureAirPort	Alphanumeric	50	O	Departure air port
5	departureDate	Numeric	50	O	Departure date yyyyMMdd

5	departureTime	Numeric	50	O	Departure time HHmmss
5	departureTax	Numeric	50	O	Departure tax
5	arrivalAirPort	Alphanumeric	50	O	Arrival air port
5	arrivalDate	Numeric	50	O	Arrival air port
5	arrivalTime	Numeric	50	O	Arrival date yyyyMMdd
5	fees	Numeric	50	O	Total fees
5	taxes	Numeric	50	O	Total taxes
5	fares	Numeric	50	O	Total fares
5	fareBasicCode	Alphanumeric	50	O	Code defining rules forming the basic of fare.
5	originCountry	Alpha	2	O	Country code of the country of origin for the flight.
4	passengers	JSON Array		O	Airline passengers information
5	passengerID	Alphanumeric	50	O	Passenger ID or Passport
5	passengerType	Alphanumeric	50	O	Adult: ADT, Children: CHD, Infant: INF
5	firstName	Alphanumeric	50	O	Passenger first name
5	lastName	Alphanumeric	50	O	Passenger last name
5	title	Alphanumeric	50	O	Passenger title
5	gender	Alpha	1	O	Passenger gender
5	dateOfBirth	Numeric	14	O	Passenger birth day yyyyMMddHHmmss
5	identityNumber	Alphanumeric	50	O	Passenger national ID
5	nameInPNR	Alphanumeric	50	O	Name in PNR
5	memberTicket	Alphanumeric	50	O	Member ticket ID
3	billing	JSON Object		O	Billing address information
4	countryCode	Alpha	2	O	Billing country
4	stateProvince	Alphanumeric	50	O	Billing state/province
4	cityName	Alphanumeric	50	O	Billing city

4	postalCode	Alphanumeric	50	O	Billing postal code
4	streetNumber	Alphanumeric	50	O	Billing street number
4	addressLine1	Alphanumeric	50	O	Billing address line 1
4	addressLine2	Alphanumeric	50	O	Billing address line 1

Example

```
{
  "requestID": "14653fa1-2f69-4f4f-9d4b-240e1bebbdf3",
  "requestDateTime": "20220426083322",
  "requestData": {
    "orderID": "2a43e4b9-c5df-49e6-8b18-42af9bcd150e",
    "orderNumber": "205249008064",
    "orderAmount": "100000",
    "orderCurrency": "VND",
    "orderDateTime": "20220426083322",
    "orderDescription": "DEMO TRANSACTION",
    "cardType": "atm",
    "bank": "970437",
    "otp": "on",
    "request": "purchase",
    "token": "",
    "language": "vi",
    "extraData": {
      "customer": {
        "firstName": "Luca",
        "lastName": "Joshua",
        "identityNumber": "6587729673",
        "email": "William@outlook.com",
        "phoneNumber": "0598961097",
        "phoneType": "IsoBj0Mflo",
        "gender": "M",
        "dateOfBirth": "19990716",
        "title": "Mr"
      },
      "device": {
        "browser": "QJc2njSA0f",
        "fingerprint": "hA05iBWRE",
        "hostName": "tKIUfIOPsy",
        "ipAddress": "XGIpbefIV",
        "deviceId": "NzoBA2ys2y",
        "deviceModel": "yB0pcSWtIC"
      },
      "application": {
        "applicationID": "KbPCc8eSXH",
        "applicationChannel": "Mobile"
      },
      "airline": {
        "recordLocator": "taiytAvAbH",
        "journeyType": "630351972",
        "departureAirport": "OGwfbYTgKQ",
        "departureDateTime": "26/04/2022 09:33:28",
        "arrivalAirport": "Z7oMrnXLyV",
        "arrivalDateTime": "26/04/2022 07:49:17",
        "services": []
      }
    }
  }
}
```

```

        "serviceCode": "CNm3xWF0BN",
        "quantity": 2080236449,
        "amount": 90000,
        "tax": 0,
        "fee": 20000,
        "totalAmount": 90000,
        "currency": "USD"
    },
    ],
    "flights": [{
        "airlineCode": "iwxOOR6FdH",
        "carrierCode": "uOzkYneyc4",
        "flightNumber": 2094437388,
        "travelClass": "F7nh7Sq3h0",
        "departureAirport": "kaUCOr4flu",
        "departureDate": "nTTKO14KMw",
        "departureTime": "26/04/2022 05:18:41",
        "departureTax": "PPKh18CuOL",
        "arrivalAirport": "9ngCTN12RX",
        "arrivalDate": "J7dPrCJhG4",
        "arrivalTime": "26/04/2022 01:50:58",
        "fees": 10000,
        "taxes": 0,
        "fares": 80000,
        "fareBasisCode": "loJaV16qdp",
        "originCountry": "ctdWpuaNUY"
    }
    ],
    "passengers": [{
        "passengerID": "PY46jn97Ti",
        "passengerType": "5VnNkPVs7k",
        "firstName": "James",
        "lastName": "Theodore",
        "title": "Mr",
        "gender": "F",
        "dateOfBirth": "20220425",
        "identityNumber": "bRcd3XuUx1",
        "nameInPNR": "UXHnIFzZTz",
        "memberTicket": "M5SnryZ27k"
    }
    ],
    "billing": {
        "countryCode": "Xcryl0xdSW",
        "stateProvince": "imbQzGLJqB",
        "cityName": "Ely",
        "postalCode": "2YM2F09vuB",
        "streetNumber": "751",
        "addressLine1": "4 Kingsway",
        "addressLine2": "lHaBbfS3Os"
    }
}
}
}
}

```


2.3.2 Response Message

Header					
Level	Field Name	Data Type	Length	Required	Description
1	signature	Alphanumeric		M	Response signature
Body					
Level	Field Name	Data Type	Length	Required	Description
1	requestID	Alphanumeric	50	M	Original Request ID
1	responseDateTime	Numeric	14	M	yyyyMMddHHmmss
1	responseCode	Numeric	3	M	See Response Code Table for detail
1	responseMessage	Alphanumeric	250	M	Response message
1	responseData	JSON Object		M	Response data
2	transactionID	Alphanumeric		M	UPC transaction ID
2	endpoint	Alphanumeric		M	Secure page URL (Use for Redirect)
Example					
<pre>{ "requestID": "14653fa1-2f69-4f4f-9d4b-240e1bebbdf3", "responseDateTime": "20220506092917", "responseCode": "00", "responseMessage": "Success", "responseData": { "transactionID": "2205063c0686c7741347f6b1eb77abc9b230e3", "endpoint": "https://uat-upcsecure.galaxypay.vn/transaction/2205063c0686c7741347f6b1eb77abc9b230e3" } }</pre>					

2.4 Cancel URL Callback

- Use for Merchant to redirect customer to cancel payment page.
- Support http method **POST** or **GET**

2.4.1 Response Message

Body					
Level	Field Name	Data Type	Length	Required	Description
1	data	Alphanumeric		M	Base-64 string
1	signature	Alphanumeric		M	Response Signature
Data (Decode Base-64 String)					
Level	Field Name	Data Type	Length	Required	Description
1	requestID	Alphanumeric	50	M	Original Request ID
1	responseDateTime	Numeric	14	M	yyyyMMddHHmmss
1	responseCode	Numeric	3	M	See Response Code Table for detail
1	responseMessage	Alphanumeric	250	M	Response message
1	responseData	JSON Object		M	Response data
2	transactionID	Alphanumeric	38	M	Transaction ID at UPC
2	transactionDateTime	Numeric	14	M	yyyyMMddHHmmss
2	orderId	Alphanumeric	50	M	Transaction ID at Merchant
2	orderNumber	Alphanumeric	20	O	Order Number or Bill Number
2	orderAmount	Numeric	16	M	Transaction Amount
2	orderCurrency	Alpha	3	M	VND or USD
2	orderDateTime	Numeric	14	M	yyyyMMddHHmmss
2	orderDescription	Alphanumeric	250	M	Transaction Description
2	language	Alpha	2	M	vn or us vn: Vietnamese us: English
Example					

```
{
  "requestID": "14653fa1-2f69-4f4f-9d4b-240e1bebbdf3",
  "responseDateTime": "20220506113517",
  "responseCode": "499",
  "responseMessage": "Canceled by user",
  "responseData": {
    "transactionID": "22050699e65d9a71d548e6b67323aef1a494ac",
    "transactionDateTime": "20220506113517",
    "orderID": "888289",
    "orderNumber": "82262889",
    "orderAmount": "109000",
    "orderDescription": "Secure Page Demo",
    "orderCurrency": "VND",
    "orderDateTime": "20220405202000",
    "language": "vi"
  }
}
```

2.5 Result & IPN Callback

- Result URL: Use for Merchant to show result for Customer. Support http method **POST** or **GET**
- IPN URL: Use for Merchant to receive payment result and process business workflow.

2.5.1 Response Message

Body					
Level	Field Name	Data Type	Length	Required	Description
1	data	Alphanumeric		M	Base-64 string
1	signature	Alphanumeric		M	Response Signature
Data (Decode Base-64 String)					
Level	Field Name	Data Type	Length	Required	Description
1	requestID	Alphanumeric	50	M	Original Request ID
1	responseDateTime	Numeric	14	M	yyyyMMddHHmmss
1	responseCode	Numeric	3	M	See Response Code Table for detail
1	responseMessage	Alphanumeric	250	M	Response message
1	responseData	JSON Object		M	Response data
2	transactionID	Alphanumeric	38	M	Transaction ID at UPC
2	transactionDateTime	Numeric	14	M	yyyyMMddHHmmss
2	orderId	Alphanumeric	50	M	Transaction ID at Merchant
2	orderNumber	Alphanumeric	20	O	Order Number or Bill Number
2	orderAmount	Numeric	16	M	Transaction Amount
2	orderCurrency	Alpha	3	M	VND or USD
2	orderDateTime	Numeric	14	M	yyyyMMddHHmmss
2	orderDescription	Alphanumeric	250	M	Transaction Description
2	language	Alpha	2	M	vn or us vn: Vietnamese us: English
Example					

```
{
  "requestID": "14653fa1-2f69-4f4f-9d4b-240e1bebbdf3",
  "responseDateTime": "20220506113517",
  "responseCode": "200",
  "responseMessage": "Transaction is successful.",
  "responseData": {
    "transactionID": "22050699e65d9a71d548e6b67323aef1a494ac",
    "transactionDateTime": "20220405202000",
    "orderID": "888289",
    "orderNumber": "82262889",
    "orderAmount": "109000",
    "orderDescription": "Secure Page Demo",
    "orderCurrency": "VND",
    "orderDateTime": "20220405202000",
    "language": "vi"
  }
}
```