

# API Specification for India Cards and Alternate Payment Methods

Version: 2.1

## Description

This document introduces the [OpenAPI specification](#) which describes the REST APIs for HSBC's Omni Collection of digital payments - India Cards and Alternate Payment Methods.

The target audience of this document are Developers, Business Analysts and other Project Team Members.

## Update Log

- [Dec 15, 2021] v2.1 Revised several content sections
- [Oct 5, 2021] v2.0 Added support of Recurring Payment
- [Mar 25, 2021] v1.4 Changed maxlenlength of field `txnrfr` of `enq_rqt_txn_Obj`, `enq_rpn_txn_Obj` and `notif_rqt_txn_Obj`
- [Jan 25, 2021] v1.3 Added optional fields `:scheme` in API Schema object `credit_card`
- [Oct 28, 2020] v1.2 Added [New API](#) for HSBC UPI Support
- [Aug 10, 2020] v1.1
  - Added section [Download Swagger](#)
  - Added fields `:offers` and `:discount` in [Redirect](#), [Enquiry](#) and [Notification API](#)
- [May 25, 2020] v1.0 Initial Version

## How to Read this Document

This document walks through the API listing the key functions by section: [API Usage Flow](#), [API Connectivity](#), and [API Operation](#). There is also a [FAQ](#) and a list of [Schema Definitions](#) used by API operations.

This document has links to subsequent sections. For example, when you visit the section API Operation, it has links to the data model or schemas containing the data and status codes definitions.

## Use Cases for this API

The HSBC Omni Collection provides a wide range of online payment solutions which enable an e/m-commerce owner to process online payments. The payment platform supports implementation with websites or mobile applications.

Using our APIs services, merchant can accept and manage payments including the following payment channels.

### Payment Channels

- Credit and Debit Card
- e-Wallet
- Internet Banking
- UPI (or QR Code)
- EMI

Depending on merchant's business need, our solution offers choices between different Payment Gateway Partners. Please contact our team to learn more.

To present any proprietary terminology or service provided by one specific Payment Gateway Partner, the content is highlighted in a coloured **Block Quote** as in the example below:

Gateway 1	<b>INFORMATION:</b> This information shows proprietary terminology or service provided to the subscriber of Payment Gateway #1 which offers an online payment model.
Gateway 2	<b>INFORMATION:</b> This information shows proprietary terminology or service provided to the subscriber of Payment Gateway #2 which offers an online payment model.
Gateway 3	<b>INFORMATION:</b> This information shows proprietary terminology or service provided to the subscriber of Payment Gateway #3 which offers an offline payment model.
HSBC UPI	<b>INFORMATION:</b> This information shows proprietary terminology or service provided to the subscriber of HSBC UPI.

## Make Online Payments

To implement a complete online payment, please follow this API work flow:

### API Use Case

callbackPaymentReqModel  
notif\_rqt\_txn\_Obj  
notif\_rqt\_merchant\_Obj  
notif\_rqt\_order\_Obj  
notif\_rqt\_payment\_Obj  
notif\_rqt\_cc\_Obj  
notif\_rqt\_upi\_Obj  
notif\_rqt\_other\_Obj  
callbackPaymentRespModel  
callbackRefundReqModel  
rfd\_notif\_rqt\_txn\_Obj  
rfd\_notif\_rqt\_merchant\_Obj  
rfd\_notif\_rqt\_refund\_Obj  
callbackRefundRespModel  
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SubscriptionInput  
SubscriptionOutput  
Subscription  
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upi\_rqt\_order\_Obj  
upi\_rqt\_other\_Obj  
upiRespModel  
upi\_rpn\_sys\_Obj  
upi\_rpn\_txn\_Obj  
upi\_rpn\_payment\_Obj  
upi\_rpn\_upi\_Obj  
upi\_rpn\_other\_Obj  
paymentReqModel  
pay\_rqt\_txn\_Obj  
pay\_rqt\_system\_Obj  
pay\_rqt\_payment\_Obj  
pay\_rqt\_merchant\_Obj  
pay\_rqt\_customer\_Obj  
pay\_rqt\_order\_Obj  
descriptionsObj  
pay\_rqt\_other\_Obj  
udfObj  
paymentRespModel  
pay\_rpn\_txn\_Obj  
pay\_rpn\_system\_Obj  
enquiryReqModel  
eng\_rqt\_txn\_Obj  
eng\_rqt\_merchant\_Obj  
enquiryRespModel  
eng\_rpn\_sys\_Obj  
eng\_rpn\_txn\_Obj  
eng\_rpn\_payment\_Obj  
eng\_rpn\_creditcard\_Obj  
eng\_rpn\_upi\_Obj  
eng\_rpn\_other\_Obj  
eng\_rpn\_refund\_Obj  
cancelReqModel  
cancel\_rqt\_sys\_Obj  
cancel\_rqt\_txn\_Obj  
cancel\_rqt\_merchant\_Obj  
cancelRespModel  
cancel\_rpn\_sys\_Obj  
cancel\_rpn\_txn\_Obj  
callbackPaymentReqModel  
notif\_rqt\_txn\_Obj  
notif\_rqt\_merchant\_Obj  
notif\_rqt\_order\_Obj  
notif\_rqt\_payment\_Obj  
notif\_rqt\_cc\_Obj  
notif\_rqt\_upi\_Obj  
notif\_rqt\_other\_Obj  
callbackPaymentRespModel  
callbackRefundReqModel  
rfd\_notif\_rqt\_txn\_Obj  
rfd\_notif\_rqt\_merchant\_Obj  
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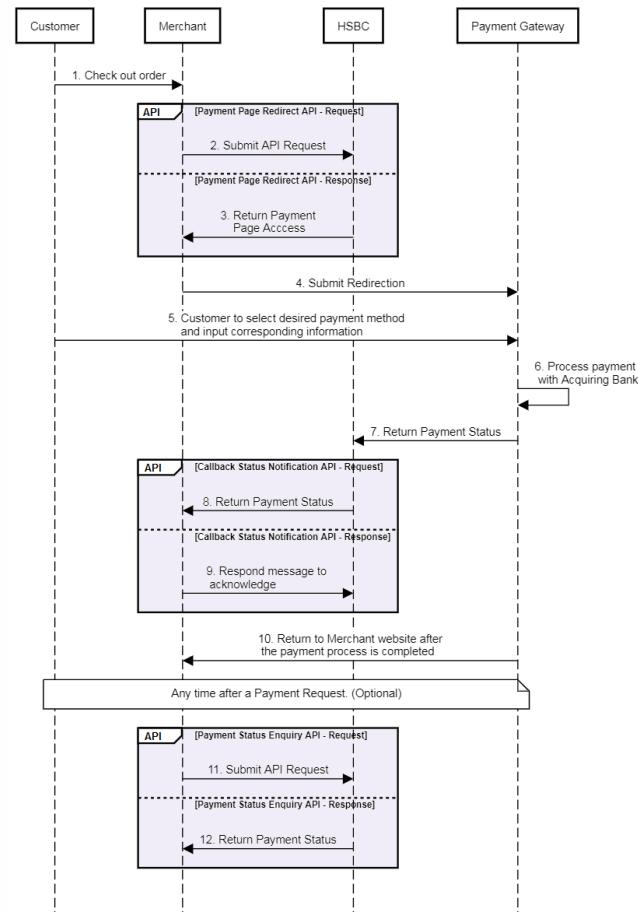
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- The Customer starts a checkout process on the merchant's website.
- The Merchant submits a [Payment Page Redirect API](#) request to HSBC.
- NOTE:**  
Payment Page Access is returned as a HTML FORM POST contained in response field `redirectLink`.
- NOTE:**  
Payment Page Access is returned as a Javascript code contained in response field `redirectLink` and a static URL link in field `redirectUrlLink`.
- More technical details are covered in the [Payment Page Redirect API](#).
- The Merchant submits a page redirection to the Online Payment Page.
- The Customer selects their desired payment channel in the payment page and inputs corresponding information such as Credit Card details.
- NOTE:**  
Some payment channels will lead further webpage redirection such as Internet Banking.
- The Payment page connects securely to banks backend systems to process the payment.
- HSBC receives payment status as soon as it is updated at the backend system.
- HSBC triggers a [Callback Payment Notification API](#) and sends the payment status back to the Merchant.
- NOTE:**  
This server-to-server Notification is only be sent out for a success payment case, the Merchant can define their URL endpoint in the request field `notificationurl` in the [Payment Page Redirect API](#).
- The Merchant responds with an acknowledge. Failure to return the correct response triggers a Notification resend mechanism.
- HSBC sends a Redirect back to the merchant website as soon as the payment process is completed in the Payment Gateway.
- NOTE:**  
According to different checkout routes, the Merchant can define the redirect back URL using request fields `redirectSuccessUrl`, `redirectFailureUrl` and `redirectCancelUrl` in the [Payment Page Redirect API](#).
- NOTE:**  
Payment Gateway 2 can only support one redirect back link.
- The Merchant can submit a [Payment Status Enquiry API](#) at any time after a payment request is submitted. This is useful when the Merchant finds that no acknowledge message was returned after a certain period of time.
- HSBC will return the latest payment status according to the transaction reference number Merchant provided.



## Check Status Feature

HSBC's Omni collection offers an API to check the status of every payment transaction. To implement Check Status, please refer to the [Status Enquiry API](#).

## Cancel & Refund

To either cancel an existing order whose payment transaction is yet to be settled, or refund a settled transaction (Settled on both issuing and acquiring bank). The Merchant can request an [Order Cancellation & Refund API](#).

HSBC accepts Full Refund and multiple Partial Refund. Every refund is a new transaction and is returned in an array object in the [Status Enquiry API](#) response message.

## Order Confirmation

In the above API use case flow, the final step is to redirect the Payment Page back to the Merchant website. The Merchant can build a dynamic Order Confirmation Page with payment details, where the details can be retrieved from the asynchronous [Callback Payment Notification API](#).

## API Usability

Here is the Summary of the API Usability over different Payment Gateways:

APIs	GW #1 (Online Model)	GW #2 (Online Model)	GW #3 (Offline Model)	HSBC UPI
Make Payment By UPI	x	x	x	✓
Payment Page Redirect API	✓	✓	x	x
Payment Status Enquiry API	✓	✓	✓	✓
Order Cancellation & Refund API	✓	✓	x	✓

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upi\_rqt\_order\_Obj  
upi\_rqt\_other\_Obj  
upiRespModel  
upi\_rpt\_sys\_Obj  
upi\_rpn\_txn\_Obj  
upi\_rpn\_payment\_Obj  
upi\_rpn\_upl\_Obj  
upi\_rpn\_other\_Obj  
paymentReqModel  
pay\_rqt\_txn\_Obj  
pay\_rqt\_system\_Obj  
pay\_rqt\_payment\_Obj  
pay\_rqt\_merchant\_Obj  
pay\_rqt\_customer\_Obj  
pay\_rqt\_order\_Obj  
descriptionsObj  
pay\_rqt\_other\_Obj  
udfObj  
paymentRespModel  
pay\_rpn\_txn\_Obj  
pay\_rpn\_system\_Obj  
enquiryReqModel  
eng\_rqt\_txn\_Obj  
eng\_rqt\_merchant\_Obj  
enquiryRespModel  
eng\_rpn\_sys\_Obj  
eng\_rpn\_txn\_Obj  
eng\_rpn\_payment\_Obj  
eng\_rpn\_creditcard\_Obj  
eng\_rpn\_upl\_Obj  
eng\_rpn\_other\_Obj  
eng\_rpn\_refund\_Obj  
cancelReqModel  
cancel\_rqt\_sys\_Obj  
cancel\_rqt\_txn\_Obj  
cancel\_rqt\_merchant\_Obj  
cancelRespModel  
cancel\_rpn\_sys\_Obj  
cancel\_rpn\_txn\_Obj  
callbackPaymentReqModel  
notif\_rqt\_txn\_Obj  
notif\_rqt\_merchant\_Obj  
notif\_rqt\_order\_Obj  
notif\_rqt\_payment\_Obj  
notif\_rqt\_cc\_Obj  
notif\_rqt\_upl\_Obj  
notif\_rqt\_other\_Obj  
callbackPaymentRespModel  
callbackRefundReqModel  
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rfd\_notif\_rqt\_merchant\_Obj  
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APIs	GW #1 (Online Model)	GW #2 (Online Model)	GW #3 (Offline Model)	HSBC UPI
Callback Payment Notification API	✓	✓	✓	✓
Callback Refund Notification API	✓	✓	✗	✗

✓ = Applicable ✗ = Not Applicable

**NOTE:**  
Merchant can subscribe multiple payment gateways, please contact HSBC for details.

## How to Connect

API Connectivity refers to all measures and their components that establishes connection between HSBC, the API Provider and Merchant, the API Consumer.

	Definition	Components
API Authentication	HTTP BASIC Authentication	<ul style="list-style-type: none"><li>Username</li><li>Password</li></ul>
	Locate API Gateway Policy of the corresponding user	<ul style="list-style-type: none"><li>Client ID</li><li>Client Secret</li></ul>
User Identification	A Merchant Profile	<ul style="list-style-type: none"><li>Merchant ID</li><li>Merchant Profile</li></ul>
Connection Security	HTTPS Connection (TLS 1.2) and Network Whitelisting	<ul style="list-style-type: none"><li>SSL Certificate</li><li>Network Whitelist</li></ul>
Message Security	Digital Signing and Data Encryption	<ul style="list-style-type: none"><li>A pair of Private Key &amp; Public Key Certificate (PKI Model)</li><li>JWS Key ID</li><li>JWE Key ID</li></ul>

## API Gateway URL

You need to include this before each API endpoint to make API calls.

Production
<a href="https://cmb-api.hsbc.com.hk/glcm-mobilecoll-mcin-ea-merchantservices-prod-proxy/v1">https://cmb-api.hsbc.com.hk/glcm-mobilecoll-mcin-ea-merchantservices-prod-proxy/v1</a>
Sandbox
<a href="https://devclustercmb.api.p2g.netd2.hsbc.com.hk/glcm-mobilecoll-mcin-ea-merchantservices-cert-proxy/v1">https://devclustercmb.api.p2g.netd2.hsbc.com.hk/glcm-mobilecoll-mcin-ea-merchantservices-cert-proxy/v1</a>

## API Authentication

Username & Password	
Purpose	All APIs are authorized using <a href="#">Basic Authorization</a>
Components	<ul style="list-style-type: none"><li>Username</li><li>Password</li></ul>
Where to get it?	Delivered by HSBC via secure email during onboarding procedure
Implementation	In HTTP header: <code>Authorization: Basic [Base64-encoded Credential]</code>
Client ID & Client Secret	
Purpose	API Gateway locates the corresponding policy of the specific API consumer
Components	<ul style="list-style-type: none"><li>Client ID</li><li>Client Secret</li></ul>
Where to get it?	Delivered by HSBC via secure email during onboarding procedure
Implementation	In HTTP header: <code>x-hsbc-client-id: [Client ID]</code> In HTTP header: <code>x-hsbc-client-secret: [Client Secret]</code>

## User Identification

Merchant Profile & Merchant ID			
Purpose	<ul style="list-style-type: none"><li>Merchant Profile contains all necessary information from a Merchant in order to enable payment service.</li></ul>	<ul style="list-style-type: none"><li>Merchant ID is used for Merchant identification in each API call.</li></ul>	
Components	<ul style="list-style-type: none"><li>Merchant Profile</li></ul>	<ul style="list-style-type: none"><li>Merchant ID</li></ul>	
Where to get it?	<ul style="list-style-type: none"><li>Set up by HSBC team after collect information from Merchant</li></ul>	<ul style="list-style-type: none"><li>Delivered by HSBC via secure email during onboarding procedure</li></ul>	
Implementation	<code>nil</code>	In HTTP header: <code>x-hsbc-msg-encrypt-id: [Merchant ID]+[JWS ID]+[JWE ID]</code>	

## Connection Security

SSL Certificate & Network Whitelist			
Purpose	<ul style="list-style-type: none"><li>Request HSBC API over HTTPS connection (TLS 1.2)</li></ul>	<ul style="list-style-type: none"><li>Accept Callback API request over HTTPS connection (TLS 1.2)</li></ul>	
Components	<ul style="list-style-type: none"><li>Public SSL Certificate issued by HSBC</li></ul>	<ul style="list-style-type: none"><li>Merchant's web server or domain whose HTTPS connection is enabled</li><li>Network Whitelist on HSBC system</li></ul>	
Where to get it?	<ul style="list-style-type: none"><li>Downloaded automatically by Browsers or API Tools, if any problem found, please contact HSBC</li></ul>	<code>nil</code>	<code>nil</code>
Implementation	<code>nil</code>	<code>nil</code>	<ul style="list-style-type: none"><li>Merchant's domain URL will be configured in HSBC's network whitelist by HSBC team</li></ul>

## Message Security - Data Encryption and Signing

In addition to the Transport Layer Security, HSBC adopts additional security - Data Encryption on the message being passed across the session. This serves as a type of locked briefcase containing the data (the API message) within the HTTPS "tunnel". In other words, the communication has double protection.

**DID YOU KNOW?**

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upi\_rqt\_order\_Obj

upi\_rqt\_other\_Obj

upiRespModel

upi\_rpn\_sys\_Obj

upi\_rpn\_txn\_Obj

upi\_rpn\_payment\_Obj

upi\_rpn\_upi\_Obj

upi\_rpn\_other\_Obj

paymentReqModel

pay\_rqt\_txn\_Obj

pay\_rqt\_system\_Obj

pay\_rqt\_payment\_Obj

pay\_rqt\_merchant\_Obj

pay\_rqt\_customer\_Obj

pay\_rqt\_order\_Obj

pay\_rqt\_other\_Obj

udfObj

paymentRespModel

pay\_rpn\_txn\_Obj

pay\_rpn\_system\_Obj

enquiryReqModel

eng\_rqt\_txn\_Obj

eng\_rqt\_merchant\_Obj

enquiryRespModel

eng\_rpn\_sys\_Obj

eng\_rpn\_txn\_Obj

eng\_rpn\_payment\_Obj

eng\_rpn\_creditcard\_Obj

eng\_rpn\_upi\_Obj

eng\_rpn\_other\_Obj

eng\_rpn\_refund\_Obj

cancelRqtModel

cancel\_rqt\_txn\_Obj

cancel\_rqt\_merchant\_Obj

cancelRspModel

cancel\_rpn\_sys\_Obj

cancel\_rpn\_txn\_Obj

callbackPaymentReqModel

notif\_rqt\_txn\_Obj

notif\_rqt\_merchant\_Obj

notif\_rqt\_order\_Obj

notif\_rqt\_payment\_Obj

notif\_rqt\_cc\_Obj

notif\_rqt\_upi\_Obj

notif\_rqt\_other\_Obj

callbackPaymentRspModel

callbackRefundReqModel

rfd\_notif\_rqt\_txn\_Obj

rfd\_notif\_rqt\_merchant\_Obj

rfd\_notif\_rqt\_refund\_Obj

callbackRefundRspModel

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Javascript Object Signing and Encryption (JOSE™), is a framework that secures information transferred between parties. To achieve this, the JOSE framework provides a collection of specifications, including JSON Web Signature (JWS™) and JSON Web Encryption (JWE™).

HSBC uses JWS to sign message payloads, and JWE to encrypt the signed message. These are created by using the [Private Key & Public Key Certificate \(PKI Model\)](#).

Private Key & Public Key Certificate (PKI Model)		
Purpose	<ul style="list-style-type: none"><li>Digitally sign a API request message</li><li>Decrypt a API response message</li></ul>	<ul style="list-style-type: none"><li>Encrypt the signed API request message</li><li>Verify a signed API response message</li></ul>
Components	<ul style="list-style-type: none"><li>Private Key issued by Merchant</li></ul>	<ul style="list-style-type: none"><li>Public Key Certificate issued by HSBC</li></ul>
Where to get it?	<ul style="list-style-type: none"><li>Created by any Public Key Infrastructure (PKI) toolkits, such as Keytool™ and OpenSSL™. Technical detail is in <a href="#">here</a></li></ul>	<ul style="list-style-type: none"><li>Exchanged with HSBC with the Public Key Certificate issued by Merchant</li></ul>

Implementation Please see the technical detail in [here](#)



### NOTE:

Technically, an X.509 certificate can serve as a SSL Certificate as well as a Public Key Certificate for Data Encryption. However, for segregation of certificate usage, HSBC recommends that the Merchant uses a different X.509 Certificate for Data Encryption. Moreover, the Public Key Certificate does not have to be CA-signed. However, if the Merchant decides to enhance security, a CA-Signed Certificate is acceptable.

keyID of JWS™ & JWE™		
Purpose	<ul style="list-style-type: none"><li>The unique identifier to bind Merchant's Private Key in order to create a JWS object - a signed Message Payload</li></ul>	<ul style="list-style-type: none"><li>The unique identifier to bind HSBC's Public Key Certificate in order to create a JWE object - an encrypted JWS object</li></ul>
Components	<ul style="list-style-type: none"><li>keyID of JWS™</li></ul>	<ul style="list-style-type: none"><li>keyID of JWE™</li></ul>
Where to get it?	<ul style="list-style-type: none"><li>Mutual agreed between Merchant and HSBC</li></ul>	<ul style="list-style-type: none"><li>Mutual agreed between Merchant and HSBC</li></ul>

Implementation Define in program coding, see demo in [here](#)



### NOTE:

For security purposes, [HSBC's Public Key Certificate](#) and its associated [keyID](#) is renewed every year and a Certificate Renewal process is triggered. More detail is covered in the section [Key Renewal](#)

## How to Sign and Encrypt Outgoing Message

Every message sent to HSBC must be signed and encrypted. From the Merchant's perspective, an **Outgoing Message** means:

- the Request Message of a Service API, or
- the Respond Message of a Callback API.

To help you understand how to construct a Signed and Encrypted Message, let's take the Java program below as an example. Don't worry if you are not familiar with Java, the idea is to let you know the steps and the required components:

NOTE: These Java codes are for demonstration only - it's not plug and play.

```
private JWSObject signMessage(String messagePayload, KeyStore ks, String keyAlias, String keyPw) throws UnrecoverableKeyException, KeyStoreException, NoSuchAlgorithmException, JOSEException {  
    #1 Payload payload = new Payload(messagePayload);  
  
    #2 JWSSigner header = new JWSSigner  
        .Builder(JWSSignerAlgorithm.RS256)  
        .keyID("0001")  
        .customParam("iat", Instant.now().getEpochSecond()).build();  
    #3 JWSObject jwsObject = new JWSObject(header, payload);  
  
    #4 PrivateKey privateKey = (PrivateKey) ks.getKey(keyAlias, keyPw.toCharArray());  
    JWSSigner signer = new RSASSASigner(privateKey);  
    #5 jwsObject.sign(signer);  
  
    return jwsObject;  
}
```

1. Prepare your **Message Payload**, that is, the plain [JSON](#) request message.

2. Create a **JWS Header** where the parameters are as follows:

```
{  
    "alg": "RS256", //Signing Algorithm is RS256  
    "kid": "0001" //Put your own Key ID value, "0001" is just an example  
    "iat": "1625587913" //Issued At - the time this request is sent, in Unix Time format  
}
```

3. Create a **JWS Object** by combining JWS Header and Message Payload.

4. Retrieve your **Private Key** as the signer.

5. Create a **Signed JWS Object** by signing it with the Private Key.

Next, **Encrypt** the Signed JWS Object:

```
private JWEObject getEncryptedJWEObject(JWSObject jwsObject, RSApublicKey key) throws JOSEException {  
    #1 Payload jwepayload = new Payload(jwsObject.serialize());  
  
    #2 JWSEncoder jweheader = new JWSEncoder.Builder(JWEAlgorithm.RSA_OAEP_256, EncryptionMethod.A128GCM).  
        #3 JWEObject jweobject = new JWEObject(jweheader, jwepayload);  
  
    #4 JWEEncrypter encrypter = new RSAEncrypter(key);  
    #5 jweobject.encrypt(encrypter);  
  
    return jweobject;  
}
```

1. Prepare your **JWE Payload**, that is, the [Signed JWS Object](#).

2. Create the **JWE Header**. The algorithm used to encrypt the message body is [A128GCM](#) while the algorithm used to encrypt the encryption key is [RSA\\_OAEP\\_256](#). **JWE keyID** is [0002](#).

3. Create the **JWE Object** by combining JWE Header and JWE Payload.

4. Retrieve the **HSBC's Public Key** as the encrypter.

5. Create the **Encrypted JWE Object** by encrypting it with HSBC's Public Key.

You are now ready to put the Encrypted JWE Object in the message body (*you may need to first serialize it into String format, depends on your program code design*) of any API call.

## How to Decrypt Message and Verify Signature of an Incoming Message

Every message sent from HSBC must be decrypted and verified. From the Merchant's perspective, an **Incoming Message** means:

- the Respond Message of a Service API, or
- the Request Message of a Callback API.

Let's look into the following example to see how to decrypt a response message from HSBC:

```
private String decryptMessage(String respMsgPayload, KeyStoreFactory keyStore) throws KeyStoreException, NoSuchAlgorithmException, CertificateException, IOException, java.text.ParseException, UnrecoverableKeyException, JOSEException {  
    #1 JWEObject jweObject = JWEObject.parse(respMsgPayload);  
  
    #2 PrivateKey privateKey = (PrivateKey) keyStore.getPrivateKey("merchant_private_key_alias");  
    JWEDecrypter decrypter = new JWEDecrypter(privateKey);  
    #3 jweObject.decrypt(decrypter);  
  
    #4 String signedMessage = jweObject.getPayload().toString();  
    return signedMessage;  
}
```

1. Create an **Encrypted JWE Object** by parsing the encrypted response message payload.

2. Retrieve the **Private Key** as the decrypter.

3. Decrypt the JWE Object using your **Private Key**.

4. Get the **Signed Message** from the decrypted JWE Object.

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upi\_rqt\_merchant\_Obj

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upi\_rqt\_other\_Obj

upiRspModel

upi\_rpn\_sys\_Obj

upi\_rpn\_txn\_Obj

upi\_rpn\_payment\_Obj

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upi\_rpn\_other\_Obj

paymentRqdModel

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callbackPaymentRqdModel

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```

private String verifySignature(String signedMessage, KeyStore ks, String keyAlias)
    throws KeyStoreException, JOSEException, ParseException {
    #1 JWSObject jwsObject = JWSObject.parse(signedMessage);

    Certificate certificate = ks.getCertificate(keyAlias);
    #2 JWSVerifier verifier = new RSASSAVerifier(RSAPublicKey) certificate.getPublicKey());

    #3 if (!jwsObject.verify(verifier)) {
        throw new ValidationException("Invalid Signature");
    }
    #4 return jwsObject.getPayload().toString();
}

```

1. Create a **JWS Object** by parsing the `Signed Message`.
2. Retrieve the **HSBC's Public Key** as the verifier.
3. Verify the signed JWS Object. Invoke error handling if an invalid signature is found (*depends on your code design*).
4. Get the plain `json` message for further actions.

## Summary

Components \ Steps	Message Signing	Message Encryption	Message Decryption	Verify Signature
JWS Object	Signing Algorithm: <code>RS256</code>			
JWE Object		JWE Algorithm: <code>RSA_OAEP_256</code>		
KeyID	<code>0002</code>	<code>0002</code>		
Merchant's Private Key	Used as <code>Signer</code>		Used as <code>Decrypter</code>	
HSBC's Public Key		Used as <code>Encrypter</code>		Used as <code>Verifier</code>

## How to Make an API Request

An API request can be submitted without Message Encryption, in case you want to:

- learn about the basic API Call;
- test API connectivity before spending substantial development effort on Message Encryption.

Data encryption is a required data security imposed by HSBC standards. The Merchant has to invoke the encryption logic before moving to Production and must be fully tested during the testing phase.

## Make Your API Request with Plain Messages

## NOTE:

In the Sandbox Environment you can skip message encryption. However, this is for testing purpose only.

## Submit an example API request using cURL™

cURL™ is a simple command-line tool that enables you to make any HTTP request. Merchant can choose any other GUI tool such as Postman™ and SoapUI™.

Step 1. Run this command on your platform:

POST

GET

```

#1 curl -X POST "https://dev.luctercmb.api.p2g.net.d2.hsbc.com.hk/glcsmobilecoll-mcin-ea-merchant"
#2 -H "message_encrypt: false"
#3 -H "Authorization: Basic ewB1cL91c2VbmF2Tz5b3VxZBmc3N3b3Jk"
#4 -H "x-HSBC-client-id: 8b915a4f5b5047f001f210e2232b5cd"
#5 -H "x-HSBC-client-secret: 1bb45ea541dc416d0801685f9583C606"
#6 -H "x-HSBC-msg-encrypt-id: 42298549900001+0001+0002"
#7 -H "Content-Type: application/json"
#8 -d "{\"txRef\": \"PAY-QJZY956664\", \"merId\": \"42298549900001\"}"

```

1. Submit the `POST` request to the API URL endpoint.2. Set the secret header `message_encrypt: false` to indicate this API request is without message encryption. This header is only applicable in Sandbox environment.3. Put the **Basic Authorization** in HTTP header `Authorization`.4. Put the **Client ID** in HTTP header `x-HSBC-client-id`.5. Put the **Client Secret** in HTTP header `x-HSBC-client-secret`.6. Put the **Merchant ID**, the **JWS ID** and the **JWE ID** in HTTP header `x-HSBC-msg-encrypt-id` respectively.7. Set the `Content-Type` to JSON format.8. Plain `json` message payload.Step 2. Receive the response message in plain `json` format.

## Making API Request with Message Encryption

Step 1. Run this cURL™ command on your platform:

POST

GET

```

#1 curl -X POST "https://dev.luctercmb.api.p2g.net.d2.hsbc.com.hk/glcsmobilecoll-mcin-ea-merchant"
#2 -H "Authorization: Basic ewB1cL91c2VbmF2Tz5b3VxZBmc3N3b3Jk"
#3 -H "x-HSBC-client-id: 8b915a4f5b5047f001f210e2232b5cd"
#4 -H "x-HSBC-client-secret: 1bb45ea541dc416d0801685f9583C606"
#5 -H "x-HSBC-msg-encrypt-id: 42298549900001+0001+0002"
#6 -H "Content-Type: application/json"
#7 -d "eyJraWQiOiIwMDAxIiwz5jIoiQTEyODEDTsIImFsZyI6I1JTQS1PQUQLTI1N1J9.W4nobHovXUMOXGM5I-W"

```

1. Submit the `POST` request to the API URL endpoint. Any `[id]` adhered in the URL must be encrypted.2. Put the **Basic Authorization** in HTTP header `Authorization`.3. Put the **Client ID** in HTTP header `x-HSBC-client-id`.4. Put the **Client Secret** in HTTP header `x-HSBC-client-secret`.5. Put the **Merchant ID**, the **JWS ID** and the **JWE ID** in HTTP header `x-HSBC-msg-encrypt-id` respectively.6. Set the `Content-Type` to JSON format.

7. The Encrypted Message Payload.

## NOTE:

Data Encryption invokes compulsory prerequisites, such as **JOSE library** and program coding, please make sure the section on **Message Security** has been gone through thoroughly.Step 2. For a successful request (HTTP Status Code 200), an encrypted response message is returned, otherwise, a plain `json` with failure message is returned.

## Data Type Overview

## Data Type Control:

Data Type	Allowed Characters	Definition & Important Notice
String (For general field)	AlphaNumeric and Symbols	A General field is a field which is NOT a critical field. HSBC will character check on all string fields received in order to tackle security vulnerability, such as Cross-site Scripting. HSBC recommend you to try use AlphaNumeric only for most cases.

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cancel\_rqt\_txn\_Obj  
cancel\_rqt\_merchant\_Obj  
cancelRespModel  
cancel\_rpn\_sys\_Obj  
cancel\_rpn\_txn\_Obj  
callbackPaymentReqModel  
notif\_rqt\_txn\_Obj  
notif\_rqt\_merchant\_Obj  
notif\_rqt\_order\_Obj  
notif\_rqt\_payment\_Obj  
notif\_rqt\_cc\_Obj  
notif\_rqt\_upi\_Obj  
notif\_rqt\_other\_Obj  
callbackPaymentRespModel  
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**Data Type Allowed Characters Definition & Important Notice**

A Critical field is used to either a key or search criteria in HSBC backend system and hence tight restriction is applied to permitted characters.

String (For critical field) **0-9 A-Z . - \_**  
**List of Critical Fields:**  
txRef  
merId  
product\_id  
rfdRef

Integer **0-9** Instead of having Max Length check for String, integer range will be checked, e.g. **0 ≤ x ≤ 9999**

**Field Mandatory Control:**

Field	Mandatory Type	Definition & Important Notice
	Mandatory	Annotated with <b>required</b> tag in field definition section. Field & value must be present in the request with valid <b>JSON</b> format.
	Optional	Annotated with <b>optional</b> tag in field definition section. If you don't want to pass fields that are optional, your handler should not pass empty strings <b>{"example": ""}</b> or blank value <b>{"example": " "}</b> .
	Conditional	Annotated with <b>conditional</b> tag in field definition section. Required under a specific condition whose logic is always provided in the field definition if it is a Conditional Field.

**Time Zone Control:**

Aspect	Format	Definition & Important Notice
In Request Message	<b>yyyy-MM-dd'T'HH:mm:ssZ</b>	Time zone is expected to be <b>GMT+5.5</b> (India local time). Merchant is required to perform any necessary time zone conversion before submit request if needed.
In Response Message	<b>yyyy-MM-dd'T'HH:mm:ssZhh:mm</b>	Timezone returned in <b>api_gw</b> object is generated from HSBC API Gateway which located in Cloud and hence is calculated in <b>GMT+0</b> . On the other hand, time field in <b>response</b> object will be returned together with timezone information. For more details, please read each field definition carefully.

**FAQ**

**SSL Connection Questions**

Where can I find the HSBC SSL server certificates?

The Merchant developer can export SSL server certificates installed in your browser. To achieve this, visit the domain of the corresponding API endpoint in your browser. For example, to get the SSL certificate of sandbox environment, use the domain name <https://devcluster.ap1.p2g.net2.HSBC.com/hk>

However, in production, we provide a certificate and require TLS 1.2 implementation.

**Message Encryption Questions**

What certificates do I need to work with Message Encryption in HSBC's sandbox and production environments?

A self-sign certificate is acceptable. However, if the Merchant decides to enhance security, a CA-Signed Certificate is also acceptable.

**Javascript Object Signing and Encryption (JOSE) Framework Questions**

Where can I get more information about JOSE Framework?

If you want to fully understand the framework, you can read [here](#) for more details.

*Please note these urls or websites do not belong to HSBC, use them at your own discretion. By clicking these urls or websites signifies you accept these terms and conditions.*

Where can I download JOSE libraries for development?

For your reference, you may find the following JOSE libraries of different programming languages.

- Ruby
- Python
- PHP
- Java
- Node
- .NET

*Please note these urls or websites do not belong to HSBC, use them at your own discretion. By clicking these urls or websites signifies you accept these terms and conditions.*

**Payments**

Contains resource collections for payment page redirection, enquiry, cancel and callback notification.

**Payments**

**Make Payment By UPI**

**POST /payment/upi**

**DESCRIPTION**

Unlike making payment via an Hosted Payment Page, this API makes a direct UPI payment request.

**INFORMATION:**  
This API is only applicable to the subscriber of HSBC UPI.

**REQUEST PARAMETERS**

Authorization	BASIC [Base64-encoded Credential]
<b>x-hsbc-client-id</b>	[Client ID] <b>required</b> in header
<b>x-hsbc-client-secret</b>	[Client Secret] <b>required</b> in header
<b>x-hsbc-msg-encrypt-id</b>	[Merchant ID]+[JWS ID]+[JWE ID] <b>optional</b> in header
<b>Content-Type</b>	application/json <b>required</b> in header

**Request Content-Types:** application/json  
**Request Example**

```
{
  "transaction": {
    "txRef": "ORD-438UL748T6"
  },
  "system": {
    "notificationUrl": "https://www.example.com/notification"
  },
  "payment": {
    "country": "IN",
    "currency": "INR",
    "amount": 170000,
    "expiry": "2020-01-01T13:02:00+05:30"
  },
  "merchant": {
    "merId": "C00s8q"
  },
  "customer": {
    "payer_vpa": "asdfgh@hsbc",
    "customer_firstname": "Ganeshyam",
    "customer_lastname": "Subramaniam"
  },
  "order": {
    ...
  }
}
```

**REQUEST BODY**

upiReqModel *Data Encryption is enforced. API Schema intends to demonstrate the skeleton of the message payload only.*

```
{
  "product_name": "Product Item 1",
  "product_id": "PRO-ASDF-1234",
  "unitAmt": 10000,
  "unit": 2,
  "subAmt": 20000
},
{
  "product_name": "Product Item 2",
  "product_id": "PRO-JHGF-9876",
  "unitAmt": 50000,
  "unit": 3,
  "subAmt": 150000
}
]
}
"other": {
  "uds": [
    {
      "definition": "Product Image in Base64 format",
      "value": "iVBORw0KGgoAAAANSUhEU..."
    },
    {
      "definition": "Special Notes from Customer",
      "value": "Customer is a non-smoker"
    }
  ]
}
```

**RESPONSES**

**200 OK** upiRespModel Successful operation.  
*Data Encryption is enforced. API Schema intends to demonstrate the skeleton of the message payload only.*

**400 Bad Request** System Missing or invalid Parameters.

**403 Forbidden** Authorization credentials are missing or invalid.

**404 Not Found** Empty resource/resource not found.

**500 Internal Server Error** The request failed due to an internal error.

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upi\_rqt\_customer\_Obj  
upi\_rqt\_order\_Obj  
upi\_rqt\_other\_Obj  
upiRespModel  
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upi\_rpn\_txn\_Obj  
upi\_rpn\_payment\_Obj  
upi\_rpn\_upi\_Obj  
upi\_rpn\_other\_Obj  
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pay\_rqt\_system\_Obj  
pay\_rqt\_payment\_Obj  
pay\_rqt\_merchant\_Obj  
pay\_rqt\_customer\_Obj  
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descriptionsObj  
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callbackPaymentReqModel  
notif\_rqt\_txn\_Obj  
notif\_rqt\_merchant\_Obj  
notif\_rqt\_order\_Obj  
notif\_rqt\_payment\_Obj  
notif\_rqt\_cc\_Obj  
notif\_rqt\_upi\_Obj  
notif\_rqt\_other\_Obj  
callbackPaymentRespModel  
callbackRefundReqModel  
rfd\_notif\_rqt\_txn\_Obj  
rfd\_notif\_rqt\_merchant\_Obj  
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callbackRefundRspModel  
SubscriptionUpdate  
SubscriptionNotify  
SubscriptionInput  
SubscriptionOutput  
Subscription  
PaymentOutput  
Payment  
Card  
Item  
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**REQUEST BODY**

x-hsbc-client-id *[Client ID]*  
x-hsbc-client-secret *[Client Secret]*  
x-hsbc-msg-encrypt-id *[Merchant ID]+[JWS ID]+[JWE ID]*  
Content-Type *application/json*

**REQUEST PARAMETERS**

Authorization *BASIC [Base64-encoded Credential]*  
in header

**REQUEST BODY**

Response Content-Type: application/json

**Response Example (200 OK)**

```
{
  "api_ow": {
    "messageId": "89817674-da00-4883",
    "returnCode": "200",
    "returnReason": "Successful operation",
    "sentTime": "2016-11-15T10:00:00Z",
    "responseTime": "2016-11-15T10:00:00Z"
  },
  "response": {
    "system": {
      "sysCode": "000000",
      "sysMsg": "Request Successful"
    },
    "transaction": {
      "txnRef": "PAY-QJZV95664",
      "txStatus": "Initiated",
      "error_message": "Transaction Initiated"
    },
    "payment": {
      "amount": 170000,
      "currency": "INR",
      "payment_datetime": "2020-01-01T13:02:00+05:30",
      "payment_option": "UPI"
    },
    "upi": {
      "payer_vpa": "asdfgh@hsbc",
      "payee_vpa": "merchantvpa"
    },
    "other": {
      "uds": [
        {
          "definition": "Product Image in Base64 format",
          "value": "iVBORw0KGgoAAAANSUhEU..."
        },
        {
          "definition": "Special Notes from Customer",
          "value": "Customer is a non-smoker"
        }
      ]
    }
}
```

**Response Example (400 Bad Request)**

```
{
  "messageId": "89817674-da00-4883",
  "returnCode": "400",
  "returnReason": "Error Message Here",
  "sentTime": "2016-11-15T10:00:00Z",
  "responseTime": "2016-11-15T10:00:00Z"
}
```

**REQUEST BODY**

**DESCRIPTION**

This API returns the access of the Secured Hosted Payment Page. The access method can be either a [HTML Form Submit](#), a [Javascript Event Method](#) or a [Direct URL Link](#) depending on which Payment Gateway the merchant subscribes.

**HTML Form Submit**

API returns a [HTML FORM POST](#) with an access token in response field [redirectLink](#). Below is a sample, please be noticed any data modification inside the form is not allowed. Otherwise, the data integrity checking will block the connection from accessing the Hosted Payment Page.

```
<script language="javascript">window.onload=function(){document.pay_form.submit();}</script>
<form id="pay_form" name="pay_form" action="https://test.payu.in/_payment" method="post">
<input name="key" type="hidden" id="key" value="gheewEtq" />
<input name="salt" type="hidden" id="amount" value="1000.00" />
<input name="SALT" type="hidden" id="SALT" value="xxxxxxxx" />
/* more input fields here... */
</form>
```

**Javascript Event Method**

API returns a [Javascript Object](#) in response field [redirectLink](#). Please follow the example to trigger this function. Again, any data modification of the Javascript object is not allowed.

- Include the script into your HTML page
- Optional: Invoke an event to trigger the caller function. In this example, the trigger point is to click an element whose ID is `pay`.
- Parse the value of response field [redirectLink](#) into Javascript object
- Include this line into your code
- Include this line into your code
- Optional code line

**Payment Page URL Link**

API returns a URL link in response field [redirectUrlLink](#) where merchant can use it for redirection.

```
#1 <script src="https://checkout.razorpay.com/v1/checkout.js"></script>
#2 <script>
#3 document.getElementById('pay').onclick = function (e) {
#4   var options = JSON.parse(` Put the value of redirectLink here `);
#5   var rzp1 = new Razorpay(options);
#6   rzp1.open();
#7   e.preventDefault();
#8 }
#9 </script>
```

**REQUEST BODY**

Request Content-Type: application/json

**Request Example**

```
{
  "transaction": {
    "txnRef": "ORD-438UL74876"
  },
  "system": {
    "redirectSuccessUrl": "https://www.example.com/successPayment",
    "redirectFailureUrl": "https://www.example.com/failPayment",
    "redirectCancelUrl": "https://www.example.com/cancelPayment",
    "notificationUrl": "https://www.example.com/notification"
  },
  "payment": {
    "country": "IN",
    "currency": "INR",
    "amount": 170000,
    "payment_option": "all",
    "expDate": "2020-01-01T13:02:00+05:30",
    "offer": "#111@222",
    "offer": "#333@444"
  },
  "merchant": {
    "name": "ABC Corp"
  }
}
```

**REQUEST BODY**

Request Content-Type: application/json

**Request Example**

```
{
  "transaction": {
    "txnRef": "ORD-438UL74876"
  },
  "system": {
    "redirectSuccessUrl": "https://www.example.com/successPayment",
    "redirectFailureUrl": "https://www.example.com/failPayment",
    "redirectCancelUrl": "https://www.example.com/cancelPayment",
    "notificationUrl": "https://www.example.com/notification"
  },
  "payment": {
    "country": "IN",
    "currency": "INR",
    "amount": 170000,
    "payment_option": "all",
    "expDate": "2020-01-01T13:02:00+05:30",
    "offer": "#111@222",
    "offer": "#333@444"
  },
  "merchant": {
    "name": "ABC Corp"
  }
}
```

**REQUEST BODY**

**paymentReqModel** *Data Encryption is enforced. API Schema intends to demonstrate the skeleton of the message payload only.*

```
{
  "customer": {
    "customer_firstname": "Chanshyam",
    "customer_lastname": "Subramanian",
    "customer_email": "customer.name@example.com",
    "customer_phone": "9843176540"
  },
  "order": {
    "description": "Proceed check out for your order #ORD-438UL748T6",
    "descriptions": [
      {
        "product_name": "Product Item 1",
        "product_id": "PRO-ASDF-1234",
        "unitAmt": 10000,
        "unit": 2,
        "subAmt": 20000
      },
      {
        "product_name": "Product Item 2",
        "product_id": "PRO-JHGF-9876",
        "unitAmt": 50000,
        "unit": 3,
        "subAmt": 150000
      }
    ],
    "other": {
      "uds": [
        {
          "definition": "Product Image in Base64 format",
          "value": "iVBORw0KGgoAAAANSUhEU... "
        },
        {
          "definition": "Special Notes from Customer",
          "value": "Customer is a non-smoker"
        }
      ]
    }
  }
}
```

## RESPONSES

<b>200 OK</b>	<b>paymentRespModel</b>	Successful operation. <i>Data Encryption is enforced. API Schema intends to demonstrate the skeleton of the message payload only.</i>
<b>400 Bad Request</b>	<b>System</b>	Missing or invalid Parameters.
<b>403 Forbidden</b>		Authorization credentials are missing or invalid.
<b>404 Not Found</b>		Empty resource/resource not found.
<b>500 Internal Server Error</b>		The request failed due to an internal error.

Response Content-Types: application/json

Response Example (200 OK)

```
{
  "api_gw": {
    "messageId": "88817674-da00-4883",
    "returnCode": "200",
    "returnReason": "Successful operation",
    "sentTime": "2016-11-15T10:00:00.000Z",
    "responseTime": "2016-11-15T10:00:00.000Z"
  },
  "response": {
    "transaction": {
      "txRef": "ORD-438UL748T6"
    },
    "system": {
      "sysCode": "000000",
      "sysMsg": "Request Successful",
      "sysDateTime": "2020-01-01T13:00:00+05:30",
      "redirectLink": "<HTML Form or Javascript Code>",
      "redirectUrlLink": "https://rzp.io/xxxxxx"
    }
  }
}
```

Response Example (400 Bad Request)

```
{
  "messageId": "00817674-da00-4883",
  "returnCode": "400",
  "returnReason": "Error Message Here",
  "sentTime": "2016-11-15T10:00:00.000Z",
  "responseTime": "2016-11-15T10:00:00.000Z"
}
```

## Payment Status Enquiry API

Payments

**POST** /payment/enquiry

### DESCRIPTION

Merchant can optionally initiate payment status enquiry at any time after a payment request is submitted. This is used when Merchant wants to check payment status any time after a payment request or find no acknowledge message returned after a certain period of time. HSBC Mobile Collection will return the latest transaction status according to the transaction reference number Merchant provides.

### REQUEST PARAMETERS

<b>Authorization</b>	BASIC [Base64-encoded Credential] <small>required in header</small>
<b>x-hsbc-client-id</b>	[Client ID] <small>required in header</small>
<b>x-hsbc-client-secret</b>	[Client Secret] <small>required in header</small>
<b>x-hsbc-msg-encrypt-id</b>	[Merchant ID]+[JWS ID]+[JWE ID] <small>optional in header</small>
<b>Content-Type</b>	application/json <small>required in header</small>

### REQUEST BODY

<b>enquiryReqModel</b>	<i>Data Encryption is enforced. API Schema intends to demonstrate the skeleton of the message payload only.</i>
------------------------	---

## RESPONSES

<b>200 OK</b>	<b>enquiryRespModel</b>	Successful operation. <i>Data Encryption is enforced. API Schema intends to demonstrate the skeleton of the message payload only.</i>
<b>400 Bad Request</b>	<b>System</b>	Missing or invalid Parameters.
<b>403 Forbidden</b>		Authorization credentials are missing or invalid.
<b>404 Not Found</b>		Empty resource/resource not found.
<b>500 Internal Server Error</b>		The request failed due to an internal error.

Request Content-Types: application/json

Request Example

```
{
  "transaction": {
    "txRef": "ORD-438UL748T6"
  },
  "merchant": {
    "merId": "C00s8q"
  }
}
```

Response Content-Types: application/json

Response Example (200 OK)

```
{
  "api_gw": {
    "messageId": "88817674-da00-4883",
    "returnCode": "200",
    "returnReason": "Successful operation",
    "sentTime": "2016-11-15T10:00:00.000Z",
    "responseTime": "2016-11-15T10:00:00.000Z"
  },
  "response": {
    "system": {
      "sysCode": "000000",
      "sysMsg": "Request Successful"
    },
    "transaction": {
      "txRef": "PAY-QZV956664",
      "txStatus": "Captured",
      "error_code": "E000",
      "error_message": "No Error"
    },
    "payment": {
      "amount": 170000,
      "discount": 20000,
      "currency": "INR",
      "payment_datetime": "2020-01-01T13:02:00+05:30",
      "payment_option": "CC",
      "pan": "3465241441650741",
      "offer": "Offer 1",
      "offer_id": "111@222",
      "offer_id2": "#333@444"
    },
    "credit_card": {
      "brand": "VISA",
      "scheme": "CLASSIC CREDIT",
      "acn": "512345XXXXXX2346"
    },
    "upi": {
      "payer_vpa": "asdfgh@hsbc",
      "payee_vpa": "merchantvpa"
    },
    "other": {
      "uds": [
        {
          "definition": "Product Image in Base64 format",
          "value": "iVBORw0KGgoAAAANSUhEU... "
        },
        {
          "definition": "Special Notes from Customer",
          "value": "Customer is a non-smoker"
        }
      ]
    }
  }
}
```

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uplReqModel  
upl\_rqt\_txn\_Obj  
upl\_rqt\_system\_Obj  
upl\_rqt\_payment\_Obj  
upl\_rqt\_merchant\_Obj  
upl\_rqt\_customer\_Obj  
upl\_rqt\_order\_Obj  
upl\_rqt\_other\_Obj  
uplRespModel  
upl\_rpn\_sys\_Obj  
upl\_rpn\_txn\_Obj  
upl\_rpn\_payment\_Obj  
upl\_rpn\_upi\_Obj  
upl\_rpn\_other\_Obj  
paymentReqModel  
pay\_rqt\_txn\_Obj  
pay\_rqt\_system\_Obj  
pay\_rqt\_payment\_Obj  
pay\_rqt\_merchant\_Obj  
pay\_rqt\_customer\_Obj  
pay\_rqt\_order\_Obj  
descriptionsObj  
pay\_rqt\_other\_Obj  
udsObj  
paymentRespModel  
pay\_rpn\_txn\_Obj  
pay\_rpn\_system\_Obj  
enquiryReqModel  
enq\_rqt\_txn\_Obj  
enq\_rqt\_merchant\_Obj  
enquiryRespModel  
enq\_rpn\_sys\_Obj  
enq\_rpn\_txn\_Obj  
enq\_rpn\_payment\_Obj  
enq\_rpn\_creditcard\_Obj  
enq\_rpn\_upi\_Obj  
enq\_rpn\_other\_Obj  
cancelReqModel  
cancel\_rqt\_txn\_Obj  
cancel\_rqt\_txn\_Obj  
cancel\_rqt\_merchant\_Obj  
cancelRspModel  
cancel\_rpn\_sys\_Obj  
cancel\_rpn\_txn\_Obj  
callbackPaymentReqModel  
notif\_rqt\_txn\_Obj  
notif\_rqt\_merchant\_Obj  
notif\_rqt\_order\_Obj  
notif\_rqt\_payment\_Obj  
notif\_rqt\_cc\_Obj  
notif\_rqt\_upi\_Obj  
notif\_rqt\_other\_Obj  
callbackPaymentRespModel  
callbackRefundReqModel  
rfd\_notif\_rqt\_txn\_Obj  
rfd\_notif\_rqt\_merchant\_Obj  
rfd\_notif\_rqt\_refund\_Obj  
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SubscriptionUpdate  
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Schema Definitions  
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upi\_rqt\_txn\_Obj  
upi\_rqt\_system\_Obj  
upi\_rqt\_payment\_Obj  
upi\_rqt\_merchant\_Obj  
upi\_rqt\_customer\_Obj  
upi\_rqt\_order\_Obj  
upi\_rqt\_other\_Obj  
upiRspModel  
upi\_rpt\_sys\_Obj  
upi\_rpn\_txn\_Obj  
upi\_rpn\_payment\_Obj  
upi\_rpn\_upi\_Obj  
upi\_rpn\_other\_Obj  
paymentRspModel  
pay\_rqt\_txn\_Obj  
pay\_rqt\_system\_Obj  
pay\_rqt\_payment\_Obj  
pay\_rqt\_merchant\_Obj  
pay\_rqt\_customer\_Obj  
pay\_rqt\_order\_Obj  
descriptionsObj  
pay\_rqt\_other\_Obj  
udfObj  
paymentRspModel  
pay\_rpn\_txn\_Obj  
pay\_rpn\_system\_Obj  
enquiryRspModel  
eng\_rqt\_txn\_Obj  
eng\_rqt\_merchant\_Obj  
enquiryRspModel  
eng\_rpn\_sys\_Obj  
eng\_rpn\_txn\_Obj  
eng\_rpn\_payment\_Obj  
eng\_rpn\_creditcard\_Obj  
eng\_rpn\_upi\_Obj  
eng\_rpn\_other\_Obj  
eng\_rpn\_refund\_Obj  
cancelRqModel  
cancel\_rqt\_sys\_Obj  
cancel\_rqt\_txn\_Obj  
cancel\_rqt\_merchant\_Obj  
cancelRspModel  
cancel\_rpn\_sys\_Obj  
cancel\_rpn\_txn\_Obj  
callbackPaymentRqModel  
notif\_rqt\_txn\_Obj  
notif\_rqt\_merchant\_Obj  
notif\_rqt\_order\_Obj  
notif\_rqt\_payment\_Obj  
notif\_rqt\_cc\_Obj  
notif\_rqt\_upi\_Obj  
notif\_rqt\_other\_Obj  
callbackPaymentRspModel  
callbackRefundRqModel  
rfd\_notif\_rqt\_txn\_Obj  
rfd\_notif\_rqt\_merchant\_Obj  
rfd\_notif\_rqt\_refund\_Obj  
callbackRefundRspModel  
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```
{
  "refId": [
    {
      "rfdRef": "RFD-KJDST75513",
      "rfdRequestId": "1247498448",
      "rfdStatus": "success",
      "rfdAmount": 1000,
      "rfdDatetime": "2028-01-02T13:00:00+05:30"
    },
    {
      "rfdRef": "RFD-KJDST75513",
      "rfdRequestId": "124749836",
      "rfdStatus": "failure",
      "rfdAmount": 15000,
      "rfdDatetime": "2028-01-03T13:00:00+05:30"
    }
  ]
}
```

## Response Example (400 Bad Request)

```
{
  "messageId": "89817674-da00-4883",
  "returnCode": "400",
  "returnReason": "Error Message Here",
  "sentTime": "2016-11-15T10:00:00.000Z",
  "responseTime": "2016-11-15T10:00:00.000Z"
}
```

## Order Cancellation & Refund API

Payments

POST /payment/cancel

### DESCRIPTION

This API can either cancel an unsettled order or send a refund request for a settled transaction. It supports both full and partial refund.

### REQUEST PARAMETERS

Authorization	BASIC [Base64-encoded Credential] <small>required</small> in header
x-hsbc-client-id	[Client ID] <small>required</small> in header
x-hsbc-client-secret	[Client Secret] <small>required</small> in header
x-hsbc-msg-encrypt-id	[Merchant ID]+[JWS ID]+[JWE ID] <small>optional</small> in header
Content-Type	application/json <small>Required</small> in header

### REQUEST BODY

cancelReqModel Data Encryption is enforced. API Schema intends to demonstrate the skeleton of the message payload only.

### RESPONSES

200 OK	Successful operation. <small>Data Encryption is enforced. API Schema intends to demonstrate the skeleton of the message payload only.</small>
400 Bad Request	Missing or invalid Parameters. <small>System</small>
403 Forbidden	Authorization credentials are missing or invalid.
404 Not Found	Empty resource/resource not found.
500 Internal Server Error	The request failed due to an internal error.

Request Content-Types: application/json

Request Example

```
{
  "system": {
    "refundNotificationUrl": "https://www.example.com/refundNotification"
  },
  "transaction": {
    "txRef": "ORD-438UL748T6",
    "rfdRef": "RFD-DFCV112233",
    "amount": 5000,
    "currency": "INR"
  },
  "merchant": {
    "merId": "C00s8q"
  }
}
```

Response Content-Types: application/json

Response Example (200 OK)

```
{
  "api_gw": {
    "messageId": "89817674-da00-4883",
    "returnCode": "200",
    "returnReason": "Successful operation",
    "sentTime": "2016-11-15T10:00:00.000Z",
    "responseTime": "2016-11-15T10:00:00.000Z"
  },
  "response": {
    "system": {
      "sysCode": "000000",
      "sysMsg": "Request Successful"
    },
    "transaction": {
      "txRef": "ORD-438UL748T6",
      "rfdRef": "RFD-DFCV112233",
      "txnStatus": "Success",
      "error_code": "100",
      "error_message": "NO ERROR - Refund Request Queued",
      "rfdRequestId": "124749836",
      "bank_ref_num": "3465241441650741"
    }
  }
}
```

Response Example (400 Bad Request)

```
{
  "messageId": "89817674-da00-4883",
  "returnCode": "400",
  "returnReason": "Error Message Here",
  "sentTime": "2016-11-15T10:00:00.000Z",
  "responseTime": "2016-11-15T10:00:00.000Z"
}
```

## Callback Payment Notification API

Payments

POST /<Callback URL predefined by Merchant>

### DESCRIPTION

Payment status will be returned to Merchant by asynchronous callback once Mobile Collection receives a payment request. After Mobile Collection payment platform completes reconciliation with bank and receives payment result, Mobile Collection will push the result back to Merchant by calling this API.

- Implementation**  
This is a Callback API. HSBC will trigger this API call and defines the interface with OpenAPI standard. Merchant is required to provide implementation.
- Retry Mechanism**  
If no success response is received, up to 4 retries will be triggered in every 2 minutes. Maximum 5 calls including the 1st attempt.
- Endpoint Definition**  
Field `notificationUrl` from [Payment Page Redirect API](#) will be used as URL endpoint of the corresponding transaction.
- Exception Handling**  
Only success case will be returned. Merchant can submit a [Payment Status Enquiry API](#) request if found no acknowledgement message returned after a certain period of time.

Request Content-Types: text/plain

Request Example

```
{
  "transaction": {
    "txRef": "ORD-438UL748T6",
    "txStatus": "Captured",
    "error_code": "E000",
    "error_message": "NO ERROR"
  },
  "merchant": {
    "merId": "C00s8q"
  },
  "order": {
    "order_id": "1234567890"
  }
}
```

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upi\_rqt\_txn\_Obj  
upi\_rqt\_system\_Obj  
upi\_rqt\_payment\_Obj  
upi\_rqt\_merchant\_Obj  
upi\_rqt\_customer\_Obj  
upi\_rqt\_order\_Obj  
upi\_rqt\_other\_Obj  
upiRspModel  
upi\_rpt\_sys\_Obj  
upi\_rpn\_txn\_Obj  
upi\_rpn\_payment\_Obj  
upi\_rpn\_upi\_Obj  
upi\_rpn\_other\_Obj  
paymentRspModel  
pay\_rqt\_txn\_Obj  
pay\_rqt\_system\_Obj  
pay\_rqt\_payment\_Obj  
pay\_rqt\_merchant\_Obj  
pay\_rqt\_customer\_Obj  
pay\_rqt\_order\_Obj  
descriptionsObj  
pay\_rqt\_other\_Obj  
udfsObj  
paymentRspModel  
pay\_rpn\_txn\_Obj  
pay\_rpn\_system\_Obj  
enquiryRspModel  
eng\_rqt\_txn\_Obj  
eng\_rqt\_merchant\_Obj  
enquiryRspModel  
eng\_rpn\_txn\_Obj  
eng\_rpn\_payment\_Obj  
eng\_rpn\_creditcard\_Obj  
eng\_rpn\_upi\_Obj  
eng\_rpn\_other\_Obj  
eng\_rpn\_refund\_Obj  
cancelRspModel  
cancel\_rqt\_txn\_Obj  
cancel\_rqt\_sys\_Obj  
cancel\_rpn\_txn\_Obj  
callbackPaymentRspModel  
notif\_rqt\_txn\_Obj  
notif\_rqt\_merchant\_Obj  
notif\_rqt\_order\_Obj  
notif\_rqt\_payment\_Obj  
notif\_rqt\_cc\_Obj  
notif\_rqt\_upi\_Obj  
notif\_rqt\_other\_Obj  
callbackPaymentRspModel  
callbackRefundRspModel  
rfd\_notif\_rqt\_txn\_Obj  
rfd\_notif\_rqt\_merchant\_Obj  
rfd\_notif\_rqt\_refund\_Obj  
callbackRefundRspModel  
SubscriptionUpdate  
SubscriptionNotify  
SubscriptionInput  
SubscriptionOutput  
Subscription  
PaymentOutput  
Payment  
Card  
Item  
Page  
System

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```
        "amount": 500000,  
        "payment": {  
            "amount": 400000,  
            "discount": 100000,  
            "currency": "INR",  
            "payment_datetime": "2020-01-01T13:02:00+05:30",  
            "payment_option": "CC",  
            "bank_ref_num": "3465241441650741",  
            "offer": {  
                "offer_#111@222",  
                "offer_#333@444"  
            },  
            "credit_card": {  
                "scheme": "CLASSIC CREDIT",  
                "mcn": "512345XXXXX2346"  
            },  
            "upi": {  
                "payer_vpa": "asdfgh@hsbc",  
                "payee_vpa": "merchantvpa"  
            },  
            "other": {  
                "udfs": [  
                    {  
                        "definition": "Product Image in Base64 format",  
                        "value": "1VBORw0KGgoAAAANSUhEU..."  
                    },  
                    {  
                        "definition": "Special Notes from Customer",  
                        "value": "Customer is a non-smoker"  
                    }  
                ]  
            }  
        }  
    }  
}
```

Response Content-Types: application/json

Response Example (200 OK)

```
{  
    "status": "SUCCESS"  
}
```

## RESPONSES

**200 OK** Successful operation.  
callbackPaymentRspModel  
*Data Encryption is enforced. API Schema intends to demonstrate the skeleton of the message payload only.*

Payments

## Callback Refund Notification API

**POST** /<Callback URL predefined by Merchant>

### DESCRIPTION

Refund status will be returned to Merchant by asynchronous callback once Mobile Collection receives a refund request. After Mobile Collection payment platform completes reconciliation with bank and receives refund result, Mobile Collection will push the result back to Merchant by calling this API.

- Implementation**  
This is a Callback API. HSBC will trigger this API call and defines the interface with OpenAPI standard. Merchant is required to provide implementation.
- Retry Mechanism**  
If no success response is received, up to 3 retries will be triggered in every 3 - 5 minutes. Maximum 4 calls including the 1st attempt.
- Endpoint Definition**  
Field `refundNotificationUrl` from Order Cancellation & Refund API will be used as URL endpoint of the corresponding transaction.
- Exception Handling**  
Only success case will be returned. Merchant can submit a Payment Status Enquiry API request if found no acknowledge message returned after a certain period of time.

### REQUEST PARAMETERS

**Content-Type:** string  
required  
in header

### REQUEST BODY

callbackRefundRspModel  
*Data Encryption is enforced. API Schema intends to demonstrate the skeleton of the message payload only.*

Request Content-Types: text/plain

Request Example

```
{  
    "transaction": {  
        "txRef": "ORD-438UL748T6",  
        "rfdRef": "RFD-DFCV11233",  
        "txStatus": "success"  
    },  
    "merchant": {  
        "merId": "C0obsq"  
    },  
    "refund": {  
        "amount": 30000,  
        "currency": "INR",  
        "bank_ref_num": "3780984556228904",  
        "rfdRequestID": "124749836"  
    }  
}
```

Response Content-Types: application/json

Response Example (200 OK)

```
{  
    "status": "SUCCESS"  
}
```

## Subscriptions

Subscriptions

When a customer subscribes to a recurring payment plan, it is called a subscription.

Subscriptions allow you to charge a customer periodically. A subscription contains details of the goods or services offered and more importantly the details of the payment recurrence such as the plan (start date) and for how long (duration).

## Create a Subscription

**POST** /subscriptions

### DESCRIPTION

Use this endpoint to create a subscription.

A subscription can be authorized and initiated by using Hosted Payment Page or HSBC UPI which serves different checkout solutions.

Hosted Payment      HSBC UPI

Hosted Payment Page

Checkout Solution      Card Payment

Redirect to the Hosted Payment Page by a given URL link. Card Authorization and Card Details Capturing are done in the Hosted Payment Page.

Technical Overview

Gateway 2  
INFORMATION:  
Only applicable for payment gateways #2.

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**Hosted Payment Page**

Payment Page URL link is returned in response field:

```
[PATH: $response.subscription.payment_method  
hosted_payment.authorization_url]
```

A sample image of the Hosted Payment Page for Recurring Card Payment Authorization:

**Integration**

**REQUEST PARAMETERS**

<b>Authorization</b>	BASIC [Base64-encoded Credential] <small>required in header</small>
<b>x-hsbc-client-id</b>	[Client ID] <small>required in header</small>
<b>x-hsbc-client-secret</b>	[Client Secret] <small>required in header</small>
<b>x-hsbc-msg-encrypt-id</b>	[Merchant ID]+[JWS ID]+[JWE ID] <small>required in header</small>
<b>Content-Type</b>	application/json <small>required in header</small>

**REQUEST BODY**

**SubscriptionInput**: Data Encryption is enforced. API Schema intends to demonstrate the skeleton of the message payload only.

**RESPONSES**

<b>200 OK</b>	Successful operation. <small>Data Encryption is enforced. API Schema intends to demonstrate the skeleton of the message payload only.</small>
<b>400 Bad Request</b>	Missing or invalid Parameters. <small>System</small>
<b>403 Forbidden</b>	Authorization credentials are missing or invalid.
<b>404 Not Found</b>	Empty resource/resource not found.
<b>500 Internal Server Error</b>	The request failed due to an internal error.

**Subscriptions**

**Retrieve a particular Subscription by ID**

**GET** /subscriptions/{id}

**DESCRIPTION**

This endpoint retrieves the details of a particular Subscription.

**REQUEST PARAMETERS**

<b>Authorization</b>	BASIC [Base64-encoded Credential] <small>required in header</small>
<b>x-hsbc-client-id</b>	[Client ID] <small>required in header</small>
<b>x-hsbc-client-secret</b>	[Client Secret] <small>required in header</small>
<b>x-hsbc-msg-encrypt-id</b>	[Merchant ID]+[JWS ID]+[JWE ID] <small>required in header</small>
<b>Content-Type</b>	application/json <small>required in header</small>

**id: string** Unique **id** of **subscription**

**Request Content-Types:** application/json

**Request Example**

Submit with Hosted Payment      Submit with HSBC UPI

```
{
  "name": "Monthly Subscription",
  "currency": "INR",
  "amount": 17000,
  "expiry_of_approval": "2021-01-01T13:02:00+05:30",
  "recurrence": {
    "period": "MONTHLY",
    "total_count": 12,
    "start_date": "2021-10-01"
  },
  "items": [
    {
      "product_name": "Product Item 1",
      "product_id": "PRO-ASDF-1234",
      "unitAmt": 17000,
      "unit": 10,
      "subAmt": 17000
    }
  ]
}
```

**Response Content-Types:** application/json

**Response Example (200 OK)**

Submit with Hosted Payment      Submit with HSBC UPI

```
{
  "system": {
    "messageId": "89817674-da00-4883",
    "returnCode": "200",
    "returnReason": "Successful operation",
    "sentTime": "2016-11-15T10:00:00.000Z",
    "responseTime": "2016-11-15T10:00:00.000Z"
  },
  "response": {
    "subscription": {
      "request_result": {
        "api_gateway": {
          "code": "000000",
          "message": "Request Successful"
        },
        "payment_gateway": null
      },
      "id": "sub_I883pyZ000p00",
      "created_at": "2021-08-11T14:10:25+05:30",
      "last_modified": null,
      "name": "Monthly Subscription",
      "currency": "INR",
      "amount": 17000,
      "expiry_of_approval": "2021-01-01T13:02:00+05:30",
      "status": "created",
      "recurrence": {
        "period": "MONTHLY",
        "total_count": 12,
        "remaining_count": 12,
        "start_date": "2021-10-01",
        "next_charge_date": "2021-11-01",
        "end_date": "2022-09-01"
      },
      "payment_method": {
        "hosted_payment": {
          "authorization_url": "https://rzp.io/i/z3b1R61A9"
        }
      },
      "items": [
        {
          "product_name": "Product Item 1",
          "product_id": "PRO-ASDF-1234",
          "unitAmt": 17000,
          "unit": 10,
          "subAmt": 17000
        }
      ]
    }
  }
}
```

**Response Example (400 Bad Request)**

```
{
  "messageId": "89817674-da00-4883",
  "returnCode": "400",
  "returnReason": "<Corresponding Error Message>",
  "sentTime": "2016-11-15T10:00:00.000Z",
  "responseTime": "2016-11-15T10:00:00.000Z"
}
```

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upi\_rqt\_system\_Obj

upi\_rqt\_payment\_Obj

upi\_rqt\_merchant\_Obj

upi\_rqt\_customer\_Obj

upi\_rqt\_order\_Obj

upi\_rqt\_other\_Obj

upiRspModel

upi\_rpn\_sys\_Obj

upi\_rpn\_txn\_Obj

upi\_rpn\_payment\_Obj

upi\_rpn\_upi\_Obj

upi\_rpn\_other\_Obj

paymentRqtModel

pay\_rqt\_txn\_Obj

pay\_rqt\_system\_Obj

pay\_rqt\_payment\_Obj

pay\_rqt\_merchant\_Obj

pay\_rqt\_customer\_Obj

pay\_rqt\_order\_Obj

descriptionsObj

pay\_rqt\_other\_Obj

udfObj

paymentRspModel

pay\_rpn\_txn\_Obj

pay\_rpn\_system\_Obj

enquiryRqtModel

eng\_rqt\_txn\_Obj

eng\_rqt\_merchant\_Obj

enquiryRspModel

eng\_rpn\_txn\_Obj

eng\_rpn\_sys\_Obj

eng\_rpn\_payment\_Obj

eng\_rpn\_creditcard\_Obj

eng\_rpn\_upi\_Obj

eng\_rpn\_other\_Obj

eng\_rpn\_refund\_Obj

cancelRqtModel

cancel\_rqt\_txn\_Obj

cancel\_rqt\_txn\_Obj

cancel\_rqt\_merchant\_Obj

cancelRspModel

cancel\_rpn\_txn\_Obj

cancel\_rpn\_txn\_Obj

callbackPaymentRqtModel

notif\_rqt\_txn\_Obj

notif\_rqt\_merchant\_Obj

notif\_rqt\_order\_Obj

notif\_rqt\_payment\_Obj

notif\_rqt\_cc\_Obj

notif\_rqt\_upi\_Obj

notif\_rqt\_other\_Obj

callbackPaymentRspModel

callbackRefundRqtModel

rfd\_notif\_rqt\_txn\_Obj

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in path *Data Encryption is enforced.*

## RESPONSES

## 200 OK

Successful operation.

*Data Encryption is enforced. API Schema intends to demonstrate the skeleton of the message payload only.*

## 400 Bad Request

Missing or invalid Parameters.

## 403 Forbidden

Authorization credentials are missing or invalid.

## 404 Not Found

Empty resource/resource not found.

## 500 Internal Server Error

The request failed due to an internal error.

Response Content-Types: application/json

Response Example (200 OK)

```
{
  "system": {
    "messageId": "89817674-da00-4883",
    "returnCode": "200",
    "returnReason": "Successful operation",
    "sentTime": "2016-11-15T08:00:00Z",
    "responseTime": "2016-11-15T08:00:00Z"
  },
  "response": {
    "subscription": {
      "request_result": {
        "api_gateway": {
          "code": "000000",
          "message": "Request Successful"
        },
        "payment_gateway": {
          "code": "00",
          "message": "Request Processed Successfully"
        }
      },
      "id": "MYBANK012522d1d4d2cd5c2d4c2d457117",
      "created_at": "2021-08-11T14:10:25+05:30",
      "last_modified": null,
      "name": "Monthly Subscription",
      "currency": "INR",
      "amount": 170000,
      "expiry_of_approval": "2021-01-01T13:00:00+05:30",
      "status": "ACTIVE",
      "recurrence": {
        "period": "MONTHLY",
        "total_count": 12,
        "remaining_count": 11,
        "start_date": "2021-10-01",
        "next_charge_date": "2021-11-01",
        "end_date": "2022-09-01"
      },
      "payment_method": {
        "type": "UPI",
        "reference_no": "MYBANK012522d1d4d2cd5c2d4c2d457117",
        "payer_vpa": "sameendo@mybank",
        "payer_name": "sam1996",
        "payee_vpa": "sonysuper@mybank",
        "payee_name": "Sony Super"
      },
      "items": [
        {
          "product_name": "Product Item 1",
          "product_id": "PRO-ASDF-1234",
          "unitAmt": 17000,
          "unit": 10,
          "subAmt": 170000
        }
      ]
    }
  }
}
```

Response Example (400 Bad Request)

```
{
  "messageId": "89817674-da00-4883",
  "returnCode": "400",
  "returnReason": "<Corresponding Error Message>",
  "sentTime": "2016-11-15T08:00:00Z",
  "responseTime": "2016-11-15T08:00:00Z"
}
```

## Update the status of a particular Subscription by ID

PATCH /subscriptions/{id}

## DESCRIPTION

Use this endpoint to update the status of a subscription.

Conditions of status change:

Actions	Payment Gateway #2	HSBC UPI
<b>REVOKE</b>	<ul style="list-style-type: none"> <li>Subscription can be revoked (a.k.a <b>cancelled for Payment Gateway #2</b>) immediately. Once cancelled, the subscription cannot be renewed or reactivated.</li> <li>Subscription status will be changed to <b>cancelled</b>.</li> </ul>	<ul style="list-style-type: none"> <li>Only an <b>ACTIVE</b> subscription can be revoked. Merchant / Payee can revoke the subscription without the UPI PIN authentication by the Payer.</li> <li>Subscription status will be changed to <b>REVOKED</b>.</li> </ul>

## REQUEST PARAMETERS

Authorization	BASIC [Base64-encoded Credential]
	required in header
x-hsbc-client-id	[Client ID]
	required in header
x-hsbc-client-secret	[Client Secret]
	required in header
x-hsbc-msg-encrypt-id	[Merchant ID]+[JWS ID]+[JWE ID]
	required in header
Content-Type	application/json
	required in header
id: string	Unique <b>id</b> of subscription <i>Data Encryption is enforced.</i>

## REQUEST BODY

SubscriptionUpdate *Data Encryption is enforced. API Schema intends to demonstrate the skeleton of the message payload only.*

## RESPONSES

## 200 OK

Successful operation.

*Data Encryption is enforced. API Schema intends to demonstrate the skeleton of the message payload only.*

## 400 Bad Request

Missing or invalid Parameters.

## 403 Forbidden

Authorization credentials are missing or invalid.

## 404 Not Found

Empty resource/resource not found.

## 500 Internal Server Error

The request failed due to an internal error.

Request Content-Types: application/json

Request Example

```
{
  "action": "REVOKE"
}
```

Response Content-Types: application/json

Response Example (200 OK)

```
{
  "system": {
    "messageId": "89817674-da00-4883",
    "returnCode": "200",
    "returnReason": "Successful operation",
    "sentTime": "2016-11-15T08:00:00Z",
    "responseTime": "2016-11-15T08:00:00Z"
  },
  "response": {
    "subscription": {
      "request_result": {
        "api_gateway": {
          "code": "000000",
          "message": "Request Successful"
        },
        "payment_gateway": {
          "code": "00",
          "message": "Mandate has been revoked successfully"
        }
      },
      "id": "MYBANK012522d1d4d2cd5c2d4c2d457117",
      "created_at": "2021-08-11T14:10:25+05:30",
      "last_modified": "2021-08-12T14:10:25+05:30",
      "name": "Monthly Subscription",
      "currency": "INR",
      "amount": 170000,
      "expiry_of_approval": "2021-01-01T13:00:00+05:30",
      "status": "REVOKED",
      "recurrence": {
        "period": "MONTHLY",
        "total_count": 12,
        "remaining_count": 11,
        "start_date": "2021-10-01",
        "next_charge_date": "2021-11-01",
        "end_date": "2022-09-01"
      },
      "payment_method": {
        "upi": {
          "reference_no": "MYBANK012522d1d4d2cd5c2d4c2d457117",
          "upi": {
            "reference_no": "MYBANK012522d1d4d2cd5c2d4c2d457117"
          }
        }
      }
    }
  }
}
```

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upi\_rqt\_order\_Obj  
upi\_rqt\_other\_Obj  
upiRspModel  
upi\_rpn\_sys\_Obj  
upi\_rpn\_txn\_Obj  
upi\_rpn\_payment\_Obj  
upi\_rpn\_upl\_Obj  
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enq\_rpn\_payment\_Obj  
enq\_rpn\_creditcard\_Obj  
enq\_rpn\_upl\_Obj  
enq\_rpn\_other\_Obj  
enq\_rpn\_refund\_Obj  
cancelRqModel  
cancel\_rqt\_txn\_Obj  
cancel\_rqt\_sys\_Obj  
cancel\_rqt\_merchant\_Obj  
cancelRspModel  
cancel\_rpn\_sys\_Obj  
cancel\_rpn\_txn\_Obj  
callbackPaymentRqModel  
notif\_rqt\_txn\_Obj  
notif\_rqt\_merchant\_Obj  
notif\_rqt\_order\_Obj  
notif\_rqt\_payment\_Obj  
notif\_rqt\_cc\_Obj  
notif\_rqt\_upl\_Obj  
notif\_rqt\_other\_Obj  
callbackPaymentRspModel  
callbackRefundRqModel  
rfd\_notif\_rqt\_txn\_Obj  
rfd\_notif\_rqt\_merchant\_Obj  
rfd\_notif\_rqt\_refund\_Obj  
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```
    "payer_vpa": "samreen@mybank",
    "payer_name": "sam1996",
    "payee_vpa": "sonysuper@mybank",
    "payee_name": "Sony Super"
  }
},
"items": [
  {
    "product_name": "Product Item 1",
    "product_id": "PRO-ASDF-1234",
    "unitAmt": 17000,
    "unit": 10,
    "subAmt": 17000
  }
]
}
```

## Response Example (400 Bad Request)

```
{
  "messageId": "89817674-da00-4883",
  "returnCode": "400",
  "returnReason": "<Corresponding Error Message>",
  "sentTime": "2016-11-15T10:00:00.00Z",
  "responseTime": "2016-11-15T10:00:00.00Z"
}
```

## Send Pre-Debit Notification to Payer

POST /subscriptions/{id}/debit\_notify

### DESCRIPTION

This endpoint is used by the merchant / payee to send pre-debit notification to the payer.

IMPORTANT INFORMATION:

This endpoint is only applicable for Merchant whose payment solution is HSBC UPI. Merchant **MUST** execute this notification to the payer **48 hours** before the date of next recurring payment execution.

### REQUEST PARAMETERS

Authorization BASIC [Base64-encoded Credential]

required in header

x-hsbc-client-id [Client ID]

required in header

x-hsbc-client-secret [Client Secret]

required in header

x-hsbc-msg-encrypt-id [Merchant ID]+[JWS ID]+[JWE ID]

required in header

Content-Type application/json

required in header

id: string Unique [id](#) of [subscription](#)

required in path

Data Encryption is enforced.

### REQUEST BODY

SubscriptionNotify Data Encryption is enforced. API Schema intends to demonstrate the skeleton of the message payload only.

### RESPONSES

200 OK

SubscriptionOutput Successful operation.

Data Encryption is enforced. API Schema intends to demonstrate the skeleton of the message payload only.

400 Bad Request

System Missing or invalid Parameters.

Data Encryption is enforced. API Schema intends to demonstrate the skeleton of the message payload only.

403 Forbidden

Authorization credentials are missing or invalid.

Data Encryption is enforced. API Schema intends to demonstrate the skeleton of the message payload only.

404 Not Found

Empty resource/resource not found.

Data Encryption is enforced. API Schema intends to demonstrate the skeleton of the message payload only.

500 Internal Server Error

The request failed due to an internal error.

Data Encryption is enforced. API Schema intends to demonstrate the skeleton of the message payload only.

Request Content-Types: application/json

Request Example

```
{
  "recurrence": {
    "next_charge_date": "2021-11-01"
  }
}
```

Response Content-Types: application/json

Response Example (200 OK)

```
{
  "system": {
    "messageId": "89817674-da00-4883",
    "returnCode": "200",
    "returnReason": "Successful operation",
    "sentTime": "2016-11-15T10:00:00.00Z",
    "responseTime": "2016-11-15T10:00:00.00Z"
  },
  "response": {
    "subscription": {
      "request_result": {
        "api_gateway": {
          "code": "000000",
          "message": "Request Successful"
        },
        "payment_gateway": {
          "code": "00",
          "message": "Request Processed Successfully"
        }
      },
      "id": "MYBANK012522d1d4d2cd5c2d4c2d457117",
      "created_at": "2021-06-11T14:10:25+05:30",
      "last_modified": null,
      "name": "Monthly Subscription",
      "current": "END",
      "amount": 17000,
      "expiry_of_approval": "2021-01-01T13:02:00+05:30",
      "status": "ACTIVE",
      "recurrence": {
        "period": "MONTHLY",
        "total_count": 12,
        "remaining_count": 11,
        "start_date": "2021-10-01",
        "next_charge_date": "2021-11-01",
        "end_date": "2022-09-01"
      },
      "payment_method": {
        "upi": {
          "reference_no": "MYBANK012522d1d4d2cd5c2d4c2d457117",
          "payer_vpa": "samreen@mybank",
          "payer_name": "sam1996",
          "payee_vpa": "sonysuper@mybank",
          "payee_name": "Sony Super"
        }
      },
      "items": [
        {
          "product_name": "Product Item 1",
          "product_id": "PRO-ASDF-1234",
          "unitAmt": 17000,
          "unit": 10,
          "subAmt": 17000
        }
      ]
    }
  }
}
```

Response Example (400 Bad Request)

```
{
  "messageId": "89817674-da00-4883",
  "returnCode": "400",
  "returnReason": "<Corresponding Error Message>",
  "sentTime": "2016-11-15T10:00:00.00Z",
  "responseTime": "2016-11-15T10:00:00.00Z"
}
```

## Fetch Multiple Recurring Payments for a Subscription

GET /subscriptions/{id}/payments

### DESCRIPTION

This endpoint retrieves multiple Recurring Payments for a Subscription.

### REQUEST PARAMETERS

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Authorization: BASIC [Base64-encoded Credential]

Required

In header

x-hsbc-client-id: [Client ID]

Required

In header

x-hsbc-client-secret: [Client Secret]

Required

In header

x-hsbc-msg-encrypt-id: [Merchant ID]+[JWS ID]+[JWE ID]

Required

In header

Content-Type: application/json

Required

In header

id: string Unique [id] of [subscription]

Required

In path

Data Encryption is enforced.

page: integer Range: 1 ≤ x ≤ 9999

Optional

In query

size: integer Range: 1 ≤ x ≤ 5

Optional

In query

## RESPONSES

200 OK

PaymentOutput

Successful operation.

Data Encryption is enforced. API Schema intends to demonstrate the skeleton of the message payload only.

400 Bad Request

System

Missing or invalid Parameters.

403 Forbidden

Authorization credentials are missing or invalid.

404 Not Found

Empty resource/resource not found.

500 Internal Server Error

The request failed due to an internal error.

Response Content-Types: application/json

Response Example (200 OK)

Paid by Hosted Payment      Paid by HSBC UPI

```
{
  "system": {
    "messageId": "89817674-da00-4883",
    "returnCode": "200",
    "returnReason": "Successful operation",
    "sentTime": "2016-11-15T10:00:00.000Z",
    "responseTime": "2016-11-15T10:00:00.000Z"
  },
  "response": {
    "page_info": {
      "total_pages": 1,
      "total_elements": 1,
      "no_of_elements": 1
    },
    "payment": [
      {
        "request_result": {
          "api_gateway": {
            "code": "000000",
            "message": "Request Successful"
          },
          "payment_gateway": null
        },
        "id": "pay_G3P9vcIhRs3NV4",
        "created_at": "2021-06-11T14:10:25+05:30",
        "last_modified": null,
        "status": "Captured",
        "currency": "INR",
        "status": "Captured",
        "payment_method": {
          "hosted_payment": {
            "payment_option": "cards",
            "card": {
              "brand": "VISA",
              "mcn": "512345XXXXXX2346"
            }
          }
        }
      }
    ]
  }
}
```

Response Example (400 Bad Request)

```
{
  "messageId": "89817674-da00-4883",
  "returnCode": "400",
  "returnReason": "<Corresponding Error Message>",
  "sentTime": "2016-11-15T10:00:00.000Z",
  "responseTime": "2016-11-15T10:00:00.000Z"
}
```

Example

```
{
  "transaction": {
    "txRef": "ORD-438UL748T6"
  },
  "system": {
    "notificationUrl": "https://www.example.com/notification"
  },
  "payment": {
    "country": "IN",
    "currency": "INR",
    "amount": 17000,
    "expiry": "2020-01-01T13:02:00+05:30"
  },
  "merchant": {
    "merId": "C0psaq"
  },
  "customer": {
    "payer_pna": "asdfgh@hsbc",
    "customer_firstname": "Ghanshyam",
    "customer_lastname": "Subramaniam"
  },
  "order": {
    "description": "Proceed check out for your order #ORD-438UL748T6",
    "descriptions": [
      {
        "product_name": "Product Item 1",
        "product_id": "PRO-ASDF-1234",
        "unitAmt": 17000,
        "unit": 2,
        "subAmt": 17000
      },
      {
        "product_name": "Product Item 2",
        "product_id": "PRO-JHGF-9876",
        "unitAmt": 50000,
        "unit": 3,
        "subAmt": 150000
      }
    ]
  },
  "other": {
    "udfs": [
      {
        "definition": "Product Image in Base64 format",
        "value": "iVBORw0KGgoAAAANSUhEU... "
      },
      {
        "definition": "Special Notes from Customer",
        "value": "Customer is a non-smoker"
      }
    ]
  }
}
```

Example

```
{
  "txRef": "ORD-438UL748T6"
}
```

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## upi\_rqt\_system\_Obj: object

### PROPERTIES

**notificationUrl:** string range: (up to 255 chars) **required**

Define URL endpoint for receiving payment result notification (server-to-server) from HSBC after payment completed

### Example

```
{
  "notificationUrl": "https://www.example.com/notification"
}
```

## upi\_rqt\_payment\_Obj: object

### PROPERTIES

**country:** string enum: [ IN ] range: (up to 2 chars) **required**

Country Code (Format: `ISO alpha-2`)

#### Possible Value

#### Definition

IN	India
----	-------

**currency:** string enum: [ INR ] range: (up to 3 chars) **required**

Payment Currency (Format: `ISO 4217 Alpha`)

#### Possible Value

#### Definition

INR	Indian Rupee
-----	--------------

**amount:** integer range: 1 ≤ x ≤ 9999999999999999 **required**

Payment Amount

**! NOTE:** NO comma or dot. For example: Input `10000` instead of `100.00`

**expiry:** string range: (up to 25 chars) **required**

Before a defined date and time, a customer is able to confirm payment on their mobile app. The latest date and time you can define is 45 days (or 64800 minutes) right after the API submission.

- Local time. A `GMT+5:30` timezone information is appended to the end of the timestamp to indicate this time is in India local time. Format: `yyyy-MM-dd'T'HH:mm:ss'hh:mm`

### Example

```
{
  "country": "IN",
  "currency": "INR",
  "amount": 170000,
  "expiry": "2020-01-01T13:02:00+05:30"
}
```

## upi\_rqt\_merchant\_Obj: object

### PROPERTIES

**merId:** string range: (up to 50 chars) **required**

Merchant ID

- Distributed by HSBC for identifying each merchant's identity

### Example

```
{
  "merId": "C0DsBq"
}
```

## upi\_rqt\_customer\_Obj: object

### PROPERTIES

**payer\_vpa:** string range: (up to 255 chars) **required**

Payer VPA

**customer\_firstname:** string range: (up to 60 chars) **optional**

Customer's First Name

**customer\_lastname:** string range: (up to 20 chars) **optional**

Customer's Last Name

### Example

```
{
  "payer_vpa": "asdfgh@hsbc",
  "customer_firstname": "Ghanshyam",
  "customer_lastname": "Subramaniam"
}
```

## upi\_rqt\_order\_Obj: object

### PROPERTIES

**description:** string range: (up to 100 chars) **required**

A brief Order Description that will be displayed in the Payment Page

**descriptions:** Array<`descriptionsObj`> range: (up to 20 objects) **required**

Array of Product Descriptions in the basket

### Example

```
{
  "description": "Proceed check out for your order #ORD-438UL748T6",
  "descriptions": [
    {
      "product_name": "Product Item 1",
      "product_id": "PRO-ASDF-1234",
      "unitAmt": 10000,
      "unit": 2,
      "subAmt": 20000
    },
    {
      "product_name": "Product Item 2",
      "product_id": "PRO-HG6F-9876",
      "unitAmt": 50000,
      "unit": 5,
      "subAmt": 150000
    }
  ]
}
```

## upi\_rqt\_other\_Obj: object

### PROPERTIES

**udfs:** Array<`udfsObj`> range: (up to 20 objects) **optional**

Array of User Defined Fields

### Example

```
{
  "udfs": [
    {
      "definition": "Product Image in Base64 format",
      "value": "iVBORw0KGgoAAAANSUhEU... "
    },
    {
      "definition": "Special Notes from Customer",
      "value": "Customer is a non-smoker"
    }
  ]
}
```

## upiRspModel: object

### PROPERTIES

**api\_gw:** System **required**

**response:** object **required**

### PROPERTIES

**system:** upi\_rpt\_sys\_Obj **required**

**transaction:** upi\_rpn\_txn\_Obj **required**

**payment:** upi\_rpn\_payment\_Obj **required**

**upi:** upi\_rpn\_upi\_Obj **optional**

**other:** upi\_rpn\_other\_Obj **optional**

### Example

```
{
  "api_gw": {
    "messageId": "89817674-da00-4883",
    "returnCode": "220",
    "returnReason": "RETURN_MESSAGE",
    "sentTime": "2016-11-15T10:00:00.000Z",
    "responseTime": "2016-11-15T10:00:00.000Z"
  },
  "response": {
    "system": {
      "sysCode": "000000",
      "sysMsg": "Request Successful"
    },
    "transaction": {
      "txrRef": "PAY-Q3ZV956664",
      "txnStatus": "Initiated"
    }
  }
}
```

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enquiryRspModel  
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eng\_rpn\_txn\_Obj  
eng\_rpn\_payment\_Obj  
eng\_rpn\_creditcard\_Obj  
eng\_rpn\_upi\_Obj  
eng\_rpn\_other\_Obj  
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notif\_rqt\_merchant\_Obj  
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## upi\_rpn\_sys\_Obj: object

### PROPERTIES

**sysCode:** string range: (up to 6 chars) required

System Return Code

Possible Value	Definition
000000	Request Successful
800030	Invalid VPA Status
800110	Invalid Calculation Found in Product Sub-Amount
800120	Invalid Calculation Found in Order Total Amount
900030	Duplicate Transaction Reference
999999	System Error

**sysMsg:** string range: (up to 128 chars) required

System Return Status. This is the corresponding message of System Return Code.

```
"error_message": "Transaction Initiated"
  },
  "payment": {
    "amount": 170000,
    "currency": "INR",
    "payment_datetime": "2020-01-01T13:02:00+05:30",
    "payment_option": "UPI"
  },
  "upi": {
    "payer_vpa": "asdfgh@hsbc",
    "payee_vpa": "merchantvpa"
  },
  "other": {
    "udfs": [
      {
        "definition": "Product Image in Base64 format",
        "value": "iVBORw0KGgoAAAANSUhEU... "
      },
      {
        "definition": "Special Notes from Customer",
        "value": "Customer is a non-smoker"
      }
    ]
  }
}
```

### Example

```
{
  "sysCode": "000000",
  "sysMsg": "Request Successful"
}
```

## upi\_rpn\_txn\_Obj: object

### PROPERTIES

**txRef:** string range: (up to 25 chars) required

Returning Transaction Reference

**txnStatus:** string enum: [ Initiated, Failed, Exception ] range: (up to 100 chars) required

Transaction Status

**error\_message:** string range: (up to 100 chars) required

Transaction Status Message

### Example

```
{
  "txRef": "PAY-Q3ZV956664",
  "txnStatus": "Initiated",
  "error_message": "Transaction Initiated"
}
```

## upi\_rpn\_payment\_Obj: object

### PROPERTIES

**amount:** integer range: 1 ≤ x ≤ 9999999999999999 required

Payment Amount

! NOTE: NO comma or dot. For example: Input `10000` instead of `100.00`

**currency:** string range: (up to 3 chars) required

Return Payment Currency (Format: `ISO 4217 Alpha`)

**payment\_datetime:** string range: (up to 25 chars) optional

Returning the transaction time of a successful payment

• Bank system local time. A `GMT+5:30` timezone information is appended to the end of the timestamp to indicate this time is an India local time. Format: `yyyy-MM-dd'T'HH:mm:ssZ`

**payment\_option:** string range: (up to 25 chars) required

Returning Payment Option

### Example

```
{
  "amount": 170000,
  "currency": "INR",
  "payment_datetime": "2020-01-01T13:02:00+05:30",
  "payment_option": "UPI"
}
```

## upi\_rpn\_upi\_Obj: object

### PROPERTIES

**payer\_vpa:** string range: (up to 255 chars) required

Payer's VPA

**payee\_vpa:** string range: (up to 255 chars) required

Payee's VPA

### Example

```
{
  "payer_vpa": "asdfgh@hsbc",
  "payee_vpa": "merchantvpa"
}
```

## upi\_rpn\_other\_Obj: object

### PROPERTIES

**udfs:** Array<`udfsObj`> range: (up to 20 objects) optional

Array of User Defined Fields

### Example

```
{
  "udfs": [
    {
      "definition": "Product Image in Base64 format",
      "value": "iVBORw0KGgoAAAANSUhEU... "
    },
    {
      "definition": "Special Notes from Customer",
      "value": "Customer is a non-smoker"
    }
  ]
}
```

## paymentRqstModel: object

### PROPERTIES

**transaction:** `pay_rqt_txn_Obj` required

**system:** `pay_rqt_system_Obj` required

**payment:** `pay_rqt_payment_Obj` required

**merchant:** `pay_rqt_merchant_Obj` required

**customer:** `pay_rqt_customer_Obj` optional

**order:** `pay_rqt_order_Obj` required

**other:** `pay_rqt_other_Obj` optional

### Example

```
{
  "transaction": {
    "txRef": "ORD-438UL748T6"
  },
  "system": {
    "redirectSuccessUrl": "https://www.example.com/successPayment",
    "redirectFailureUrl": "https://www.example.com/failPayment",
    "redirectCancelUrl": "https://www.example.com/cancelPayment",
    "notificationUrl": "https://www.example.com/notification"
  },
  "payment": {
    "country": "IN",
    "currency": "INR",
    "amount": 170000,
    "payment_option": "all",
    "expiry": "2020-01-01T13:02:00+05:30",
    "offset": [
      "offer_#111@222"
    ]
  }
}
```

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```
        "order": [
            {
                "description": "Proceed check out for your order #ORD-438UL748T6",
                "descriptions": [
                    {
                        "product_name": "Product Item 1",
                        "product_id": "PRO-ASD-1234",
                        "unitAmt": 10000,
                        "unit": "2",
                        "subAmt": 20000
                    },
                    {
                        "product_name": "Product Item 2",
                        "product_id": "PRO-JHG-9876",
                        "unitAmt": 50000,
                        "unit": "3",
                        "subAmt": 150000
                    }
                ],
                "other": {
                    "udfs": [
                        {
                            "definition": "Product Image in Base64 format",
                            "value": "LVBORw0KGgoAAAANSUhEU... "
                        },
                        {
                            "definition": "Special Notes from Customer",
                            "value": "Customer is a non-smoker"
                        }
                    ]
                }
            }
        ]
    }
}
```

## pay\_rqt\_txn\_Obj: object

### PROPERTIES

**txRef:** string range: (up to 25 chars) required

Unique transaction ID/Reference code assigned by merchant

- No duplicate Transaction Reference is allowed

### Example

```
{  
  "txRef": "ORD-438UL748T6"  
}
```

## pay\_rqt\_system\_Obj: object

### PROPERTIES

**redirectSuccessUrl:** string range: (up to 255 chars) required

Define URL endpoint for redirecting customer back from Payment Gateway to Merchant website after completing a successful payment

**redirectFailUrl:** string range: (up to 255 chars) required

Define URL endpoint for redirecting customer back from Payment Gateway to Merchant website after any fail scenario is taken place

**redirectCancelUrl:** string range: (up to 255 chars) required

Define URL endpoint for redirecting customer back from Payment Gateway to Merchant website after customer cancels the payment

**notificationUrl:** string range: (up to 255 chars) required

Define URL endpoint for receiving payment result notification (server-to-server) from HSBC after payment completed

**NOTE:**  
Regarding to Payment Gateway Option 2, fields `redirectSuccessUrl` | `redirectFailUrl` and `redirectCancelUrl` can only support Payment Link URL and the 3 values have to be the same since Payment Link can only redirect to one URL no matter the payment result is.

### Example

```
{  
  "redirectSuccessUrl": "https://www.example.com/successPayment",  
  "redirectFailUrl": "https://www.example.com/failPayment",  
  "redirectCancelUrl": "https://www.example.com/cancelPayment",  
  "notificationUrl": "https://www.example.com/notification"  
}
```

## pay\_rqt\_payment\_Obj: object

### PROPERTIES

**country:** string enum: [ IN ] range: (up to 2 chars) required

Country Code (Format: ISO alpha-2)

Possible Value	Definition
IN	India

**currency:** string enum: [ INR ] range: (up to 3 chars) required

Payment Currency (Format: ISO 4217 Alpha)

Possible Value	Definition
INR	Indian Rupee

**amount:** integer range: 1 ≤ x ≤ 9999999999999999 required

Payment Amount

**NOTE:** NO comma or dot. For example: Input `10000` instead of `100.00`

**payment\_option:** string range: (up to 64 chars) required

To restrict customer payment methods shown in the Hosted Payment Page

Definition	Possible Value of Payment Gateway #1	Possible Value of Payment Gateway #2
All Payment Options	all	all
Credit Card	creditcard	card
Debit Card	debitcard	card
Net Banking	netbanking	netbanking
Equated Monthly Installment	emi	emi
Cash Card & eWallet	wallet	wallet
UPI & GPay	upi	upi

**expiry:** string range: (up to 25 chars) optional

Define the expiry datetime of response field `redirectUrlLink`

- Local time. A `GMT+5:30` timezone information is appended to the end of the timestamp to indicate this time is a India local time. Format: `yyyy-MM-dd'T'HH:mm:ssZ`

**offers:** string[] range: (up to 50 chars) optional

The offer key(s) that bind offer(s) created in Merchant Portal

### Example

```
{  
  "country": "IN",  
  "currency": "INR",  
  "amount": 17000,  
  "payment_option": "all",  
  "expiry": "2020-01-01T13:02:00+05:30",  
  "offers": [  
    "offer": "#11@222",  
    "offer": "#33@444"  
  ]  
}
```

## pay\_rqt\_merchant\_Obj: object

**NOTE:**  
Only accept single key.

**NOTE:**  
Multiple keys are accepted.

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pay\_rqt\_merchant\_Obj  
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pay\_rqt\_order\_Obj  
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eng\_rpn\_txn\_Obj  
eng\_rpn\_payment\_Obj  
eng\_rpn\_creditcard\_Obj  
eng\_rpn\_upi\_Obj  
eng\_rpn\_other\_Obj  
eng\_rpn\_refund\_Obj  
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notif\_rqt\_upi\_Obj  
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callbackRefundRspModel  
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## PROPERTIES

**merId:** string range: (up to 50 chars) required  
Merchant ID  
• Distributed by HSBC for identifying each merchant's identity

## Example

```
{  
  "merId": "C00sBq"  
}
```

## pay\_rqt\_customer\_Obj: object

## PROPERTIES

**customer\_firstname:** string optional  
Customer's First Name

**NOTE:**  
String range: (up to 60 chars)

**NOTE:**  
String range: (up to 20 chars)

**customer\_lastname:** string range: (up to 20 chars) optional  
Customer's Last Name  
**customer\_email:** string range: (up to 50 chars) optional  
Customer's Email  
**customer\_phone:** string range: (up to 50 chars) optional  
Customer's Phone

## Example

```
{  
  "customer_firstname": "Ghanshyam",  
  "customer_lastname": "Subramaniam",  
  "customer_email": "customer.name@example.com",  
  "customer_phone": "9843176546"  
}
```

## pay\_rqt\_order\_Obj: object

## PROPERTIES

**description:** string range: (up to 100 chars) required  
A brief Order Description that will be displayed in the Payment Page  
**descriptions:** Array<**descriptionsObj**> range: (up to 20 objects) required  
Array of Product Descriptions in the basket

## Example

```
{  
  "description": "Proceed check out for your order #ORD-438UL748T6",  
  "descriptions": [  
    {  
      "product_name": "Product Item 1",  
      "product_id": "PRO-ASDF-1234",  
      "unitAmt": 10000,  
      "unit": 2,  
      "subAmt": 20000  
    },  
    {  
      "product_name": "Product Item 2",  
      "product_id": "PRO-JHGF-9876",  
      "unitAmt": 50000,  
      "unit": 3,  
      "subAmt": 150000  
    }  
  ]  
}
```

## descriptionsObj: object

## PROPERTIES

**product\_name:** string range: (up to 200 chars) required  
Product Item Name / Description  
**product\_id:** string range: (up to 50 chars) required  
Product Number / ID  
**unitAmt:** integer range: 1 ≤ x ≤ 9999999999999999 required  
Payment Amount

**NOTE:** NO comma or dot. For example: Input `10000` instead of `100.00`

**unit:** integer range: 1 ≤ x ≤ 999999999 required  
No. of Unit

**subAmt:** integer range: 1 ≤ x ≤ 9999999999999999 required  
Payment Amount

**NOTE:** NO comma or dot. For example: Input `10000` instead of `100.00`

## Example

```
{  
  "product_name": "Product Item 1",  
  "product_id": "PRO-ASDF-1234",  
  "unitAmt": 17000,  
  "unit": 10,  
  "subAmt": 170000  
}
```

## pay\_rqt\_other\_Obj: object

## PROPERTIES

**udfs:** Array<**udfsObj**> range: (up to 20 objects) optional  
Array of User Defined Fields

## Example

```
{  
  "udfs": [  
    {  
      "definition": "Product Image in Base64 format",  
      "value": "iVBORw0KGgoAAAANSUhEU..."  
    },  
    {  
      "definition": "Special Notes from Customer",  
      "value": "Customer is a non-smoker"  
    }  
  ]  
}
```

## udfsObj: object

## PROPERTIES

**definition:** string range: (up to 1024 chars) optional  
Merchant Defined Definition  
**value:** string range: (up to 2048 chars) optional  
Merchant Defined Value

**NOTE:** The sequence of this field inside the `udfs` array object you define in the request message of one particular transaction will be maintained the same as it is returned in the response message of other APIs.

## Example

```
{  
  "definition": "Special Notes from Customer",  
  "value": "Customer is a non-smoker"  
}
```

## paymentRespModel: object

## PROPERTIES

**api\_gw:** System required  
**response:** object required  
**PROPERTIES**

**transaction:** pay\_rpn\_txn\_Obj required  
**system:** pay\_rpn\_system\_Obj required

## Example

```
{  
  "api_gw": {  
    "merchantId": "000017674-da00-4883",  
    "returnCode": "200",  
    "returnReason": "Successful operation",  
    "sentTime": "2016-11-15T10:00:00Z",  
    "responseTime": "2016-11-15T10:00:00Z"  
  },  
  "response": {  
    "transaction": {  
      "txRef": "ORD-438UL748T6"  
    },  
    "system": {  
      "sysCode": "000000",  
      "sysMsg": "Request Successful",  
    }  
  }  
}
```



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upi\_rqt\_other\_Obj

upiRespModel

upi\_rpn\_sys\_Obj

upi\_rpn\_txn\_Obj

upi\_rpn\_payment\_Obj

upi\_rpn\_upi\_Obj

upi\_rpn\_other\_Obj

paymentReqModel

pay\_rqt\_txn\_Obj

pay\_rqt\_system\_Obj

pay\_rqt\_payment\_Obj

pay\_rqt\_merchant\_Obj

pay\_rqt\_customer\_Obj

pay\_rqt\_order\_Obj

descriptionsObj

pay\_rqt\_other\_Obj

udfObj

paymentRespModel

pay\_rpn\_txn\_Obj

pay\_rpn\_system\_Obj

enquiryReqModel

enq\_rqt\_txn\_Obj

enq\_rqt\_merchant\_Obj

enquiryRespModel

enq\_rpn\_sys\_Obj

enq\_rpn\_txn\_Obj

enq\_rpn\_payment\_Obj

enq\_rpn\_creditcard\_Obj

enq\_rpn\_upi\_Obj

enq\_rpn\_other\_Obj

enq\_rpn\_refund\_Obj

cancelReqModel

cancel\_rqt\_txn\_Obj

cancel\_rqt\_merchant\_Obj

cancelRspModel

cancel\_rpn\_sys\_Obj

cancel\_rpn\_txn\_Obj

callbackPaymentReqModel

notif\_rqt\_txn\_Obj

notif\_rqt\_merchant\_Obj

notif\_rqt\_order\_Obj

notif\_rqt\_payment\_Obj

notif\_rqt\_cc\_Obj

notif\_rqt\_upi\_Obj

notif\_rqt\_other\_Obj

callbackPaymentRspModel

callbackRefundReqModel

rfd\_notif\_rqt\_txn\_Obj

rfd\_notif\_rqt\_merchant\_Obj

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```
{
    "payee_vpa": "asdfghijkl",
    "payee_vpa": "merchantvpa"
},
"other": {
    "udfs": [
        {
            "definition": "Product Image in Base64 format",
            "value": "iVBORw0KGgoAAAANSUhEU... "
        },
        {
            "definition": "Special Notes from Customer",
            "value": "Customer is a non-smoker"
        }
    ]
},
"refund": [
    {
        "rfdRef": "RFD-DFCV112233",
        "rfdRequestID": "124748448",
        "rfdStatus": "success",
        "rfdAmount": 1000,
        "rfdDatetime": "2020-01-02T13:00:00+05:30"
    },
    {
        "rfdRef": "RFD-KJD775511",
        "rfdRequestID": "124749836",
        "rfdStatus": "failure",
        "rfdAmount": 1500,
        "rfdDatetime": "2020-01-03T13:00:00+05:30"
    }
]
```

## enq\_rpn\_sys\_Obj: object

### PROPERTIES

**sysCode:** string range: (up to 6 chars) required

System Return Code

Possible Value	Definition
000000	Request Successful
100010	Transaction is Pending
900010	Transaction Record Not Found
999999	System Error

**sysMsg:** string range: (up to 128 chars) required

System Return Status. This is the corresponding message of System Return Code.

### Example

```
{
    "sysCode": "000000",
    "sysMsg": "Request Successful"
}
```

## enq\_rpn\_txn\_Obj: object

### PROPERTIES

**txRef:** string range: (up to 42 chars) required

Returning Transaction Reference

**txStatus:** string range: (up to 100 chars) required

Transaction Status

Definition	Possible Value of Payment Gateway #1	Possible Value of Payment Gateway #2	Payment by HSBC UPI
Transaction is successful	captured	captured	captured
Transaction is failed	failed	failed	failed
Transaction is pending	pending	pending	pending
Cancelled by User	userCancelled	n/a	n/a
Transaction is fully refunded	refunded	refunded	refunded

**error\_code:** string range: (up to 50 chars) required

Transaction Error Code

**error\_message:** string range: (up to 100 chars) required

Transaction Error Message

### Example

```
{
    "txRef": "PAY-QJZV95664",
    "txStatus": "captured",
    "error_code": "E000",
    "error_message": "NO ERROR"
}
```

## enq\_rpn\_payment\_Obj: object

### PROPERTIES

**amount:** integer range: 1 ≤ x ≤ 999999999999999 required

Payment Amount

**Note:** NO comma or dot. For example: Input `10000` instead of `100.00`

**discount:** integer range: 1 ≤ x ≤ 999999999999999 optional

Amount of Discount. Returned only if an offer is applied.

**Note:** NO comma or dot. For example: Input `10000` instead of `100.00`

**currency:** string range: (up to 3 chars) required

Return Payment Currency (Format: `ISO_4217 Alpha`)

**payment\_datetime:** string range: (up to 25 chars) required

Returning Transaction time for the inward credit payment

• Bank system local time. A `GMT±5:30` timezone information is appended to the end of the timestamp to indicate this time is a India local time. Format: `yyyy-MM-dd'T'HH:mm:ss±hh:mm`

**payment\_option:** string range: (up to 25 chars) required

Returning Payment Option

Definition	Possible Value of Payment Gateway #1	Possible Value of Payment Gateway #2
Credit Card	CC	card
Debit Card	DC	card
Net Banking	NB	netbanking
Equated Monthly Installment	EMI	emi
Cash Card & eWallet	CASH	wallet
UPI & GPay	UPI	upi

**bank\_ref\_num:** string range: (up to 25 chars) optional

Returning Bank Reference ID. Only for successful transaction

**offers:** string[] range: (up to 50 chars) optional

Returning Offer Key(s) applied if any

### Example

```
{
    "amount": 170000,
    "discount": 20000,
    "currency": "INR",
    "payment_datetime": "2020-01-01T13:00:00+05:30",
    "payment_option": "CC",
    "bank_ref_num": "3465241441650741",
    "offers": [
        "offer": "#11@222",
        "offer": "#33@444"
    ]
}
```

## enq\_rpn\_creditcard\_Obj: object

### PROPERTIES

**brand:** string range: (up to 20 chars) optional

Brand Name

**scheme:** string range: (up to 70 chars) optional

Card Scheme

### Example

```
{
    "brand": "VISA",
    "scheme": "CLASSIC CREDIT",
    "mcn": "512345XXXXXX2346"
}
```

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cancel\_rqt\_merchant\_Obj

cancelRspModel

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notif\_rqt\_payment\_Obj

notif\_rqt\_ccc\_Obj

notif\_rqt\_upl\_Obj

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### Information:

Only applicable for payment gateways #3.

**mon:** string range: (up to 16 chars) optional

Masked Credit Card Number

- First 6 and last 4 digits of credit card number

## enq\_rpn\_upi\_Obj: object

### Properties

**payer\_vpa:** string range: (up to 255 chars) required

Payer's VPA

**payee\_vpa:** string range: (up to 255 chars) required

Payee's VPA

## Example

```
{  
  "payer_vpa": "asdfgh@hsbc",  
  "payee_vpa": "merchantvpa"  
}
```

## enq\_rpn\_other\_Obj: object

### Properties

**udfs:** Array< [udfsObj](#) > range: (up to 20 objects) optional

Array of User Defined Fields

## Example

```
{  
  "udfs": [  
    {  
      "definition": "Product Image in Base64 format",  
      "value": "iVBORw0KGgoAAAANSUE..."  
    },  
    {  
      "definition": "Special Notes from Customer",  
      "value": "Customer is a non-smoker"  
    }  
  ]  
}
```

## enq\_rpn\_refund\_Obj: object

### Properties

**rfdRef:** string range: (up to 25 chars) required

Unique Refund reference number defined by Merchant

**rfdRequestId:** string range: (up to 100 chars) required

Returning Refund Request ID

**rfdStatus:** string range: (up to 100 chars) required

Refund status of the refund transaction

Definition	Possible Value of Payment Gateway #1	Possible Value of Payment Gateway #2	Payment by HSBC UPI
Refund is successfully processed	success	success	success
Refund is pending	pending	pending	n/a
Refund fails	failure	n/a	failure

**rfdAmount:** integer range: 1 ≤ x ≤ 9999999999999999 required

Returning Refund Amount

! NOTE: NO comma or dot. For example: Input `10000` instead of `100.00`

**rfdDatetime:** string range: (up to 25 chars) required

Time of sending out this request

- Server system time. A `GMT+5:30` timezone information is appended to the end of the timestamp to indicate this time is a India local time. Format: `yyyy-MM-dd'T'HH:mm:ssZ`

## Example

```
{  
  "rfdRef": "RFD-PAY-QJZV956664",  
  "rfdRequestId": "124748442",  
  "rfdStatus": "success",  
  "rfdAmount": 5000,  
  "rfdDatetime": "2018-12-12T14:10:25+05:30"  
}
```

## cancelRqtnModel: object

### Properties

**system:** [cancel\\_rqt\\_sys\\_Obj](#) required

**transaction:** [cancel\\_rqt\\_txn\\_Obj](#) required

**merchant:** [cancel\\_rqt\\_merchant\\_Obj](#) required

## Example

```
{  
  "system": {  
    "refundNotificationUrl": "https://www.example.com/refundNotification"  
  },  
  "transaction": {  
    "txRef": "ORD-438UL748T6",  
    "rfdRef": "RFD-DFCV112233",  
    "amount": 5000,  
    "currency": "INR"  
  },  
  "merchant": {  
    "merId": "C0bs8q"  
  }  
}
```

## cancel\_rqt\_sys\_Obj: object

### Properties

**refundNotificationUrl:** string range: (up to 255 chars)

Define URL endpoint for receiving refund result notification (server-to-server) from HSBC after refund completed

## Example

```
{  
  "refundNotificationUrl": "https://www.example.com/refundNotification"  
}
```

## cancel\_rqt\_txn\_Obj: object

### Properties

**txRef:** string range: (up to 25 chars) required

Merchant to pass Transaction Reference that refers to one specific transaction

**rfdRef:** string range: (up to 25 chars) required

Unique Refund transaction ID assigned by merchant for this refund request

- No duplicate Refund Reference is allowed

**amount:** integer range: 1 ≤ x ≤ 9999999999999999 required

Refund Amount or the Full Amount of a pre-auth transaction

- Refund Amount should not exceed the value of total transaction amount

- Support multiple partial refund

- If the transaction is in pre-auth state currently, then only a full cancellation is allowed. The amount must be same as the auth amount. Partial amount would not be allowed.

! NOTE: NO comma or dot. For example: Input `10000` instead of `100.00`

**currency:** string enum: [ INR ] range: (up to 3 chars) required

Payment Currency (Format: `ISO 4217 Alpha`)

Possible Value	Definition
----------------	------------

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upi\_rqt\_order\_Obj

upi\_rqt\_other\_Obj

upiRspModel

upi\_rpt\_sys\_Obj

upi\_rpn\_txn\_Obj

upi\_rpn\_payment\_Obj

upi\_rpn\_upl\_Obj

upi\_rpn\_other\_Obj

paymentRspModel

pay\_rqt\_txn\_Obj

pay\_rqt\_system\_Obj

pay\_rqt\_payment\_Obj

pay\_rqt\_merchant\_Obj

pay\_rqt\_customer\_Obj

pay\_rqt\_order\_Obj

descriptionsObj

pay\_rqt\_other\_Obj

udfsObj

paymentRspModel

pay\_rpn\_txn\_Obj

pay\_rpn\_system\_Obj

enquiryRspModel

eng\_rqt\_txn\_Obj

eng\_rqt\_merchant\_Obj

enquiryRspModel

eng\_rpn\_sys\_Obj

eng\_rpn\_txn\_Obj

eng\_rpn\_payment\_Obj

eng\_rpn\_creditcard\_Obj

eng\_rpn\_upl\_Obj

eng\_rpn\_other\_Obj

eng\_rpn\_refund\_Obj

cancelRqModel

cancel\_rqt\_sys\_Obj

cancel\_rqt\_txn\_Obj

cancel\_rqt\_merchant\_Obj

cancelRspModel

cancel\_rpn\_sys\_Obj

cancel\_rpn\_txn\_Obj

callbackPaymentRqModel

notif\_rqt\_txn\_Obj

notif\_rqt\_merchant\_Obj

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Possible Value	Definition
INR	Indian Rupee

## cancel\_rqt\_merchant\_Obj: object

## PROPERTIES

merId: string range: (up to 50 chars) required

Merchant ID

## Example

```
{
  "merId": "C0Ds8q"
}
```

## cancelRespModel: object

## PROPERTIES

api\_gw: System requiredresponse: object required

## Example

```
{
  "api_gw": {
    "messageId": "98817674-da00-4883",
    "returnCode": "+200",
    "returnReason": "Successful operation",
    "sentTime": "2016-11-15T10:00:00.000Z",
    "responseTime": "2016-11-15T10:00:00.000Z"
  },
  "response": {
    "system": {
      "sysCode": "000000",
      "sysMsg": "Request Successful"
    },
    "transaction": {
      "txmRef": "ORD-438UL748T6",
      "rfdRef": "RFD-DFCV112233",
      "txnStatus": "success",
      "error_code": "102",
      "error_message": "NO ERROR - Refund Request Queued",
      "rfdRequestId": "124749836",
      "bank_ref_num": "3465241441650741"
    }
  }
}
```

## cancel\_rpn\_sys\_Obj: object

## PROPERTIES

sysCode: string range: (up to 6 chars) required

System Return Code

## Example

```
{
  "sysCode": "000000",
  "sysMsg": "Request Successful"
}
```

## cancel\_rpn\_txn\_Obj: object

## PROPERTIES

txmRef: string range: (up to 25 chars) required

Return Transaction Reference

rfdRef: string range: (up to 25 chars) required

Return Refund Transaction Reference

txmStatus: string range: (up to 100 chars) required

Return Status

## Example

```
{
  "txmRef": "ORD-438UL748T6",
  "rfdRef": "RFD-DFCV112233",
  "txmStatus": "success",
  "error_code": "102",
  "error_message": "NO ERROR - Refund Request Queued",
  "rfdRequestId": "124749836",
  "bank_ref_num": "3465241441650741"
}
```

## callbackPaymentRqModel: object

## PROPERTIES

transaction: notif\_rqt\_txn\_Obj requiredmerchant: notif\_rqt\_merchant\_Obj requiredorder: notif\_rqt\_order\_Obj requiredpayment: notif\_rqt\_payment\_Obj requiredcredit\_card: notif\_rqt\_cc\_Obj optionalupl: notif\_rqt\_upl\_Obj optionalother: notif\_rqt\_other\_Obj optional

## Example

```
{
  "transaction": {
    "txmRef": "ORD-438UL748T6",
    "txmStatus": "captured",
    "error_code": "E000",
    "error_message": "NO ERROR"
  },
  "merchant": {
    "merId": "C0Ds8q"
  },
  "order": {
    "amount": 50000,
    "currency": "INR"
  },
  "payment": {
    "amount": 400000,
    "discount": 100000,
    "currency": "INR",
    "payment_datetime": "2020-01-01T13:02:00+05:30",
    "payment_option": "CC",
    "bank_ref_num": "3465241441650741",
    "offer": [
      "offer_#111@222",
      "offer_#333@444"
    ],
    "credit_card": {
      "scheme": "CLASSIC CREDIT",
      "mcn": "512345XXXXXX2346"
    },
    "upl": {
      "payer_vpa": "asdfgh@hbc",
      "payee_vpa": "merchantvpa"
    }
  },
  "other": {
    "udfs": [
      {
        "definition": "Product Image in Base64 format",
        "value": "JVBER0KGgAAQABJU... "
      },
      {
        "definition": "Special Notes from Customer",
        "value": "Customer is a non-smoker"
      }
    ]
  }
}
```

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upi\_rqt\_other\_Obj

upiRespModel

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upi\_rpn\_payment\_Obj

upi\_rpn\_upi\_Obj

upi\_rpn\_other\_Obj

paymentReqModel

pay\_rqt\_txn\_Obj

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pay\_rqt\_order\_Obj

descriptionsObj

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udfObj

paymentRespModel

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## notif\_rqt\_txn\_Obj: object

## PROPERTIES

txRef: string range: (up to 42 chars) required

Returning Transaction Reference

txStatus: string range: (up to 100 chars) required

Returning Transaction Status

Definition	Possible Value of Payment Gateway #1	Possible Value of Payment Gateway #2	Payment by HSBC UPI
Transaction is successful	captured	captured	captured
Transaction is failed	failed	failed	failed
Cancelled by User	userCancelled	n/a	n/a

error\_code: string range: (up to 50 chars) optional

Transaction Error Code

error\_message: string range: (up to 100 chars) optional

Transaction Error Message

## Example

```
{
  "txRef": "ORD-438UL748T6",
  "txStatus": "captured",
  "error_code": "E000",
  "error_message": "NO ERROR"
}
```

## notif\_rqt\_merchant\_Obj: object

## PROPERTIES

merId: string range: (up to 50 chars) required

Returning Merchant ID

## Example

```
{
  "merId": "C0DsBq"
}
```

## notif\_rqt\_order\_Obj: object

## PROPERTIES

amount: integer range: 1 ≤ x ≤ 999999999999999 required

Returning Order Amount

currency: string range: (up to 3 chars) required

Order Currency (Format: ISO 4217 Alpha)

## Example

```
{
  "amount": 500000,
  "currency": "INR"
}
```

## notif\_rqt\_payment\_Obj: object

## PROPERTIES

amount: integer range: 1 ≤ x ≤ 999999999999999 required

Returning Payment Amount

discount: integer range: 1 ≤ x ≤ 999999999999999 optional

Returning Discount Amount

currency: string enum: [ INR ] range: (up to 3 chars) required

Payment Currency (Format: ISO 4217 Alpha)

Possible Value	Definition
INR	Indian Rupee

payment\_datetime: string range: (up to 25 chars) required

Returning Transaction time for the inward credit payment

- Bank system local time. A `GMT+5:30` timezone information is appended to the end of the timestamp to indicate this time is a India local time. Format: `yyyy-MM-dd'T'HH:mm:ss±hh:mm`

payment\_option: string range: (up to 10 chars) required

Returning Payment Option

Definition	Possible Value of Payment Gateway #1	Possible Value of Payment Gateway #2
Credit Card	CC	card
Debit Card	DC	card
Net Banking	NB	netbanking
Equated Monthly Installment	EMI	emi
Cash Card & eWallet	CASH	wallet
UPI & GPay	UPI	upi

bank\_ref\_num: string range: (up to 25 chars) optional

Returning Bank Reference ID. Only for successful transaction

offers: string[] range: (up to 50 chars) optional

Returning offer key(s) applied if any

## Example

```
{
  "amount": 400000,
  "discount": 100000,
  "currency": "INR",
  "payment_datetime": "2020-01-01T13:02:00+05:30",
  "payment_option": "CC",
  "bank_ref_num": "3465241441650741",
  "offers": [
    "offer_#111@222",
    "offer_#333@444"
  ]
}
```

## notif\_rqt\_cc\_Obj: object

## PROPERTIES

scheme: string range: (up to 70 chars) optional

Card Scheme

**INFORMATION:**  
Only applicable for payment gateway #3.

mon: string range: (up to 16 chars) required

Masked Credit Card Number

- First 6 and last 4 digits of credit card number

## Example

```
{
  "scheme": "CLASSIC CREDIT",
  "mon": "512345XXXXXX2346"
}
```

## notif\_rqt\_upi\_Obj: object

## PROPERTIES

payer\_vpa: string range: (up to 255 chars) required

Payer's VPA

payee\_vpa: string range: (up to 255 chars) required

Payee's VPA

## Example

```
{
  "payer_vpa": "asdfgh@hsbc",
  "payee_vpa": "merchantvpa"
}
```

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## notif\_rqt\_other\_Obj: object

## PROPERTIES

udfs: Array< udfsObj > range: (up to 20 objects) optional

Array of User Defined Fields

## Example

```
{
  "udfs": [
    {
      "definition": "Product Image in Base64 format",
      "value": "iVBORw0KGgoAAAANSUhEU... "
    },
    {
      "definition": "Special Notes from Customer",
      "value": "Customer is a non-smoker"
    }
  ]
}
```

## callbackPaymentRespModel: object

## PROPERTIES

status: string range: (up to 30 chars) required

Return Message

## Example

```
{
  "status": "SUCCESS"
}
```

## callbackRefundReqModel: object

## PROPERTIES

transaction: rfd\_notif\_rqt\_bn\_Obj requiredmerchant: rfd\_notif\_rqt\_merchant\_Obj requiredrefund: rfd\_notif\_rqt\_refund\_Obj required

## Example

```
{
  "transaction": {
    "txRef": "ORD-438UL748T6",
    "rfdRef": "RFD-DFCV11233",
    "txStatus": "success"
  },
  "merchant": {
    "merId": "C0Ds8q"
  },
  "refund": {
    "amount": 30000,
    "currency": "INR",
    "bank_ref_num": "3780984556228904",
    "rfdRequestID": "124749836"
  }
}
```

## rfd\_notif\_rqt\_txn\_Obj: object

## PROPERTIES

txRef: string range: (up to 25 chars) required

Returning Transaction Reference

rfdRef: string range: (up to 25 chars) required

Return Refund Transaction Reference

txStatus: string range: (up to 100 chars) required

Returning Transaction Status

Definition	Possible Value of Payment Gateway #1	Possible Value of Payment Gateway #2	Payment by HSBC UPI
Refund is successfully processed	success	success	success
Refund is pending	pending	pending	n/a
Refund fails	failure	n/a	failure

## Example

```
{
  "txRef": "ORD-438UL748T6",
  "rfdRef": "RFD-DFCV11233",
  "txStatus": "success"
}
```

## rfd\_notif\_rqt\_merchant\_Obj: object

## PROPERTIES

merId: string range: (up to 50 chars) required

Returning Merchant ID

## Example

```
{
  "merId": "C0Ds8q"
}
```

## rfd\_notif\_rqt\_refund\_Obj: object

## PROPERTIES

amount: integer range: 1 ≤ x ≤ 999999999999999 required

Returning Refund Amount

currency: string enum: [ INR ] range: (up to 3 chars) required

Payment Currency (Format: ISO\_4217\_Alpha )

Possible Value	Definition
INR	Indian Rupee

bank\_ref\_num: string range: (up to 25 chars) required

Returning Bank Reference ID. Only for successful transaction

rfdRequestID: string range: (up to 25 chars) required

Return Request ID

## Example

```
{
  "amount": 30000,
  "currency": "INR",
  "bank_ref_num": "3780984556228904",
  "rfdRequestID": "124749836"
}
```

## callbackRefundRespModel: object

## PROPERTIES

status: string range: (up to 30 chars) required

Return Message

## Example

```
{
  "status": "SUCCESS"
}
```

## SubscriptionUpdate: object

## PROPERTIES

action: string enum: [ REVOKE ] range: (up to 10 chars) required

Action of the Status Change

Possible Value	Definition of Payment Gateway #2	Definition of HSBC UPI
REVOKE	Cancel the Subscription	Revoke the Subscription

## Example

```
{
  "action": "REVOKE"
}
```

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## SubscriptionNotify: object

## PROPERTIES

recurrence: object required

## PROPERTIES

next\_charge\_date: string range: (up to 10 chars) required

Charge Date of the next recurrence. Format: YYYY-MM-DD

## Example

```
{
  "recurrence": {
    "next_charge_date": "2021-11-01"
  }
}
```

## SubscriptionInput: object

## PROPERTIES

name: string range: (up to 20 chars) required

Subscription Name

currency: string enum: [ INR ] range: (up to 3 chars) required

Payment Currency (Format: ISO 4217 Alpha)

## Possible Value

## Definition

INR

Indian Rupee

amount: integer range: 1 ≤ x ≤ 999999999999999 required

Payment Amount

! NOTE: NO comma or dot. For example: Input [ 10000 ] instead of [ 100.00 ]

expiry\_of\_approval: string range: (up to 25 chars) required

Time when the Subscription Approval expires

+ Local time. A GNT+5:30 timezone information is appended to the end of the timestamp to indicate this time is India local time. Format: yyyy-MM-dd'T'HH:mm:sshh:mm

recurrence: object required

## PROPERTIES

period: string enum: [ MONTHLY, WEEKLY, QUARTERLY, BI-MONTHLY, FORTNIGHTLY, HALFYEARLY, YEARLY ] range: (up to 20 chars) required

Period of the Subscription

total\_count: integer range: 1 ≤ x ≤ 99 required

Total of the recurrence

start\_date: string range: (up to 10 chars) required

Start Date of the first recurrence

payment\_method: object conditional

Required if checkout solution is HSBC UPI

## PROPERTIES

upi: object required

## PROPERTIES

reference\_no: string range: (up to 35 chars) required

A Unique reference number defined by Merchant to one particular UPI subscription

payer\_vpa: string range: (up to 255 chars) required

Virtual Payment Address of the Payer

payer\_name: string range: (up to 100 chars) required

Name of the Payer

items: Array&lt; Item &gt; required

List of Product Descriptions in the basket

## Example

```
{
  "name": "Monthly Subscription",
  "currency": "INR",
  "amount": 17000,
  "expiry_of_approval": "2021-01-01T13:02:00+05:30",
  "recurrence": {
    "period": "MONTHLY",
    "total_count": 12,
    "start_date": "2021-10-01"
  },
  "payment_method": {
    "upi": {
      "reference_no": "MYBANK012522d1d4d2cd5c2d4c2d457117",
      "payer_vpa": "samreen@mybank",
      "payer_name": "sam1996"
    }
  },
  "items": [
    {
      "product_name": "Product Item 1",
      "product_id": "PRO-ASDF-1234",
      "unitAmt": 17000,
      "unit": 10,
      "subAmt": 17000
    }
  ]
}
```

## SubscriptionOutput: object

## PROPERTIES

system: System required

response: object required

## PROPERTIES

subscription: Subscription optional

Return if it is a HTTP 200 response

## Example

```
{
  "system": {
    ...See schema System for details...
  },
  "response": {
    "subscription": {
      ...See schema Subscription for details...
    }
  }
}
```

## Subscription: object

## PROPERTIES

request\_result: object required

## PROPERTIES

api\_gateway: object required

Result returned by API Gateway

## PROPERTIES

code: string range: (up to 50 chars) required

Result code

message: string range: (up to 100 chars) required

Result message

payment\_gateway: object required

Result returned by Payment Gateway

## PROPERTIES

code: string range: (up to 50 chars) required

Result code

message: string range: (up to 100 chars) required

Result message

id: string range: (up to 35 chars) required

Unique Entity ID of a Subscription

**NOTE:**  
id is system-generated

**NOTE:**  
id is user-defined.

It is identical to \$payment\_method.upi.reference\_no when merchant defines it during the subscription creation.

## Example

```
{
  "request_result": {
    "api_gateway": {
      "code": "000000",
      "message": "Request Successful"
    },
    "payment_gateway": {
      "code": "M0209",
      "message": "Mandate request initiated successfully"
    },
    "id": "MYBANK012522d1d4d2cd5c2d4c2d457117",
    "created_at": "2021-06-11T14:10:25+05:30",
    "last_modified": "2021-06-12T14:10:25+05:30",
    "name": "Monthly Subscription",
    "currency": "INR",
    "amount": 17000,
    "expiry_of_approval": "2021-01-01T13:02:00+05:30",
    "status": "created",
    "recurrence": {
      "period": "MONTHLY",
      "total_count": 12,
      "remaining_count": 11,
      "start_date": "2021-10-01",
      "next_charge_date": "2021-11-01",
      "end_date": "2022-09-01"
    },
    "payment_method": {
      "hosted_payment": {
        "authorization_url": "https://rzp.io/i/z3b1R61A9"
      },
      "upi": {
        "reference_no": "MYBANK012522d1d4d2cd5c2d4c2d457117",
        "payer_vpa": "samreen@mybank",
        "payer_name": "sam1996",
        "payee_vpa": "Sonysuper@mybank",
        "payee_name": "Sony Super"
      }
    },
    "items": [
      {
        "product_name": "Product Item 1",
        "product_id": "PRO-ASDF-1234",
        "unitAmt": 17000,
        "unit": 10,
        "subAmt": 17000
      }
    ]
}
```

created\_at: string range: (up to 25 chars) required

Created Time of this Subscription

+ Local time. A GNT+5:30 timezone information is appended to the end of the timestamp to indicate this time is India local time. Format: yyyy-MM-dd'T'HH:mm:sshh:mm

last\_modified: string range: (up to 25 chars) required

Last Modified Time of this Subscription

+ Local time. A GNT+5:30 timezone information is appended to the end of the timestamp to indicate this time is India local time. Format: yyyy-MM-dd'T'HH:mm:sshh:mm

## REFERENCE

Lifecycle of Cryptographic Keys  
Key Generation & Exchange  
Key Maintenance

Key Renewal

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## DISCLAIMER

Disclaimer

name: string range: (up to 20 chars) required  
Subscription Name  
currency: string enum: [ INR ] range: (up to 3 chars) required  
Payment Currency (Format: ISO 4217 Alpha )

Possible Value	Definition
INR	Indian Rupee

amount: integer range: 1 ≤ x ≤ 9999999999999999 required  
Payment Amount

! NOTE: NO comma or dot. For example: Input [ 10000 ] instead of [ 100.00 ]

expiry\_of\_approval: string range: (up to 25 chars) required  
Time when the Subscription Approval expires

- Local time. A GNT+5:30 timezone information is appended to the end of the timestamp to indicate this time is in India local time. Format: yyyy-MM-dd'T'HH:mm:ss±hh:mm

status: string range: (up to 50 chars) required  
Status of this Subscription

Gateway 2	Possible Value	Definition
	created	Once a subscription is created.
	authenticated	When the customer completes the authentication transaction.
	active	When the billing cycle for the subscription starts. (The first charge attempt is made on the subscription)
	pending	When an auto-charge on a payment is unsuccessful. Retries of charging payment will be triggered.
	halted	When the last auto-charge is unsuccessful and all retries are exhausted.
	cancelled	When you cancel a subscription. Once cancelled, a subscription cannot be restarted.
	paused	When you pause a subscription.
	expired	When the subscription authentication has not been done by the start_date or expiry_of_approval you have set to the subscription.
	completed	When it reaches the end of its life cycle.

HSBC UPI	Possible Value	Definition
	ACTIVE	When the payer approves the mandate authentication request.
	REJECTED	When the payer rejects the mandate authentication request.
	PENDING	When the mandate awaits for the approval of the payer upon different mandate manipulation such as authentication, modification, etc.
	REVOKED	When you revoke a mandate.
	PAUSE	When you pause a mandate.
	UNPAUSE	When you submit un-pause request to a mandate.
	EXPIRED	When the mandate authentication request has not been approved by the expiry_of_approval date you have set to the mandate.
	COMPLETED	When it reaches the end of its life cycle.

recurrence: object required

#### PROPERTIES

period: string enum: [ MONTHLY, WEEKLY, QUARTERLY, BI-MONTHLY, FORTNIGHTLY, HALFYEARLY, YEARLY ] range: (up to 20 chars) required  
Period of the Subscription

total\_count: integer range: 1 ≤ x ≤ 99 required  
Total count of the recurrence

remaining\_count: integer range: 1 ≤ x ≤ 99 required  
Remaining count of the recurrence

start\_date: string range: (up to 10 chars) required  
Start Date of the first recurrence

next\_charge\_date: string range: (up to 10 chars) required  
Charge Date of the next recurrence

end\_date: string range: (up to 10 chars) required  
End Date of the recurrence

payment\_method: object required

#### PROPERTIES

hosted\_payment: object conditional  
If checkout solution is Hosted Payment.

Properties

authorization\_url: string range: (up to 255 chars) required  
URL for submitting the Card Authorization

upi: object conditional  
If checkout solution is HSBC UPI.

#### PROPERTIES

reference\_no: string range: (up to 35 chars) required  
A Unique reference number defined by Merchant to one particular UPI subscription

payer\_vpa: string range: (up to 255 chars) required  
Payer VPA

payer\_name: string range: (up to 100 chars) required  
Payer Name

payee\_vpa: string range: (up to 255 chars) required  
Payer VPA

payee\_name: string range: (up to 100 chars) required  
Payer Name

## PaymentOutput: object

#### PROPERTIES

system: System required

response: object optional

Return if it is a HTTP 200 response

#### PROPERTIES

page\_info: Page required

payment: Array< Payment > required

List of Payments

#### Example

```
{  
  "system": {  
    ...See schema System for details...  
  },  
  "response": {  
    "page_info": {  
      "total_pages": 1,  
      "total_elements": 1,  
      "no_of_elements": 1  
    },  
    "payment": [  
      {  
        ...See schema Payment for details...  
      }  
    ]  
  }  
}
```

## Payment: object

#### PROPERTIES

request\_result: object required

#### Example

**PROPERTIES**

**api\_gateway:** object **required**  
Result returned by API Gateway

**PROPERTIES**

**code:** string range: (up to 50 chars) **required**  
Result code

**message:** string range: (up to 100 chars) **required**  
Result message

**payment\_gateway:** object **required**  
Result returned by Payment Gateway

**PROPERTIES**

**code:** string range: (up to 50 chars) **required**  
Result code

**message:** string range: (up to 100 chars) **required**  
Result message

**id:** string range: (up to 50 chars) **required**  
Unique Entity ID of a Payment. It is system-generated.

**created\_at:** string range: (up to 25 chars) **required**  
Created Time of this payment

- Local time. A **GMT+5:30** timezone information is appended to the end of the timestamp to indicate this time is a India local time. Format: **yyyy-MM-dd'T'HH:mm:sshh:mm**

**last\_modified:** string range: (up to 25 chars) **required**  
Last Modified Time of this payment

- Local time. A **GMT+5:30** timezone information is appended to the end of the timestamp to indicate this time is a India local time. Format: **yyyy-MM-dd'T'HH:mm:sshh:mm**

**amount:** integer range: 1 ≤ x ≤ 9999999999 **required**  
Payment Amount

**Note:** NO comma or dot. For example: Input **10000** instead of **100.00**

**currency:** string enum: [ INR ] range: (up to 3 chars) **required**  
Payment Currency (Format: **ISO\_4217\_Alpha**)

Possible Value	Definition
INR	Indian Rupee

**status:** string range: (up to 50 chars) **required**  
Status of this Payment

Gateway 2	
Possible Value	Definition
captured	Transaction is successful.
failed	Transaction is failed.

HSBC UPI	
Possible Value	Definition
SUCCESSFUL	Transaction is successful.
REJECTED	Payer rejects to process the transaction.

**payment\_method:** object **required**

**PROPERTIES**

**hosted\_payment:** object **conditional**

**PROPERTIES**

**payment\_option:** string range: (up to 20 chars) **required**  
Restrict Payment Option shown inside HPP

Possible Value	Definition
cards	Credit / Debit Cards

**card:** Card **conditional**

**upi:** object **conditional**

**PROPERTIES**

**reference\_no:** string range: (up to 35 chars) **required**  
A Unique reference number of UPI Mandate defined by Merchant

**payer\_vpa:** string range: (up to 255 chars) **required**  
Payer VPA

**payer\_name:** string range: (up to 100 chars) **required**  
Payer Name

**payee\_vpa:** string range: (up to 255 chars) **required**  
Payer VPA

**payee\_name:** string range: (up to 100 chars) **required**  
Payer Name

```
{
  "request_result": {
    "api_gateway": {
      "code": "000000",
      "message": "Request Successful"
    },
    "payment_gateway": {
      "code": null,
      "message": "Recurrence Payment Success"
    }
  },
  "id": "MGA58C11BE6101F46AA99818FBF39F0F706",
  "created_at": "2021-06-11T14:10:25+05:30",
  "last_modified": "2021-06-12T14:10:25+05:30",
  "amount": 10000,
  "currency": "INR",
  "status": "SUCCESSFUL",
  "payment_method": {
    "hosted_payment": {
      "payment_option": "cards",
      "card": {
        "brand": "VISA",
        "mcn": "512345XXXXXX2346"
      }
    },
    "upi": {
      "reference_no": "MYBANK012522d1d4d2cd5c2d4c2d457117",
      "payer_vpa": "samreen@mybank",
      "payer_name": "san1996",
      "payee_vpa": "sonysuper@mybank",
      "payee_name": "Sony Super"
    }
  }
}
```

## Card: object

### DESCRIPTION

Conditional. If **payment\_option = "cards"**

### PROPERTIES

**brand:** string range: (up to 20 chars) **required**  
Brand Name

**mcn:** string range: (up to 16 chars) **required**  
Masked Credit Card Number

### Example

```
{
  "brand": "VISA",
  "mcn": "512345XXXXXX2346"
}
```

## Item: object

### PROPERTIES

**product\_name:** string range: (up to 200 chars) **required**  
Product Item Name / Description

**product\_id:** string range: (up to 50 chars) **required**  
Product Nummer / ID

**unitAmt:** integer range: 1 ≤ x ≤ 9999999999999999 **required**  
Payment Amount

### Example

```
{
  "product_name": "Product Item 1",
  "product_id": "PRO-ASDF-1234",
  "unitAmt": 17000,
  "unit": 10,
  "subAmt": 17000
}
```

**Note:** NO comma or dot. For example: Input **10000** instead of **100.00**

**unit:** integer range: 1 ≤ x ≤ 9999999999999999 **required**  
No. of Unit

**subAmt:** integer range: 1 ≤ x ≤ 9999999999999999 **required**  
Payment Amount

**Note:** NO comma or dot. For example: Input **10000** instead of **100.00**

## INTRODUCTION

### Description

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Use Cases for this API

Online Payment

Status Enquiry

Cancel & Refund

Order Confirmation

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## GETTING STARTED

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Summary

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## API OPERATIONS

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Fetch Subscription by ID

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## API SCHEMA

### Schema Definitions

upiReqModel

upi\_rqt\_txn\_Obj

upi\_rqt\_system\_Obj

upi\_rqt\_payment\_Obj

upi\_rqt\_merchant\_Obj

upi\_rqt\_customer\_Obj

upi\_rqt\_order\_Obj

upi\_rqt\_other\_Obj

upiRespModel

upi\_rpt\_sys\_Obj

upi\_rpn\_txn\_Obj

upi\_rpn\_payment\_Obj

upi\_rpn\_upi\_Obj

upi\_rpn\_other\_Obj

paymentReqModel

pay\_rqt\_txn\_Obj

pay\_rqt\_system\_Obj

pay\_rqt\_payment\_Obj

pay\_rqt\_merchant\_Obj

pay\_rqt\_customer\_Obj

pay\_rqt\_order\_Obj

pay\_rqt\_other\_Obj

udfObj

paymentRespModel

pay\_rpn\_txn\_Obj

pay\_rpn\_system\_Obj

enquiryReqModel

eng\_rqt\_txn\_Obj

eng\_rqt\_merchant\_Obj

enquiryRespModel

eng\_rpn\_txn\_Obj

eng\_rpn\_system\_Obj

eng\_rpn\_txn\_Obj

eng\_rpn\_payment\_Obj

eng\_rpn\_creditcard\_Obj

eng\_rpn\_upi\_Obj

eng\_rpn\_other\_Obj

eng\_rpn\_refund\_Obj

cancelReqModel

cancel\_rqt\_sys\_Obj

cancel\_rqt\_txn\_Obj

cancel\_rqt\_merchant\_Obj

cancelRspModel

cancel\_rpn\_sys\_Obj

cancel\_rpn\_txn\_Obj

callbackPaymentReqModel

notif\_rqt\_txn\_Obj

notif\_rqt\_merchant\_Obj

notif\_rqt\_order\_Obj

notif\_rqt\_payment\_Obj

notif\_rqt\_cc\_Obj

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System

## REFERENCE

Lifecycle of Cryptographic Keys

Key Generation & Exchange

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## Page: object

### DESCRIPTION

Information of Pagination of an array object

### PROPERTIES

**total\_pages:** integer range: 1 ≤ x ≤ 9999 required

Total Number of Response Pages

**total\_elements:** integer range: 1 ≤ x ≤ 5 required

Total Number of All Elements

**no\_of\_elements:** integer range: 1 ≤ x ≤ 9999 required

Number of Elements displayed in the corresponding page

### Example

```
{  
    "total_pages": 1,  
    "total_elements": 1,  
    "no_of_elements": 1  
}
```

## System: object

### PROPERTIES

**messageId:** string range: (up to 36 chars) required

System generated unique message ID only for HSBC internal reference use

**returnCode:** string range: (up to 3 chars) required

System Return Code.

- This checking is on API Operational level, in other words, it checks upon Authorization, Connectivity and JSON Message Structure.

Possible Value	Definition
200	Successful operation
400	Bad Request (With detail message in field <code>returnReason</code> )  Internal Error.  <b>Important Notices:</b> If any tier comes before the API Cloud Foundry is unavailable, such as the API Gateway, there will be no json respond message returned.  Furthermore, the respond message of 500 will be ignored by some common HTTP libraries, in such case, the respond message body can be considered as a hint for troubleshooting during development and testing phase.
500	

**returnReason:** string range: (up to 200 chars) required

Corresponding Text message of returnCode

Cor.	Schema Definitions	Return Message Sample	Definition
Return	Code	Code	
			A successful API operation in terms of Authorization, Connectivity and valid JSON Message Structure.
200	Successful operation		Any checking failure on Business Logic level will be still considered a successful API operation yet the Business Logic checking result will be returned in <code>responseObject</code> object.
400	Client ID - Merchant ID mapping is not correct/updated!		The binding of Client ID, Merchant ID and Merchant Public Certificate is incorrect or not up-to-date.
400	object has missing required properties <code>[field name]</code>		Fail to pass JSON Field Mandatory Check.
400	instance type <code>[data type]</code> does not match any allowed primitive type		Fail to pass JSON Field Type Check.
400	string <code>[field value]</code> is too long		Fail to pass JSON Field Max Length Check
400	instance failed to match at least one required schema among <code>no. of conditional field</code>		Fail to pass JSON Conditional Field Check.
500	java.net.ConnectException: Connection refused: connect		<b>Notices:</b> Message can be varied depended on the downstream systems which return this message. Yet, all reasons can be concluded into Internal Error or System Unavailable.

**sentTime:** string range: (up to 27 chars) required

Time of request received by HSBC system from client, only for HSBC internal reference use

**responseTime:** string range: (up to 27 chars) required

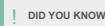
Time of HSBC system provides response to client, only for HSBC internal reference use

## Lifecycle of Cryptographic Keys

This section highlights the Lifecycle of cryptographic keys in the following stages:

1. Generate keys pair (Private Key and Public Key Certificate)

2. **Optional:** Export CSR (Certificate Signing Request) and sign using a CA (Certificate Authority)



In public key infrastructure (PKI) systems, a certificate signing request is a message sent from an applicant to a certificate authority in order to apply for a digital identity certificate. It usually contains the public key for which the certificate should be issued.

3. Exchange Certificate with HSBC
4. Certificate and Keys Maintenance
5. Certificate and Keys Renewal Process

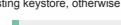
The Key Renewal Process Command line tool **Java Keytool™** is used in the demonstration. The tool can generate public key / private key pairs and store them into a Java KeyStore. The Keytool executable is distributed with the **Java SDK (or JRE)™**, so if you have an SDK installed you will also have the Keytool executable. The Merchant is free to choose any other tool to generate and manage keys, such as **OpenSSL™**.

## Key Generation and Certificate Exchange with HSBC

1. Create a new keys pair (Private Key and Public Key Certificate) with a new or existing Keystore.

```
keytool -genkey  
-alias merchant_key_pair  
-keyalg RSA  
-keystore merchant_keystore.jks  
-keysize 2048  
-validity 3650  
-storepass <your keystore password>
```

- **-genkey** - command to generate keys pair.
- **-alias** - define the alias name (or unique identifier) of the keys pair stored inside the keystore.
- **-keyalg** - key algorithm, it must be `RSA` regarding to HSBC standard. If `RSA` is taken, the default hashing algorithm will be `SHA-256`.
- **-keystore** - file name of the keystore. If the file already exists in your system location, the key will be created inside your existing keystore, otherwise, a new keystore with the defined name will be created.



Keystore is a password-protected repository of keys and certificates. A file with extension `.jks` means it is a Java Keystore which is originally supported and executable with Java™.

There are several keystore formats in the industry like `.PKCS12` with file extension `.p12` which is executable with Microsoft Windows™, merchant can always pick the one most fit their application.

- **-keysize** - key size, it must be `2048` regarding to HSBC standard.
- **-validity** - the validity period of the private key and its associated certificate. The unit is `day`, 3650 means 10 years.
- **-storepass** - password of the keystore.

1.1. Provide the `Distinguished Name` information after running the command:

```
Information required for CSK generation  
-----  
What is your first and last name?  
[Unknown]: MERCHANT INFO  
What is the name of your organizational unit?  
[Unknown]: MERCHANT INFO  
What is the name of your organization?  
[Unknown]: MERCHANT INFO  
What is the name of your City or Locality?  
[Unknown]: HK  
What is the name of your State or Province?  
[Unknown]: HK  
What is the two-letter country code for this unit?  
[Unknown]: HK  
Is CN=XXX, OU=XXX, O=XXX, L=XXX, ST=HK, C=HK correct? (type "yes" or "no")
```

**NOTE:**

The Private Key password and Keystore password can be identical, however to be more secure, the Merchant should set them differently.

- 2. Optional:** Export CSR and get signed with CA. This step can be skipped if the Merchant decides to work with a Self-Signed Certificate.

```
keytool -certreq  
    -alias merchant_key_pair  
    -keyalg RSA  
    -file merchant_csr.csr  
    -keystore merchant_keystore.jks
```

- certreq - command to generate and export CSR.
  - alias - the name of the associated keys pair.
  - keyalg - key algorithm, it must be RSA regarding to HSBC standard.
  - file - file name of the CSR. This will be generated at the location where the command is run.
  - keystore - specify the keystore which you are working on.

- 2.1. Select and purchase a plan at Certificate Authority and then submit the CSR accordingly. After a signed Certificate issued by CA, import the Certificate back to the Merchant's keystore.

```
keytool -import  
    -alias merchant_signed_cert_0001  
    -trustcacerts -file CA_signed_cert.p7  
    -keystore merchant_keystore.jks
```

- **-import** - command to import object into a specific keystore.
  - **-alias** - define the alias name (or unique identifier) of the signed Certificate.  
**-truststore\_file** - specify the file name of the signed Certificate in Merchant's local file system

**NOTE:** PKCS#7 is one of the common formats that contains certificates and has a file extension of .p7b or .p7c. The certificate format may be varied depending on the policy of the issuing CA.

- **-keystore** - specify the keystore which you are working on

- DID YOU KNOW:

information that prove the ownership and maintains in

**DID YOU KNOW:**  
A Certificate or Public Key Certificate is an electronic document that contains a public key and additional information that prove the ownership and maintains integrity of the public key. It is essential for the sender

```
keytool -export  
    -alias merchant_key_pair  
    -file merchant_cert_0001.cer  
    -keystore merchant_keystore.jks
```

- export - command to export object from a specific keystore
  - alias - the name of the associated keys pair.

**NOTE:**  
If the Merchant associates the original keys pair `merchant_key_pair`, the exported Certificate is without CA-signed, and hence, Self-Signed. However, if the Merchant associates the imported Certificate `merchant_signed_cert_0001` mentioned in step #2, the exported Certificate is CA-signed.

- **-file** - specify the file name of the Certificate where the file will be exported to Merchant's local file system.

**NOTE:**  
The default Certificate file encoding is binary. HSBC accepts both binary and base64 encoding. To export a printable base64 encoding file, please attach an extra parameter **`-rfc`** in the command.  
e.g. **`-file merchant_cert_0001.crt -rfc`**.

- To store specific location information, you can use the `location` object.

4. Import HCSR04 Certificate into the project with Keystore

```
keytool -import  
    -alias hsbc_cert_0002  
    -file hsbc_cert_0002.cer
```

- **-import** - command to import object into a specific keystore.
  - **-alias** - define the alias name of HSBC's Certificate in your keystore.
  - **-file** - specify the file name of HSBC's Certificate in Merchant's local file system

- 5. Optional:** List keystore objects. Merchant is suggested to verify that all required objects are properly maintained. 2 - 3 entries should be found in your Java Keystores. (Entries may be varied if other key repository format is used).

Alias name	Corresponding Object	Remark
merchant_key_pair	<ul style="list-style-type: none"> <li>Merchant's Private Key</li> <li>Merchant's Public Certificate (Self-Signed)</li> </ul>	These two objects appear to be one entry in a JAVA Keystore. Merchant can still export them separately into two objects (files) on your local file system depending on your application design.
merchant_signed_cert_0001	Merchant's Public Certificate (CA-Signed)	Not exist if Merchant skips step #2
hsbc_cert_0002	HSBC's Public Certificate	

```
keytool -list -v -keystore merchant_keystore.jks

Keystore type: JKS
Keystore provider: SUN

Your keystore contains 3 entries

Alias name: merchant_key_pair
Creation date: Jan 1, 2020
Entry type: PrivateKeyEntry

<Other Information>
*****
*****
```

```
Alias name: merchant_signed_cert_0001
Creation date: Jan 1, 2020
Entry type: trustedCertEntry

<Other Information>
*****
*****
```

```
Alias name: hsbc_cert_0002
Creation date: Jan 1, 2020
Entry type: trustedCertEntry

<Other Information>
*****
*****
```

## Certificates and Keys Maintenance

Here are some recommendations to Merchant of how to properly maintain certificates and keys:

Component	Storage	Validity
Merchant's Private Key	Private Key should be maintained and handled with the most secure approach that a Merchant can apply. The most common and yet secure enough approach is: <ul style="list-style-type: none"> <li><b>key password</b> - Do not save the password in plain text or hard-coded in application. Recommend to encrypt it by any Password Encryption Tools</li> <li><b>key storage</b> - Store inside password-protected key repository, such as <b>JKS</b> or <b>PKCS12</b> keystore. Keystore password should also be encrypted.</li> </ul>	No restriction on the Validity Period. However, if Merchant suspects there is any chance that the key is leaked or for any other security reason, a new Private Key and its associated Public Key Certificate should be generated.
Merchant's Public Key Certificate	Since Public Key Certificate is publicly distributed, a comparative moderate secure storage approach is acceptable. Merchant can store the physical file in any system's file system or store all keys and certificates in one single key repository for a centralised key management.	For a self-signed Certificate, the same condition has been mentioned as above.
HSBC's Public Key Certificate	Same as the above	1 Year  <b>NOTE:</b> Technically, the validity period is usually 1 Year plus 1 to 2 months more. The spare period is a buffer for a merchant to switch a "to-be-expired" Certificate to the new one during the Certificate Renewal Process. More technical detail will be covered in later section.

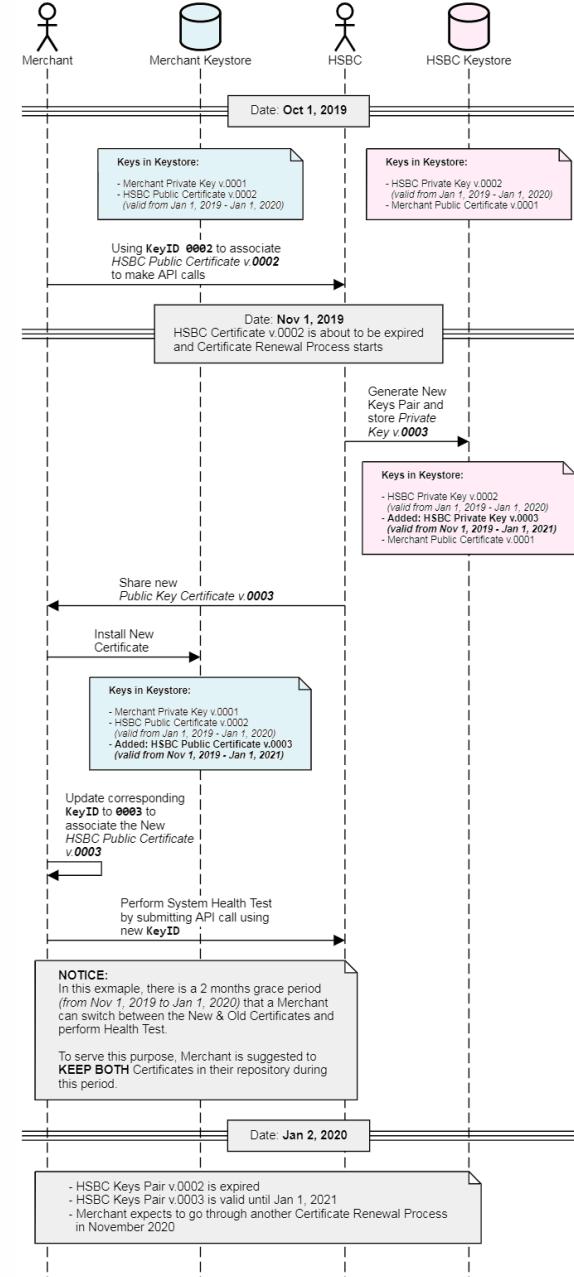
## Certificates and Keys Renewal

Every Public Key Certificate has an expiration date. When either the Merchant's or HSBC's Certificate is about to expire, a key renewal process takes place. Please see the Key Renewal Process Flow below:

**SOME RULES YOU SHOULD KNOW:**

- Keys Repository:** This is a mock-up for demonstration purpose only.
- Keys Name:** Using a **Key Name | KeyID** naming convention makes for a simpler demonstration. The suggested identifier of one key should be the alias name inside a key repository.
- KeyID Value:** HSBC uses the naming convention **0001, 0002, 0003 ... n + 1**, each time the HSBC certificate is renewed, the **KeyID** value is **n + 1**.
- Key Binding:** The binding between the **KeyID** and the corresponding **Keys Pair** in the merchant's system can make use of any key/value logic, such as a Database table. In our example below, KeyID **000X** binds to **Private Key v.000X** and **Public Certificate v.000X**, etc.
- Validity Date:** All dates are made-up for demonstration purposes only.

### HSBC Public Key Certificate Renewal (Logical Flow)



Below is the technical flow showing how **Certificates**, **Alias Names** and **KeyIDs** work together during a normal process or a key renewal process:

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Callback Refund Notification API  
Subscriptions  
Create a subscription  
Fetch Subscription by ID  
Update a Subscription  
Send Pre-Debit Notification  
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## API SCHEMA

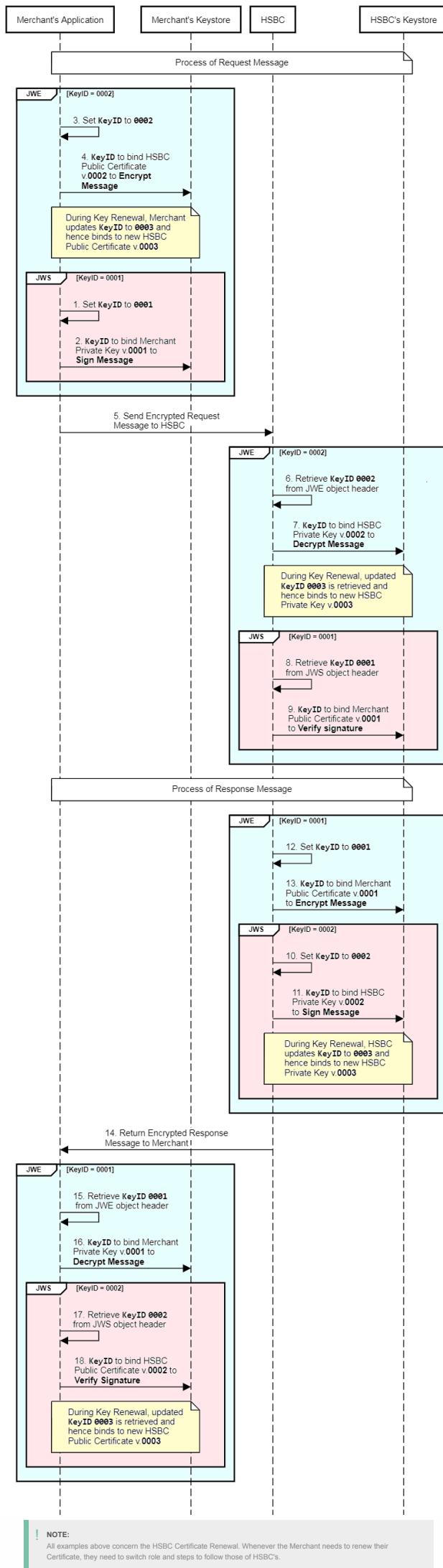
Schema Definitions  
upiReqModel  
upi\_rqt\_txn\_Obj  
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upi\_rpn\_txn\_Obj  
upi\_rpn\_payment\_Obj  
upi\_rpn\_upi\_Obj  
upi\_rpn\_other\_Obj  
paymentRqstModel  
pay\_rqt\_txn\_Obj  
pay\_rqt\_system\_Obj  
pay\_rqt\_payment\_Obj  
pay\_rqt\_merchant\_Obj  
pay\_rqt\_customer\_Obj  
pay\_rqt\_order\_Obj  
descriptionsObj  
pay\_rqt\_other\_Obj  
udfsoObj  
paymentRspModel  
pay\_rpn\_txn\_Obj  
pay\_rpn\_system\_Obj  
enquiryRqstModel  
eng\_rqt\_txn\_Obj  
eng\_rqt\_merchant\_Obj  
enquiryRspModel  
eng\_rpn\_sys\_Obj  
eng\_rpn\_txn\_Obj  
eng\_rpn\_payment\_Obj  
eng\_rpn\_creditcard\_Obj  
eng\_rpn\_upi\_Obj  
eng\_rpn\_other\_Obj  
eng\_rpn\_refund\_Obj  
cancelRqstModel  
cancel\_rqt\_txn\_Obj  
cancel\_rqt\_merchant\_Obj  
cancelRspModel  
cancel\_rpn\_sys\_Obj  
cancel\_rpn\_txn\_Obj  
callbackPaymentRqstModel  
notif\_rqt\_txn\_Obj  
notif\_rqt\_merchant\_Obj  
notif\_rqt\_order\_Obj  
notif\_rqt\_payment\_Obj  
notif\_rqt\_cc\_Obj  
notif\_rqt\_upi\_Obj  
notif\_rqt\_other\_Obj  
callbackPaymentRspModel  
callbackRefundRqstModel  
rfd\_notif\_rqt\_txn\_Obj  
rfd\_notif\_rqt\_merchant\_Obj  
rfd\_notif\_rqt\_refund\_Obj  
callbackRefundRspModel  
SubscriptionUpdate  
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upi\_rqt\_order\_Obj

upi\_rqt\_other\_Obj

upiRespModel

upi\_rpn\_sys\_Obj

upi\_rpn\_txn\_Obj

upi\_rpn\_payment\_Obj

upi\_rpn\_upi\_Obj

upi\_rpn\_other\_Obj

paymentReqModel

pay\_rqt\_txn\_Obj

pay\_rqt\_system\_Obj

pay\_rqt\_payment\_Obj

pay\_rqt\_merchant\_Obj

pay\_rqt\_customer\_Obj

pay\_rqt\_order\_Obj

descriptionsObj

pay\_rqt\_other\_Obj

udfObj

paymentRespModel

pay\_rpn\_txn\_Obj

pay\_rpn\_system\_Obj

enquiryReqModel

eng\_rqt\_txn\_Obj

eng\_rqt\_merchant\_Obj

enquiryRespModel

eng\_rpn\_sys\_Obj

eng\_rpn\_txn\_Obj

eng\_rpn\_payment\_Obj

eng\_rpn\_creditcard\_Obj

eng\_rpn\_upi\_Obj

eng\_rpn\_other\_Obj

eng\_rpn\_refund\_Obj

cancelReqModel

cancel\_rqt\_sys\_Obj

cancel\_rqt\_txn\_Obj

cancel\_rqt\_merchant\_Obj

cancelRespModel

cancel\_rpn\_sys\_Obj

cancel\_rpn\_txn\_Obj

callbackPaymentReqModel

notif\_rqt\_txn\_Obj

notif\_rqt\_merchant\_Obj

notif\_rqt\_order\_Obj

notif\_rqt\_payment\_Obj

notif\_rqt\_cc\_Obj

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