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1. Overview

This document describes the steps for Technical integration process between merchant website and TSP to generate UPI QR code that can be scanned by customers on merchant website to collect payments.

Please note that the merchants would also be required to provide IP addresses or set of IP addresses from where the requests will be sent and similarly also whitelist the IP address of TSP for incoming callback response.

2. Payments API

Payments API is used to make payments by merchant through UPI QR that can be scanned by any UPI application by customers. The prerequisite requirement to successfully make payment is that merchant should have integrated and implemented below 3 APIs / callback to generate and validate payments.

2.1. UPI QR generate request API

To generate UPI QR, use the below mentioned URL:

<https://pay.firstvenusqr.com/api/v2/payment>

Parameters to be posted

Parameter Name	Description	Data type	Optional / Mandatory
merchantId	Unique 16-digit merchant Id provided to you. This key is exclusive to your business/login. Pass this as header in request	Varchar (20)	Mandatory
apikey	Transaction key generated for each merchantId	Varchar (20)	Mandatory
amount	Transaction Amount in paise	Varchar (20)	Mandatory

password	Secret password shared with merchant to be shared in the QR generation request. Pass this as header in request.	Varchar (30)	Mandatory
client_txn_id	Unique Id to be provided for each new transaction request	Varchar (30)	Mandatory
currency	INR	Varchar (3)	Mandatory
emailId	Customer Email Id	Varchar (256)	Optional
mobile	Customer Mobile	Varchar (12)	Optional
name	Customer Name	Varchar (256)	Optional

The fund transfer request parameter will be in JSON POST format as shown below:

```
curl --location --request POST 'https://<DOMAIN>/api/v2/payment' \
--header 'merchantId: 9977354364754534' \
--header 'password: ddfb8454b656' \
--header 'Content-Type: application/json' \
--data-raw '{
  "apiKey":"b56456d23sk7f56sgt3475340Inj53==",
  "client_txn_id":"125435235",
  "currency":"INR",
  "emailId":"demo@upi.com",
  "mobile":"9910099100",
  "name":"John",
  "amount":"1000"
}'
```

On successful call to this API the response posted in JSON format will be as shown below:

```
{
```

```

"txn_id":"1426090515164549",
"client_txn_id":"125435235",
"currency":"INR",
"amount":"1000",
"status":"Pending",
"response_code":"1",
"upi_vpa":"a124@ybl",
"upi_qr":"iVBORw0KGgoAAAANSUUhEUgAA/
YAAAP2CAYAAABNGAZUAAAAAXNSR0IArs4c6
QAAIABJREFUeF7snMGOXEmOBFX//9FaqIG5b1gCBqaX7VmOIM2dfMmuxfz8/
fv375/+LwIRIEAEIhCBC
EQgAhGIQAQiEIGvJPDTYf+VvIV0BCIQgQhEIAIRiEAEIhCBCETgPwld9gUhAhGIQ
AQiEIEIRCACEYhAB
CLwxQQ67L/
YvEqPQAQiEIEIRCACEYhABCIQgQh02JeBCEQgAhGIQAQiEIEIRCACEYjAFxPos
P9i8yo9A
hGIQAQiEIEIRCACEYhABCLQYV8GIhCBCEQgAhGIQAQiEIEIRCACX0ygw/
6Lzav0CEQgAhGIQAQiEIEIR
CACEYhAh30ZiEAEIhCBCEQgAhGIQAQiEIEIfDGBDvsvNq/
+y82r9IjEIEIRCACEYhABCIQgQhEIALaYf/
z8xPtCMwR+Pv3r9KTNT9WPwq0P3/+WNysfix/LG5WP5Y/
vcMIIDfGzVJZ/
Ij9WO+03xjp8sa4pbpNwNoHHfa3c1B1xwlogyr9hzGrH8vWtR8Ij8WN6sfK2+9wwiU
N8bNUIn+WP1Y77TfGOnyxriluk3A2gcd9rdzUHXHCWiD2mGPkrD2A6G8oRgkOk7
AmlNrfo7jfi7P8ue5
sOOC8sYMKm+MW6rbBKx90GF/
OwdVd5yANqgd9igJaz8QyhuKQaLjBKw5tebnOO7n8ix/ngs7LihvzKDy
xriluk3A2gcd9rdzUHXHCWiD2mGPkrD2A6G8oRgkOk7AmlNrfo7jfi7P8ue5sOOC8s
YMKm+MW6rbBKx9
0GF/OwdVd5yANqgd9igJaz8QyhuKQaLjBKw5tebnOO7n8ix/
ngs7LihvzKDyxriluk3A2gcd9rdzUHXH
CWiD2mGPkrD2A6G8oRgkOk7ABJRU5ErkJggg==",
"merchantId":"9977354364754534"
}

```

Merchants can show UPI QR by converting provided base64 in a png image or they can also display upi_vpa to the customer to collect payment.

If the payment request is terminated from bank end because of network issue or server issue etc. then the response posted in JSON format will be as shown below with an response code of 0.

2.2. Payment Confirmation API

TSP provides an API which you can be used to confirm that the transaction has been done by customer and customer submitted the UTR number of transaction.

This API should be invoked with the UTR number of the transaction.

Using this UTR, PSP will check the status of transaction and confirm to the merchant using a callback.

URL: <https://pay.firstvenusqr.com/api/v2/submit>

Parameters to be Posted

Parameter Name	Description	Data Type	Optional / Mandatory
merchantId	Unique 16-digit merchant Id provided to you. This key is exclusive to your business/login. Pass this as header in request	Varchar (16)	Mandatory
apiKey	Transaction key generated for each merchantId	Varchar (30)	Mandatory
Password	Secret password shared with merchant to be shared in the QR generation request. Pass this as header in request.	Varchar (30)	Mandatory

amount	Transaction Amount in paise	Varchar (10)	Mandatory
currency	INR	Varchar (3)	Mandatory
upi_vpa	UPI VPA provided to merchant in the QR generation API call	Varchar (256)	Optional
client_txn_id	Unique Id to be provided for each new transaction request	Varchar (256)	Mandatory
utr	UPI Transaction UTR number entered by the customer	Varchar (12)	Mandatory
name	Customer Name	Varchar (256)	Optional
mobile	Customer Mobile Number	Varchar (256)	Optional

The transaction status confirmation API request will be in JSON format as shown below:

```
curl --location --request POST 'https://<DOMAIN>/api/v2/payment' \
--header 'merchantId: 9977354364754534' \
--header 'password: ddfb8454b656' \
--header 'Content-Type: application/json' \
--data-raw '{
  "apiKey":"b56456d23sk7f56sgt3475340Inj53==",
  "client_txn_id":"125435235",
  "currency":"INR",
  "name":"John",
  "mobile":"9910099100",
  "upi_vpa":"a123@ybl",
  "utr":"221235730067",
  "amount":"1000"
}'
```

On successful call to this API the response posted in JSON format will be as shown below:

```
{  
  "client_txn_id": "125435235",  
  "txn_id": "3356090686164543",  
  "response_code": "2",  
  "merchant_id": "9977354364754534",  
  "currency": "INR",  
  "amount": "1000",  
  "status": "Pending",  
  "txnDate": "2022-08-20 20:49:41",  
  "msg": "Transaction Pending"  
}
```

2.3. Merchant S2S Callback

Once the payment status of a transaction is verified, merchant will be sent a callback with transaction details.

Merchants will provide the callback URL that will accept JSON POST request.

Merchants must whitelist the TSP IP address from where the requests will originate to validate the source of the callback.

Also, callback request header will contain the merchantId and password field that must be validated by merchant before accepting request.

Sample Callback:

Headers:

```
--header 'merchantId: 9977354364754534' \  
--header 'password: ddfb8454b656' \  

```

Response Body

```
{  
  "client_txn_id": "125435235",  
  "txn_id": "3356090686164543",  
  "response_code": "1",  
  "merchant_id": "9977354364754534",  
  "currency": "INR",  
  "amount": "1000",  
  "status": "success",  
  "utr": "221235730067",  
  "txnDate": "2022-08-20 20:49:41",  
  "msg": "Transaction Success"  
}
```

3. List of error codes

response_code	status	Error Description
1	success	Transaction Success
0	failed	Transaction Failed
2	pending	Pending
9	error	Error in API Communication