

Checkout (URL) Process Overview

Description of bKash's checkout (URL) process and relevant APIs.

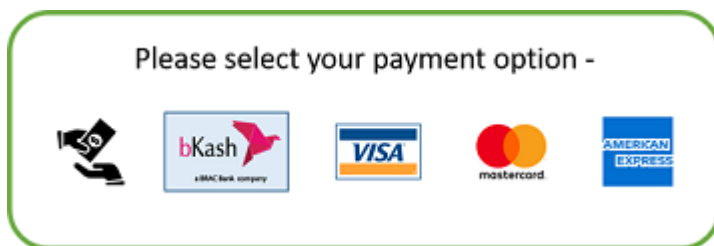
bKash checkout product provides a basic way to perform payment. Merchants can integrate this checkout feature in their website or mobile application and accept payment from their customers. In order to complete payment, a customer needs to provide his bKash wallet number, bKash wallet PIN and OTP (which is sent to his registered mobile number at bKash through SMS).

Steps to be Performed by the Customer

- Customer clicks on the "Pay with bKash" or similar button on the merchant website/mobile application and a secure bKash screen is loaded.
- In the bKash screen, customer needs to provide his bKash wallet number and also agree to the terms and condition. If the wallet number is valid, then the customer moves to the next page.
- A 6 digit OTP is sent to customer's registered mobile number at bKash account through SMS. Customer enters the OTP. If the OTP validation is successful, then the customer moves to the next page.
- Customer now needs to enter his bKash wallet PIN. If PIN verification is successful, then the payment is successfully completed.
- After payment completion, customer will be reverted back to the merchant website.

Customer Interaction Flow

Select bKash as payment method (at merchant website).



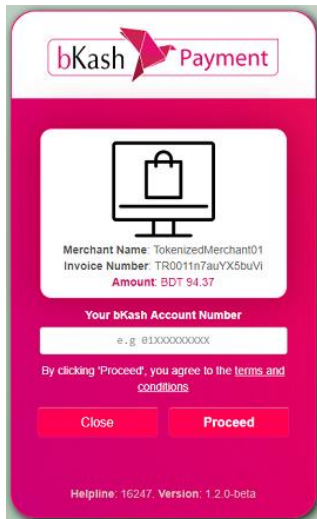


Figure 1: Enter wallet number (at bKash page).
page).

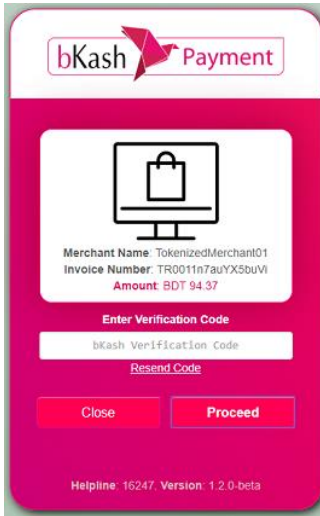


Figure 2: Enter OTP (at bKash page).

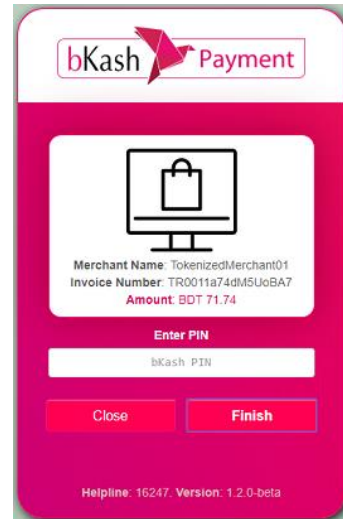


Figure 3: Enter wallet PIN (at bKash

After successful verification at bKash end, customer will see corresponding message at merchant website.

Your payment has been successful

System Interaction

Before calling any bKash API, please make sure you have valid authorization tokens. To know more about tokens, visit the [Token Management page](#).

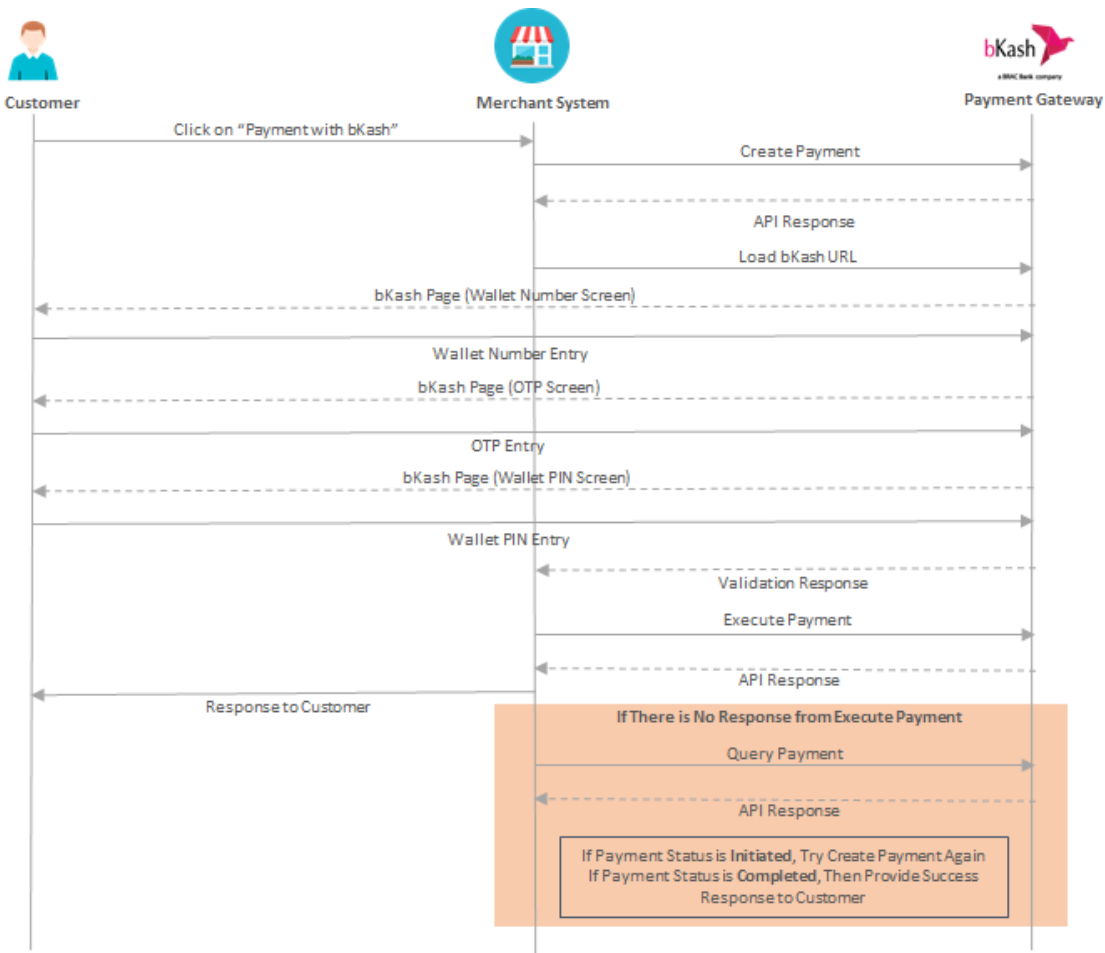
Following steps will take place at system level along with corresponding customer action -

- When customer clicks "Payment with bKash" or similar button, call the [Create Payment API](#) with the value "0011" for "mode" parameter.
- If success response comes, load the ""bKashURL" which was passed in the response of Create Payment API. Here the customer will enter his bKash wallet information for proceeding to payment.
- In the bKash page, customer will enter his wallet number, 6-digit OTP and PIN one by one.
- After succesful validation of all these customer information, bKash will respond to the "successCallbackURL" which was passed in the Create Payment API response. For failed and canceled transactions, bKash will respond to the "failureCallbackURL"

and "cancelledCallbackURL" respectively, which were also passed in the Create Payment API response.

- For successful response, [Execute Payment API](#) needs to be called.
- At successful response of the Execute Payment API, the payment will be completed.
- If there is no response from Execute Payment API, call [Query Payment API](#) to know the status of the pending payment. If the status is "Initiated", try from Create Payment again. If the status is "Completed", then provide success response to the customer.
- Implement default timeout value of bKash APIs as 30 seconds.

System Interaction Flow



API List:

Grant Token: Grant Token API provides an access token as a response. This token can be used to access other bKash APIs as authorization parameter. Once the token gets expired, new token can be generated through Refresh Token API.

Request URL: {base_URL}/checkout/token/grant

Request Header:

Header Name	Value
Content-Type	"application/json"
Accept	"application/json"
username	Username associated with the merchant account which was shared by bKash during on-boarding.
password	Password associated with the merchant account.

Request Parameters

Property	Presence	Type	Description
app_key	Mandatory	String	Application Key value shared by bKash during on-boarding.
app_secret	Mandatory	String	Application Secret value shared by bKash during on-boarding.

Response Parameters

Property	Type	Description
expires_in	String	The expiry time of the token. By default the lifetime is 3600 seconds.
id_token	String	Corresponding token value to be used for future authorization.
refresh_token	Numeric	This value should be used in Refresh Token API for getting a new token against the current token value. New tokens using this refresh_token can be found for at most 28 days. After that new token has to be created using Grant Token.
token_type	String	Token type for whom the token is being granted. Default value is "Bearer".
statusCode	String	The response code indicating response status.
statusMessage	String	Response message corresponding to the statusCode.

Refresh Token

Refresh existing token and get a new access token.

This API provides a new access token against the existing token. This new token can be used in subsequent bKash API calls.

Request URL: {base_URL}/tokenized/checkout/token/refresh

Request Headers

Header Name	Value
Content-Type	"application/json"
Accept	"application/json"
username	Username associated with the merchant account which was shared by bKash during on-boarding.

Header Name	Value
password	Password associated with the merchant account.

Request Parameters

Property	Presence	Type	Description
app_key	Mandatory	String	Application Key value shared by bKash during on-boarding.
app_secret	Mandatory	String	Application Secret value shared by bKash during on-boarding.
refresh_token	Mandatory	String	Refresh token value found in the Grant Token API against the original id_token.

Success Response Parameters

Property	Type	Description
expires_in	Numeric	The expiry time of the token. By default the lifetime is 3600 seconds.
id_token	String	Corresponding new token value to be used for future authorization.
refresh_token	String	This value should be used in Refresh Token API for getting a new token against the current token value.
token_type	String	Token type for whom the token is being granted. Default value is "Bearer".
statusCode	String	The response code indicating response status.
statusMessage	String	Response message corresponding to the statusCode.

Error Response Parameters

Property	Type	Description
errorCode	String	Unique code assigned to the occurred error.

Property	Type	Description
errorMessage	String	Message associated with the error, explaining the error reason.

Create Payment

This API will receive a payment creation request with necessary information.

Through this API, a payment creation request is received by bKash. Upon validation of customer's wallet information, the create payment request will be confirmed by the [Execute Payment](#) request.

Request URL: {base_URL}/tokenized/checkout/create

Request Headers

Header Name	Value
Content-Type	"application/json"
Accept	"application/json"
Authorization	id_token value found from the Grant Token and Refresh Token API.
X-App-Key	Application Key value shared by bKash during on-boarding.

Request Parameters

Property	Presence	Type	Description
mode	Mandatory	String	This parameter indicates the mode of payment. For Checkout (URL based), the value of this parameter should be "0011".
payerReference	Mandatory	String	Any related reference value which can be passed along with the payment request. If the wallet number is passed here, then it will be pre-populated in bKash's wallet number entry page.
callbackURL	Mandatory	String	The base URL of merchant's platform based on which bKash will generate separate callback URLs for success,

Property	Presence	Type	Description
			failure and cancelled transactions. bKash will send transaction verification result in these URLs based on the the result.
amount	Mandatory	String	Amount of the payment to be made.
currency	Mandatory	String	Currency of the mentioned amount. Currently, only "BDT" value is acceptable.
intent	Mandatory	String	Intent of the payment. For checkout the value should be "sale".
merchantInvoiceNumber	Mandatory	String	Unique invoice number used at merchant side for this specific payment.
merchantAssociationInfo	Optional	String	<p>This parameter is needed for aggregators and system integrators only. The data to be used here should be in TLV format and the format is as follows -</p> <p>Tag - 2 digits from the beginning. Supported tags are MI (Merchant Identifier), MW (Merchant Wallet Number) and RF (Payment Reference). Length - 2 digits after tag. Value - Remaining number of digits equal to length after length value. Example of such TLV data is - MI05MID54RF09123456789.</p>

Success Response Parameters

Property	Type	Description
paymentID	String	bKash generated payment ID for this payment creation request. This payment ID can be used later to track down the payment and in other payment related APIs.
paymentCreateTime	String	The payment creation time. Format is** *- "yyyy-MM-dd'T'HH:mm:ss 'GMT'Z".
transactionStatus	String	Status of the initiated transaction. After Create Payment request, the value will be "Initiated".

Property	Type	Description
amount	String	Amount of the payment transaction.
currency	String	Currency of the mentioned amount. Currently only "BDT" value is supported.
intent	String	Intent for the payment transaction. For checkout, the value will be "sale".
merchantInvoiceNumber	String	Unique invoice number used at merchant side for this specific payment.
bkashURL	String	The URL of bKash where the customer should be forwarded to enter his wallet number, OTP and wallet PIN.
callbackURL	String	The base URL of merchant's platform based on which bKash will generate separate callback URLs for success, failure and cancelled transactions. bKash will send transaction verification result in these URLs based on the the result.
successCallbackURL	String	The success callback URL where bkash will inform merchant about the transaction result in case of a successful transaction.
failureCallbackURL	String	The failure callback URL where bkash will inform merchant about the transaction result in case of a failed transaction.
cancelledCallbackURL	String	The cancelled callback URL where bkash will inform merchant about the transaction result in case of a cancelled transaction.
statusCode	String	Unique code assigned to the API call status.
statusMessage	String	Message associated with the status, explaining the status.

Error Response Parameters

Property	Type	Description
errorCode	String	Unique code assigned to the occurred error.
errorMessage	String	Message associated with the error, explaining the error reason.

Execute Payment

This API will finalize a payment request.

Using this API, a payment request created using the [Create Payment API](#) can be finalized. Thus, a payment can be successful or can be failure. The final result of the payment request can be found through this API.

Request URL : {base_URL}/tokenized/checkout/execute

Request Headers

Header Name	Value
Accept	"application/json"
Authorization	id_token value found from the Grant Token and Refresh Token API.
X-App-Key	Application Key value shared by bKash during on-boarding.

Request Parameters

Property	Presence	Type	Description
paymentID	Mandatory	String	PaymentID returned in the response of Create Payment API.

Success Response Parameters

Property	Type	Description
paymentID	String	bKash generated payment ID for this payment creation request. This payment ID can be used later to track down the payment and in other payment related APIs.
customerMsisdn	String	MSISDN of the customer who performed the payment.
payerReference	String	The payer reference value that was provided during the create payment API call.
paymentExecuteTime	String	The time when the payment was executed. Format is** *- "yyyy-MM-dd'T'HH:mm:ss 'GMT'Z".

Property	Type	Description
trxID	String	A transaction ID created after the successful completion of this payment request. This ID can be used later to get the details of this transaction.
transactionStatus	String	Final status of the transaction. For a successful payment, this status should be "Completed".
amount	String	Amount of the payment transaction.
currency	String	Currency of the mentioned amount. Currently only "BDT" value is supported.
intent	String	Intent for the payment transaction. For checkout, the value will be "sale".
merchantInvoiceNumber	String	Unique invoice number used at merchant side for this specific payment.
statusCode	String	Unique code assigned to the API call status.
statusMessage	String	Message associated with the status, explaining the status.

Error Response Parameters

Property	Type	Description
errorCode	String	Unique code assigned to the occurred error.
errorMessage	String	Message associated with the error, explaining the error reason.

Query Payment

This API will provide the current status of a specific payment.

Through this API, a payment's status can be identified. After calling the [Create Payment API](#), a paymentID is returned. Using this paymentID, the Query Payment API can be called at anytime.

In response of Query Payment, the possible statuses can be either "Initiated" or "Completed". If the status is "Initiated", then the payment is not processed yet. If the status is "Completed", then the payment validation and execution has been performed successfully.

Request URL: {base_URL}/tokenized/checkout/payment/status

Request Headers

Header Name	Value
Content-Type	"application/json"
Accept	"application/json"
Authorization	id_token value found from the Grant Token and Refresh Token API.
X-App-Key	Application Key value shared by bKash during on-boarding.

Request Parameters

Property	Presence	Type	Description
paymentID	Mandatory	String	bKash generated paymentID provided in the response of Create Payment API.

Success Response Parameters

Property	Type	Description
paymentID	String	bKash generated payment ID for this payment creation request.
mode	String	This parameter indicates the mode of payment. For Checkout (URL based), the value of this parameter will be "0011".
payerReference	String	Any related reference value which was passed along with the payment request. If the wallet number is passed , then it will be pre-populated in bKash's wallet number entry page.
paymentCreateTime	String	The payment creation time. Format is** *- "yyyy-MM-dd'T'HH:mm:ss 'GMT'Z".
paymentExecuteTime	String	The time when the payment was executed. Format is** *- "yyyy-MM-dd'T'HH:mm:ss 'GMT'Z".
trxID	String	A transaction ID created after the successful completion of this payment request. This ID can be used later to get the details of this transaction.

Property	Type	Description
transactionStatus	String	Final status of the transaction. For a successful payment, this status should be "Completed". Otherwise, the status will be "Initiated".
amount	String	Amount of the payment transaction.
currency	String	Currency of the mentioned amount. Currently only "BDT" value is supported.
intent	String	Intent for the payment transaction. For checkout, the value will be "sale".
merchantInvoice	String	Unique invoice number used at merchant side for this specific payment.
userVerificationStatus	String	Current status of wallet user verification. If user's verification is not performed or in progress, then the value will be "Incomplete". If user has entered wallet number, OTP, PIN and finished verification, then the value will be "Complete".
statusCode	String	Unique code assigned to the API call status.
statusMessage	String	Message associated with the status, explaining the status.

Error Response Parameters

Property	Type	Description
errorCode	String	Unique code assigned to the occurred error.
errorMessage	String	Message associated with the error, explaining the error reason.

Search Transaction

This API will provide details information of a specific transaction.

Through this API, all the relevant information of a transaction can be found. In the response of a successful [Execute Payment API](#), a trxID is returned. This ID can be used to search details of a specific transaction.

Request URL: {base_URL}/tokenized/checkout/general/searchTran

Request Headers

Header Name	Value
Accept	"application/json"
Authorization	id_token value found from the Grant Token and Refresh Token API.
X-App-Key	Application Key value shared by bKash during on-boarding.

Request Parameters

Property	Presence	Type	Description
trxID	Mandatory	String	Transaction ID returned in the response of Execute Payment API. It is used to uniquely identify a transaction.

Success Response Parameters

Property	Type	Description
amount	String	Amount of the payment transaction.
completedTime	String	The transaction completion time. Format is** *- "yyyy-MM-dd'T'HH:mm:ss 'GMT'Z".
currency	String	Currency of the mentioned amount. Currently only "BDT" value is supported.
customerMsisdn	String	MSISDN i.e. mobile number of the customer.
initiationTime	String	The transaction request initiation time. Format is** *- "yyyy-MM-dd'T'HH:mm:ss 'GMT'Z".
organizationShortCode	String	Short code assigned in bKash system for the merchant.

Property	Type	Description
transactionReference	String	Reference value sent by the customer during transaction from bKash App or USSD.
transactionStatus	String	Final status of the transaction. For a successful payment, this status should be "Completed".
transactionType	String	Type of the channel using which the transaction was initiated.
statusCode	String	Unique code assigned to the API call status.
statusMessage	String	Message associated with the status, explaining the status.
trxID	String	The transaction ID created after the successful completion of this payment request.

Error Response Parameters

Property	Type	Description
errorCode	String	Unique code assigned to the occurred error.
errorMessage	String	Message associated with the error, explaining the error reason.

Refund Transaction

Do a reversal of payment against a transaction

Using this API a merchant can refund or do reversal of it payment to bKash customer account. A merchant can do refund **only once** for a transaction, it can be a **full refund or partial amount refund**.

Request URL:

{{tokenized_url}}/{{api_version}}/tokenized/checkout/payment/refund

Method: POST

Request Header

Header	Value
Accept	"application/json"
Authorization	id_token value found from the Grant Token and Refresh Token API.
X-App-Key	Application Key value shared by bKash during on-boarding.

Request Parameters

Parameter	Value Type	Comment
paymentID	String	Payment ID received during create call
amount	String	Amount to refund, Maximum two decimals after amount. Ex. 25.20
trxID	String	trxID received during execute call
sku	String (Max Length - 255)	To have a tagging of product information from merchant website.
reason	String (Max Length - 255)	The reason to refund the payment. Ex. faulty product, product not received, etc.

Success Response

Response Property	Type	Comment
completedTime	String	When the action of refund is done
transactionStatus	String	Last status of the transaction
originalTrxID	String	The main or originator transaction ID of that payment
refundTrxID	String	The transaction ID of that refund action itself
amount	String	How much money refunded
currency	String	The refund amount currency
charge	String	If there are any charge to refund that amount, it will reflect here.

Error Response

Property	Type	Comment
errorCode	String	Unique code assigned to the occurred error.
errorMessage	String	Message associated with the error, explaining the error reason.

Refund Status

Check status of a refunded transaction

Using this API a merchant can check the status of a refund transaction.

Request URL: {{tokenized_url}}/{{api_version}}/tokenized/checkout/payment/refund

Method : POST

Request Header

Header	Value
Accept	"application/json"
Authorization	id_token value found from the Grant Token and Refresh Token API.
X-App-Key	Application Key value shared by bKash during on-boarding.

Request Parameters

Parameter	Value Type	Comment
paymentID	String	Payment ID received during create call
trxID	String	trxID received during execute call

Success Response

Response Property	Type	Comment
completedTime	String	When the action of refund is done
transactionStatus	String	Last status of the transaction
originalTrxID	String	The main or originator transaction ID of that payment
refundTrxID	String	The transaction ID of that refund action itself
amount	String	How much money refunded
currency	String	The refund amount currency

Response Property	Type	Comment
charge	String	If there are any charge to refund that amount, it will reflect here.

Error Response

Property	Type	Comment
errorCode	String	Unique code assigned to the occurred error.
errorMessage	String	Message associated with the error, explaining the error reason.

Error codes specific to Refund

errorMessage	errorCode
The merchant is not permitted to initiate this transaction	2082
The identity of the debit or credit party is in a state which prohibits the execution of this transaction	2081
The identity is not permitted to initiate this transaction	2080
Invalid app Token	2079
Invalid Reason	2078
Invalid TrxID	2077
Reason Character Limit Exceeded	2076

errorMessage	errorCode
SKU Character Limit Exceeded	2075
The transaction cannot be reversed	2074
Invalid SKU	2073
Refund amount not valid	2072
Refund after %s days not allowed	2071