

NCBA TILL STK PUSH & DYNAMIC QR CODE API

API Specification Document

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BACKGROUND

The STK Push API on NCBA Till is responsible for receiving mobile payment (C2B) requests to be processed by pushing a prompt to the payers phone for authorization.

This simplifies the process of payments since the business can specify all the necessary parameters for the payment (e.g. amount, short code etc.) so that the payer just enter their mobile money secret PIN to authorize the payment.

QR code API allows a business to avail dynamic QR codes to payers for scanning to pay. This also simplifies the process of payments by ensuring accurate details are captured while making a payment to a business merchant.

To enjoy these services, the business merchants (customers) are required to;

- a) Hold an Account at NCBA where mobile funds shall be credited
- b) Has an active NCBA Till short code via Paybill 880100
- c) Develop and integrate to the STK Push API or the QR Code API as per below specifications
- d) Submit a signed instruction/letter to the bank for completion of the integration;
Share a user name and a secret key on the letter.

1 STK PUSH

BASE_URL = <https://c2bapis.ncbagroup.com>

i. Token Generation

This endpoint is used to retrieve an authorization token

Request

Method	URL
GET	BASE_URL/payments/api/v1/auth/token

Type	Params	Values
HEAD	Authorization (Basic)	string

Authorization

Method	Basic Auth
Username	<username>
Password	<password>

Response

Status	Response
200	{ "access_token": "JWT ACCESS TOKEN", "token_type": "Bearer", "expires_in": 18000, "status": 200 }

	access_token (string) - all subsequent API calls must have this in the Authorization bearer header
401	{ "message": "Invalid API credentials", "status": "401" }
500	{ "message": "Error", "status": "500" }

ii. Initiate STK Push

This endpoint is used to initiate a SIM Toolkit (STK) push transaction.

Request

Method	URL
POST	BASE_URL/payments/api/v1/stk-push/initiate

Type	Params	Values
HEAD	Authorization (Bearer access_token)	String
POST	TelephoneNo	string
POST	Amount	string
POST	PayBillNo	string
POST	AccountNo	string
POST	Network	string
POST	TransactionType	string

access_token

The access_token that was given in response to /payments/api/v1/auth/token

Sample Payload

Method	URL
RAW JSON	{ "TelephoneNo": "254XXXXXXXX", "Amount": "AMOUNT", "PayBillNo": "PAYBILL NUMBER", "AccountNo": "ACCOUN NUMBER", "Network": "Safaricom", "TransactionType": "CustomerPayBillOnline" }

Response

Status	Response
200	{ "TransactionID": "TRANSACTION ID", "StatusCode": "STATUS CODE", "StatusDescription": "DESCRIPTION", "ReferenceID": "REFERENCE ID" }
200	{ "TransactionID": null, "StatusCode": "1", "StatusDescription": "Failure reason", "ReferenceID": null }

iii. STK Push Query

This endpoint is used to query the status of a previous STK push transaction.

Request

Method	URL
POST	BASE_URL/payments/api/v1/stk-push/query

Type	Params	Values
HEAD	Authorization (Bearer access_token)	string
POST	TransactionID	string

access_token

The access_token that was given in response to /payments/api/v1/auth/token

Sample Payload

Method	URL
RAW JSON	{ "TransactionID": "TRANSACTION ID" // transaction id from stk push initiate response }

Response

Status	Response
200	{ "status": "SUCCESS", "description": "Success" }
200	{ "status": "FAILED", "description": "System internal error." }

2 QR CODE

This endpoint is used to generate a payment base 64 QR code image

BASE_URL = <https://c2bapis.ncbagroup.com>

i. Token Generation

This endpoint is used to retrieve an authorization token

Request

Method	URL
POST	BASE_URL/payments/api/v1/auth/token

Type	Params	Values
HEAD	Authorization (Basic)	string

Authorization

Method	Basic Auth
Username	<username>
Password	<password>

Response

Status	Response
200	<pre>{ "access_token": "JWT ACCESS TOKEN", "token_type": "Bearer", "expires_in": 18000, "status": 200 }</pre> <p>access_token (string) - all subsequent API calls must have this in the Authorization bearer header</p>
401	<pre>{ "message": "Invalid API credentials", "status": "401" }</pre>
500	<pre>{ "message": "Error", "status": "500" }</pre>

ii. Generate QR

This endpoint is used to generate 64 base QR code for each payment request.

Request

Method	URL
POST	BASE_URL/payments/api/v1/qr/generate

Type	Params	Values
HEAD POST POST	Authorization (Bearer access_token) till amount (optional field)	string string number

access_token

The access_token that was given in response to /payments/api/v1/auth/token

Sample Payload (without narration)

Method	URL
RAW JSON	{ "till": "PAY100D", "amount": 1 // optional }

Sample Payload (with narration)

Method	URL
RAW JSON	{ "till": "PAY100D#narration", "amount": 1 // optional }

Response

Status	Response
200	{ "StatusDescription": "Success", "Base64QRCode": " AACJUIEQVR4Xu2Vy3EkMQxDO4POP0tIMB48UNKUfXDpYLYPQM/qQ+LxgpL3eh3r+I74XUFOF eRUQU4V5FRBThXkVEFOFeRUrci40K1dyz3e37t867e6QdoRqz07SsAenqC9CJyDHI0dHPsVKsb 5CIEPrw6UqwpQZ5GOBhhQpAnkVrd177GmJ+eIK2l/h9ahh9fdYN0l1NOUaFxYsq0TgX51N8igx bvCqOjG8TnEdqDtCPv8qBvk6sqC6W6ikH6EJRc6qPkLlfcxFTmKE6EmtZ7mTVIdk3TsRSkD7EJGx ec80QXLkg3opr93l3g06DKOEgzlsuuOtg1wefvUQbpQNNQ0iAOnn5eM7l46SCeinMjSga6+J8x mkHbkFkRk1fFeGe4cg/QilWKl5vzqUCj/gvQir5mgOuSqwj4wKkg7sgw6OTeXOBDxGhqkD4HR Wj2yM86ADyJK3Jjx+sYneOcVWyQXsTtI4giVYAnXc8K0o64uX1FufG0WoO0lr4KwKifXxWDNhe kF+FpyWeP7rJ4Z9WwIN3ITVSys9eVEXPOzDJlJ0LdziJGPTSnfM0kgzQiUzKpO3dqNyODWK2l+ljll NXZOIIAUg7Si3Cdrtn05dIM4CD9yNDDcmR+WvCX6jPkIM8h1AvislnJBOlHXvz8oOxnDjOCPIEU KK8HbJdZ3YN0l1XUnz5ddqC6MqX4lJ3liYKcKsipgpwqyKmCnCrlqYKcKsip/i3yBXyWCwllxS3zA AAAAEIFtkSuQmCC", "StatusCode": "0" }

200	{ "StatusCode": "2", "StatusDescription": "Failure reason", "Base64QrCode": ""}
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