CORALPAY GATEWAY

C'Gate USSD for Web & POS Payment

This is a technical API specification document.

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Introduction

This document is a technical and integration document for C'Gate Ussd payment for web and POS transactions. It provides guidance and template material which is intended to assist the relevant stakeholders to easily integrate to the payment interface for collection and processing of transactions using the Banks' USSD channel.
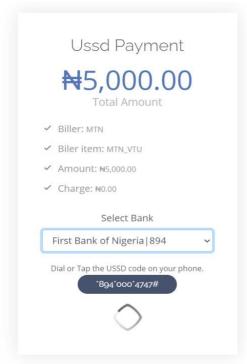
Assumptions

1. Aggregator/Merchant integrating the gateways has a platform such as a web interface or POS channel to integrate the payment gateways.
2. Customers using the USSD as preferred option of payment already has a bank account with USSD enabled.

Payment Scenario

1. Aggregator /Merchant computes the total amount to be paid on the website or POS
2. Customer selects the bank he wishes to use to complete/authorize the payment
3. Merchant makes an API call to C'Gate to generate reference code/USSD string to make payment
4. Merchant get's the Ussd string from C'Gate and displays to the customer to dial
5. The customer dials the Ussd string and put pin to authorize the payment
6. C'Gate then notifies the Merchant via a call-back endpoint on the status of the transaction in real time. (Note, if C'Gate does not get Http 200 on the call-back, C'Gate retries 10 times in 1hour. Merchant can also call the Status Query endpoint for transaction status.)

A Sample USSD Payment Web Interface

API Specification

Merchants are required to be registered on CoralPay C'Gate platform and the credentials to call the API operations will be shared.

C'Gate USSD uses the uses the JWT authentication method to authenticate users calling the API, and a Key to generate the Signature value for every call.

Authentication

Merchant is required to call the Authentication operation using the credentials provided by CoralPay during registration. The Response from this operation is to be used for authentication for other operations using bearer token authentication type.

This operation is not to be called for all transactions, as the key generated in the response changes for all calls, while the token generated lasts for 365 days.

URL	https://testdev.coralpay.com/cgateproxy/api/v2/authentication
VERB	Post
CONTENT-TYPE	application/json

REQUEST-PAYLOAD	{
	  "Username": "SkyKru",
	  "Password": "#1ooGr@0ndar$"
	}

RESPONSE-PAYLOAD	{
	  "Token": "eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJqdG",
	  "Key": "2092ba6b-742b-4df1-af34-7def3bc004c1",
	  "Status": "Success"
	}

Properties Description

Properties	Description	Mandatory
Username	This is a unique username assigned to the merchant. *Datatype: String*	YES
Password	The is the Corresponding password to the Username. *Datatype: String*	YES
Token	The is the generated token used for the bearer token authentication type. *Datatype: String*	YES
Key	This is used to generate the signature value on operation call. *Datatype: String* Sha256(MerchantId+TerminalId+TimeStamp+Key). Timestamp: UnixTimeSeconds (int)	YES
Status	This is the status of the call which is either Success or Failed. *Datatype: String*	YES

Invoke-Reference

This operation generates the payment reference code to be used to complete or authorize the payment. Every reference generated has a validity period of 5min before it expires.

URL	https://testdev.coralpay.com/cgateproxy/api/v2/invokereference
VERB	Post
CONTENT-TYPE	application/json
AUTHENTICATION	Bearer Token Authentication type. See here

REQUEST-PAYLOAD	{
	  "MerchantId": "23457M6620011300",
	  "TerminalId": "17019513",
	  "SubMerchantName": "Mount Weather",
	  "Amount": 100.00,
	  "TraceId": "100023023023",
	  "BankCode": "737",
	  "TimeStamp": 2021230123,
	  "Signature":"dfb94dd 459061b2e331c37ed17fe75bc0770607a2"
	}

RESPONSE-PAYLOAD	{
	  "ResponseHeader": {
	    "ResponseCode": "00",
	    "ResponseMessage": "Success"
	  },
	  "ResponseDetails": {
	    "Reference": "1234",
	    "Amount": "100.0",
	    "TransactionId": "21090799711470344266",
	    "TraceId": "100023023023",
	    "UssdString": "*737*000*1234#",
	    "TimeStamp": 1621230125,
	    "Signature":"yhk94dd 4590612e331c37ed17fe75bc077060tf0"
	  }
	}

Properties Description

Properties	Description	Mandatory
MerchantId	This is a unique id assigned to the merchant which is provided by CoralPay. *Datatype: String*	YES
TerminalId	The is the Id for the Terminal/Channel making the call to C'Gate. *Datatype: String*	YES
SubMerchantName	This is the Name to be displayed on the customers' mobile while authorizing the payment via the banks USSD.	NO
Amount	This is transaction amount. *Datatype: decimal*	YES
TraceId	This is the Id attached to the transaction by the Merchant. If this is not supplied, C'Gate generates it	NO

BankCode	This is the bank USSD code the user intends to use.	NO
TimeStamp	Timestamp: UnixTimeSeconds *Datatype: long*	YES
Signature	This value is generated to maintain the integrity of the payload. Note that a new Timestamp must be generated for signature calculation in every API call. Sha256(MerchantId+TerminalId+TimeStamp+Key). *Datatype: String*	YES
ResponseCode	This is the ResponseCode for the call to generate the payment Reference code. See here	YES
ResposneMessage	This is the translation of the response code	YES
Reference	This is the Reference code combined with the bank USSD to complete the USSD string for the customers. Usually valid for 5 minutes. E.g. *737*000***1234**#	YES
UssdString	This will the populated with the string to be dialled if the BankCode is supplied. *Datatype: String*	NO
TransactionId	This the TransactionId attached to the transaction by CoralPay, and this is unique across board.	YES

Call-Back Operation

C'Gate always send payment status notification in real time as soon as the payment is authorized, C'Gate will retry to push the notification 10 times within an hour until we get Http response 200.

Note: There is a Transaction query to get status if you eventually didn't get the real-time notification

URL	To be provided by the merchant.
VERB	Post
CONTENT-TYPE	application/json
AUTHENTICATION	Basic Auth: *using username and password provided by CoralPay*

REQUEST-PAYLOAD	{
	  "MerchantId": "2057M6620011300",
	  "TerminalId": "17019513",
	  "SubMerchantName": "Mount Weather",
	  "TransactionId": "20102020029299002999",
	  "TraceId": "100023023023",
	  "CustomerId": "29039290",
	  "Reference": "1234",
	  "Amount": 100.00,
	  "BankCode": "000966",
	  "BankName": "Arkadia Bank",
	  "CustomerMobile": "0703****684",
	  "ResponseCode": "00",
	  "ResponseMessage": "Success",
	  "TimeStamp": 20000393884,
	  "Signature": "9993kwdkklrj5n2neek5k6nnb53mnbhn"
	}

Properties Description

Properties	Description	Mandatory
MerchantId	This is a unique id assigned to the merchant which is provided by CoralPay. *Datatype: String*	YES
TerminalId	The is the Id for the Terminal/Channel making the call to C'Gate. *Datatype: String*	YES
SubMerchantName	This is the Name to be displayed on the customers' mobile while authorizing the payment via the banks USSD.	NO
Amount	This is transaction amount. *Datatype: decimal*	YES
TraceId	This is the Id attached to the transaction by the Merchant. If this is not supplied, C'Gate generates it	NO
BankCode	This is the bank USSD code the user intends to use. See below for list of banks' Codes	NO
TimeStamp	Timestamp: UnixTimeSeconds *Datatype: long*	YES
Signature	This value is generated to maintain the integrity of the payload. Note that a new Timestamp must be generated for signature calculation in every API call. Sha256(MerchantId+TerminalId+TimeStamp+Key). *Datatype: String*	YES
ResponseCode	This is the ResponseCode for the call to generate the payment Reference code, See here	YES
ResposneMessage	This is the translation of the response code	YES
Reference	This is the Reference code combined with the bank USSD to complete the USSD string for the customers. Usually valid for 5 minutes. E.g. *737*000***1234**#	YES
TransactionId	This the TransactionId attached to the transaction by CoralPay, and this is unique across board.	YES
BankName	The bank used by the customer	
CustomerMobile	This is the customer phone number	
CustomerId	This is the unique Id for the customer dialling.	

Transaction Status Query

This is the operation to get details of a particular transaction.

URL	https://testdev.coralpay.com/cgateproxy/api/v2/statusquery
VERB	Post
CONTENT-TYPE	application/json
AUTHENTICATION	Bearer Token Authentication type. See here

REQUEST-PAYLOAD	{
	  "MerchantId": "2057M6620011300",
	  "TerminalId": "17019513",
	  "Amount": 100.00,
	  "TransactionId": "20102020029299002999",
	  "TimeStamp": "1631102819",
	  "Signature":"dfb94dd8f4070aff459061b2e32951c370607a2"
	}

RESPONSE-PAYLOAD	{
	  "MerchantId": "2057M6620011300",
	  "TerminalId": "17019513",
	  "SubMerchantName": "Mount Weather",
	  "TransactionId": "20102020029299002999",
	  "TraceId": "100023023023",
	  "CustomerId": "29039290",
	  "Reference": "1234",
	  "Amount": 100.00,
	  "BankCode": "000966",
	  "BankName": "Arkadia Bank",
	  "CustomerMobile": "0703****684",
	  "ResponseCode": "00",
	  "ResponseMessage": "Success",
	  "TimeStamp": 40439939933,
	  "Signature": "9993kwdkklrj5n2neek5k6nnb53mnbhn"
	}

Properties Description

Properties	Description	Mandatory
MerchantId	This is a unique id assigned to the merchant which is provided by CoralPay. *Datatype: String*	YES
TerminalId	The is the Id for the Terminal/Channel making the call to C'Gate. *Datatype: String*	YES
SubMerchantName	This is the Name to be displayed on the customers' mobile while authorizing the payment via the banks USSD.	NO
Amount	This is transaction amount. *Datatype: decimal*	YES

TraceId	This is the Id attached to the transaction by the Merchant. If this is not supplied, C'Gate generates it	NO
BankCode	This is the bank USSD code the user intends to use. See below for list of banks' Codes	NO
TimeStamp	Timestamp: UnixTimeSeconds *Datatype: long*	YES
Signature	This value is generated to maintain the integrity of the payload. Note that a new Timestamp must be generated for signature calculation in every API call. Sha256(MerchantId+TerminalId+TimeStamp+Key). *Datatype: String*	YES
ResponseCode	This is the ResponseCode for the call to generate the payment Reference code. See here	YES
ResposneMessage	This is the translation of the response code	YES
Reference	This is the Reference code combined with the bank USSD to complete the USSD string for the customers. Usually valid for 5 minutes. E.g. *737*000***1234**#	YES
TransactionId	This the TransactionId attached to the transaction by CoralPay, and this is unique across board.	YES
BankName	The bank used by the customer	
CustomerMobile	This is the customer phone number	
CustomerId	This is the unique Id for the customer dialling.	

Refund

This is the operation to be called by merchants to carry out a refund. Only successful transactions can be refunded within 180 days.

URL	https://testdev.coralpay.com:5000/cgateproxy/api/v2/refund
VERB	POST
CONTENT-TYPE	application/json
AUTHENTICATION	Bearer Token Authentication type.

REQUEST-PAYLOAD	{
	  "MerchantId": "2057M6620011300",
	  "TerminalId": "17019513",
	  "Amount": 100.00,
	  "Reference": "1234",
	  "TransactionId": "20102020029299002999",
	  "TimeStamp": "1631102819",
	  "Signature":"dfb94dd8f4070aff459061b2e32951c370607a2"
	}

RESPONSE-PAYLOAD	{
	  "ResponseHeader": {
	  "ResponseCode": "00",
	  "ResponseMessage": "Success"
	},
	  "RefundDetails": {
	  "MerchantId": "2057M6620011300",
	  "TerminalId": "17019513",

	"Amount": 100.00, "TransactionId": "20102020029299002999", "TimeStamp": "1631102819", "Signature":"dfb94dd8f4070aff459061b2e32951c370607a2" } }

Properties Description

Properties	Description	Type	Mandatory
RequestHeader			
MerchantId	This is the Merchant unique identifier	String	Yes
TimeStamp	Timestamp: `UnixTimeSeconds` *Datatype: long*	Long	Yes
Signature	This value is generated to maintain the integrity of the payload. Note that a new Timestamp must be generated to calculate the signature every API call. Sha256(MerchantId +TraceId+ TimeStamp + Key).	String	Yes
TraceId	This is the unique identifier from the merchant	String	Yes
TransactionId	This is the unique identifier for the transaction	String	Yes
ResponseCode	This is the status code for the refund operation	String	Yes
ResponseMessage	This is the status code message for the refund operation	String	Yes

Get Bank List

This is to get the list of banks

URL	https://testdev.coralpay.com/cgateproxy/api/v2/getbanks
VERB	Get
CONTENT-TYPE	application/json
AUTHENTICATION	Bearer Token Authentication type. See here

RESPONSE-PAYLOAD	[
	  {
	    "BankName": "First Bank of Nigeria",
	    "BankCode": "894",
	    "UssdString": "*894*000*RefCode#"
	  },
	  {
	    "BankName": "Guaranty Trust Bank",
	    "BankCode": "737",
	    "UssdString": "*737*000*RefCode#"
	  },
	  {
	    "BankName": "Access Bank",
	    "BankCode": "901",
	    "UssdString": "*901*000*RefCode#"
	  }
	]

Bank USSD Codes

Banks	USSD Codes
GTB	737
First Bank	894
Zenith Bank	966
UBA	919
Stanbic Bank	909
VFD	5037
Rubies (Highstreet)	7797
Access Bank	901
Sterling Bank	822
Unity Bank	7799
KeyStone Bank	7111
EcoBank	326
Wema Bank	945
Fidelity Bank	770
FCMB	329
Heritage Bank	745
Union Bank	826

Response Codes

Response Codes	Description
00	Successful approval/completion
03	Invalid service provider or Institution not properly setup
05	Do not honour
06	General Error
12	Invalid transaction
13	Invalid Amount
14	Credit account number is invalid
15	Forwarding Institution has not been setup
16	Insufficient Fund
25	Unable to locate the account or transaction
30	Format Error. System cannot decrypt message
51	Insufficient funds
52	Account does not exist
53	Account number does not exist
55	Incorrect PIN (USSD or Mobile or One time token)
57	Transaction type is not permitted to account
58	This terminal has not been setup for this transaction
61	Amount Limit exceeded
63	This account has been blacklisted
78	This account has been blacklisted
92	Destination transaction route not found
96	System Malfunction

The C'Gate Response codes are based on ISO 8583 financial transaction codes. You can find the full list of the codes and their meaning here: https://en.wikipedia.org/wiki/ISO_8583