

U Pay

UnionBank Payments and Collections Solution

Version 1.37.1

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REVISION HISTORY

Date of Revision	Activity	Output Version
February 15, 2021	Creation of UPAC Technical Document	Version 1.0
February 28, 2021	<ul style="list-style-type: none"> Revision of format Correction of Sample Request message 	Version 1.1
March 15, 2021	<ul style="list-style-type: none"> Inclusion of PROD and UAT URL Revision of parameter from Biller ID to BillerUUID Inclusion of Biller AutoPost request and response message 	Version 1.2
April 12, 2021	<ul style="list-style-type: none"> Revision of input parameters Inclusion of encryption features 	Version 1.3
April 30, 2021	<ul style="list-style-type: none"> Renamed product to U Pay 	Version 1.4
June 1, 2021	<ul style="list-style-type: none"> Updated JSON Request for connecting to the Whitelabel page. Added Note when skipping the Whitelabel page form 	Version 1.5
August 9, 2021	<ul style="list-style-type: none"> Added documentation for API direct integration with UPAY Updated Whitelabel page integration. 	Version 1.6
August 16, 2021	<ul style="list-style-type: none"> Updated payment options 	Version 1.6.1
August 25, 2021	<ul style="list-style-type: none"> Added documentation for Status Inquiry API 	Version 1.7
September 29, 2021	<ul style="list-style-type: none"> Updated Biller Autopost Section 	Version 1.8
October 4, 2021	<ul style="list-style-type: none"> Whitelabel Prod URL 	Version 1.9
October 14, 2021	<ul style="list-style-type: none"> Removed LBC from payment method list Fixed typo in API integration credit/debit card sample request 	Version 1.10
October 29, 2021	<ul style="list-style-type: none"> Removed API direct Integration Removed GET Status Inquiry 	Version 1.11
November 19, 2021	<ul style="list-style-type: none"> Updated verbiage in the encryption section Updated max URL char count 	Version 1.12
March 22, 2022	<ul style="list-style-type: none"> Updated endpoint 	Version 1.13
May 25, 2022	<ul style="list-style-type: none"> Added Timeouts 	Version 1.14

August 8, 2022	<ul style="list-style-type: none"> • Added documentation for Processing error screen • Added list of restricted characters 	Version 1.15
September 8, 2022	<ul style="list-style-type: none"> • Added specification for foreign numbers • Changed specification for encryption • Added sample .NET and Javascript code for encryption 	Version 1.16
September 23, 2022	<ul style="list-style-type: none"> • Updated payment method codes 	Version 1.17
November 21, 2022	<ul style="list-style-type: none"> • Added documentation for API integration 	Version 1.18
February 9, 2023	<ul style="list-style-type: none"> • Added Instapay P2B as payment option 	Version 1.19
June 01, 2023	<ul style="list-style-type: none"> • Added additional OTC Channels 	Version 1.20
July 07, 2023	<ul style="list-style-type: none"> • Updated JS encryption code 	Version 1.30
September 14, 2023	<ul style="list-style-type: none"> • Update BouncyCastle sample code – added <i>ParseKey</i> function 	Version 1.31
September 15, 2023	<ul style="list-style-type: none"> • Add URL encode in AES c# code encryption 	Version 1.32
September 22, 2023	<ul style="list-style-type: none"> • Update JS encryption code – separate biller uuid and aes key 	Version 1.33
September 22, 2023	<ul style="list-style-type: none"> • Update JS encryption code - Added JS payload sample and include JSON.stringify 	Version 1.34
November 29, 2023	<ul style="list-style-type: none"> • Updated JS sample code 	Version 1.35
January 3, 2024	<ul style="list-style-type: none"> • Added backRedir as additional payload 	Version 1.36
June 19, 2024	<ul style="list-style-type: none"> • Added CountryCode definition in the payload 	Version 1.37
February 25, 2025	<ul style="list-style-type: none"> • Added support for DITO numbers (+63 8) 	Version 1.37.1

OUR SOLUTION: UPAY (UNIONBANK PAYMENTS AND COLLECTIONS SOLUTION)

The UnionBank Payments and Collections Solution also known as “UPAY”, is a payment platform that consolidates several payment methods and provides a single integration point for your collection needs. It offers a white label payment page that is hosted and operated by UnionBank to enable immediate collections of payments from your payors.



KEY ADVANTAGES

- **Single Integration for Several Payment Methods** – Enable available payment capabilities with a single integration point via the white-label page or the preferred payment options.
- **Real-Time Transaction Confirmation via API** – Receive an immediate notification for every successful transaction to trigger posting of payment.
- **Interbank Collections** – Collect payments from both Union Bank customers, other bank's customers and e-wallet customers.
- **Consolidated Collection Report** – Access a single report for all payments made via The Portal.

PRODUCT FEATURES

Several Payment Channels in One Platform



UnionBank Online - Payments from UnionBank Online Banking individual customers.



InstaPay – Payments from a number of local banks and e-Money issuers (i.e. Gcash, Paymaya) by scanning a QR code or using a reference number generated for specific payment request.

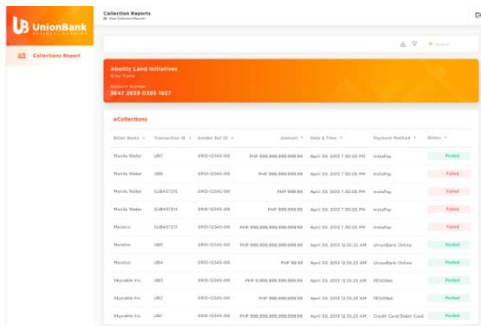


PCHC PayGate via Peso Net – Payments from a participating PCHC PayGate issuing banks for higher transaction amount.



VISA and Mastercard – Payments from credit card and debit cards.

Single Dashboard and Consolidated Collection Report



Branch Name	Transaction No.	Amount (₱)	Date & Time	Payment Method	Status
Metro Manila	1001	₱100,000.00	Aug 15, 2019 7:00:00 PM	InstaPay	Failed
Metro Manila	1002	₱100,000.00	Aug 15, 2019 7:00:00 PM	InstaPay	Failed
Metro Manila	1003	₱100,000.00	Aug 15, 2019 7:00:00 PM	InstaPay	Failed
Metro Manila	1004	₱100,000.00	Aug 15, 2019 7:00:00 PM	InstaPay	Failed
Metro Manila	1005	₱100,000.00	Aug 15, 2019 7:00:00 PM	InstaPay	Failed
Metro Manila	1006	₱100,000.00	Aug 15, 2019 7:00:00 PM	InstaPay	Failed
Metro Manila	1007	₱100,000.00	Aug 15, 2019 7:00:00 PM	InstaPay	Failed
Metro Manila	1008	₱100,000.00	Aug 15, 2019 7:00:00 PM	InstaPay	Failed
Metro Manila	1009	₱100,000.00	Aug 15, 2019 7:00:00 PM	InstaPay	Failed
Metro Manila	1010	₱100,000.00	Aug 15, 2019 7:00:00 PM	InstaPay	Failed

View and download your collection report via Business Banking, and access intraday transaction history.

Timely Settlement of Funds and Immediate Posting of Payments

- Real-time credit of funds for UnionBank Online and InstaPay transactions.
- Within the day credit of funds for PCHC PayGate transactions done within the cut-off.
- Trigger immediate posting of transaction via Auto-Post API.

TECHNICAL SPECIFICATIONS

White Label Page Integration

URL

Environment	Domain
UAT	https://ubotpsentry-tst1.outsystemsenterprise.com/UPAY
Prod	https://sith.unionbankph.com/UPAY

API

Endpoint:

Method	Resource	Description
GET	/WhiteLabel/{BillerUuid}?s={Cipher}	Redirect the user to this page with the parameters listed below to allow the user to initiate a transaction.

Request Parameters:

Parameter	Data Type	Required?	Value
BillerUuid	string	Required	A UUID that identifies a biller. The BillerUuid is unique per biller / merchant and shall be provided by UnionBank.
Cipher	string	Required	A concatenated string composed of the Base64 Initialization Vector and Base64 Cipher generated from the JSON string containing transaction details. The initialization vector should precede the Cipher. The string must be URL encoded. More details on the JSON structure and encryption below.

Sample Request:

```
https://ubotpsentry-tst1.outsystemsenterprise.com/UPAY/WhiteLabel/54EDB6D2-A2FF-E2BE-99E1-7E50D96B4AB2?s=JmQmxfrjkcB3%2BXR%2F8C33Sg%3D%3DMrSFQ8WZeTfD%2BD21tIAY6hQ6kdT4cp8atbCH%2FbsLjw-davWuHN7dEi%2F7YbJDIX32BiMogFFYvnbE2H2YsV%2FsJTHIpfXnj6U6dLsnERKiZVcrgKJ12SeN0kTqD-CoXPjd%2Bgz26oLIRFsMGCC4%2Fnv85ydg%3D%3D
```

Errors:

Error Message	Description
Invalid Permissions	The BillerUuid is either incorrect or inactive.
Internal Error	The application encountered an error.
Processing Error	One or more mandatory fields are not passed to the white label Page, the passed references failed validation, or there is an issue with the encrypted message.

JSON Request

The JSON request contains transaction information the system will use.

Field	Data Type	Required?	Value
Amt	string	Required*	Amount of the transaction. Decimal converted to string.
Email	string	Required*	Email address of the payor. Must be a valid email address.
CountryCode	string	Optional	Country code of the international number. See this demo for list of country codes. Default is PH Country code (63). If invalid country code was passed, it is defaulted to PH Country code (63) If county code is 1, it is pointed to the USA. Leave out the plus sign (+) when passing the value of the country code. Example: 54 (Argentina)
Mobile	string	Required*	Mobile phone numbers in the Philippines are 10 digits long. Supports DITO numbers (+63 8). Example: 9171234567, 8941234567
Redir	string	Required*	Callback URL. The payor will be redirected to this URL when the “Back to Biller” button in the acknowledgment page is clicked.
BackRedir	string	Optional	The payor will be redirected to this URL when the “Back to Merchant” link is clicked in the whitelabel page.

Field	Data Type	Required?	Value
PaymentMethod	string	Optional	<p>Payment option that the payor will use. Use this field to skip the WhiteLabel page form and payment option selection when a payment option is already selected in the biller's website.</p> <p>Values: debit/credit ub online instapay instapay p2b paygate gcash grabpay bayad_center cebl ecpay plwn mlh smr rds</p> <p>Note: For this field to work, the Skip White Label Page Form setting in the back office must be enabled.</p>
References	array	Optional	An array of JSON Objects containing other references needed by the system to process and record the transaction. See below.

References JSON Object Array

References are defined during onboarding.**

Field	Data Type	Required?	Value
Id	string	Required	Unique index number (converted to string). Value provided by UnionBank.
Name	string	Required	Unique name for the reference item. Value by UnionBank.

Field	Data Type	Required?	Value
Val	string	Optional	Value of the reference.

While it is possible to leave a reference value blank, it is better to just completely remove it from the object array. The White Label Page simply loads the values from the JSON request to their respective variables that are used to process and record the transaction.

If the setting to skip the White Label Page form is enabled, all references must be included in the JSON request. All references must also have values.

*If any of these are disabled during onboarding, they must be omitted from the JSON request.

**A reference number is also set as a biller reference during onboarding. If no value is passed to it or if it is not passed, the reference number input field in the Whitelabel page will be blank.

NOTES:

The Whitelabel Page form can be skipped if the biller can pass all mandatory information to the WhiteLabel page. This feature can be enabled in the back office. When enabled, the user will go directly to the payment option selection when they are sent to the UPAY WhiteLabel Page.

If email and/or mobile number is set as a biller reference, they can be omitted from the reference object array in the request.

Script tags (<, >, ""', ', /, &) are not accepted in even if the input type is set to accept symbols.

Unencrypted JSON Request Example

```
{
  "Amt": "20",
  "Email": "sample@email.com",
  "CountryCode": "63",
  "Mobile": "9123456789",
  "Redir": "https://www.example.com",
  "References": [
    {
      "Id": "1",
      "Name": "Reference No.",
      "Val": "123456789"
    },
    {
      "Id": "2",
      "Name": "Account Number",
      "Val": "12323213223"
    }
  ]
}
```

Encryption

For security, the JSON request must be encrypted using the AES key provided by UnionBank.

Specifications

Algorithm: AES

Key size: 256

Mode: GCM

Non-Secret Payload: N/A

After encryption, convert the resulting byte array to text using Base64 encoding. Then, the encrypted string should be URL encoded.

The resulting encoded string can now be passed on to the White Label Page.

Notes:

1. The AES key (Hex) is generated during onboarding and will be provided by the onboarding officer.
2. The maximum number of characters in the URL the platform can process is 1000.

Timeout

Parameter	Duration
WhiteLabel Page Inactivity Timeout	600 seconds
API Call Timeout*	60 seconds

*This timeout also applies to Biller Auto Posting API calls

Sample .NET (C#) Code (BouncyCastle)

- Download the **BouncyCastle (v1.8.9)** compiled assembly
- Add reference to your project
- Import System.Security.Cryptography

```
public static byte[] ParseHex(string hexString)
{
    if ((hexString.Length & 1) != 0)
    {
        throw new ArgumentException("Input must have even number of characters");
    }
    int length = hexString.Length / 2;
    byte[] ret = new byte[length];
    for (int i = 0, j = 0; i < length; i++)
    {
        int high = ParseNybble(hexString[j++]);
        int low = ParseNybble(hexString[j++]);
        ret[i] = (byte)((high << 4) | low);
    }
    return ret;
}

private static int ParseNybble(char c)
{
    switch (c)
    {
        case '0':
        case '1':
        case '2':
        case '3':
        case '4':
        case '5':
        case '6':
        case '7':
        case '8':
        case '9':
            return c - '0';
        case 'a':
        case 'b':
        case 'c':
        case 'd':
        case 'e':
        case 'f':
            return c - ('a' - 10);
        case 'A':
        case 'B':
        case 'C':
        case 'D':
        case 'E':
        case 'F':
            return c - ('A' - 10);
        default:
            throw new ArgumentException("Invalid nybble: " + c);
    }
}
```

```
public static string EncryptStringGCM(string input, string Hex_key)
{
    //Preconfigured Encryption Parameters
    int NonceBitSize = 128;
    int MacBitSize = 128;
    int KeyBitSize = 256;

    byte[] key = ParseHex(Hex_key);
    byte[] secretMessage = Encoding.UTF8.GetBytes(input); ;

    //User Error Checks
    if (key == null || key.Length != KeyBitSize / 8)
        throw new ArgumentException(String.Format("Key needs to be {0} bit!", KeyBitSize), "key");

    if (secretMessage == null || secretMessage.Length == 0)
        throw new ArgumentException("Secret Message Required!", "secretMessage");

    //Non-secret Payload Optional
    byte[] nonSecretPayload = new byte[] { };

    //Using random nonce large enough not to repeat
    byte[] nonce = new byte[NonceBitSize / 8];
    RandomNumberGenerator.Create().GetBytes(nonce);

    var cipher = new GcmBlockCipher(new AesEngine());
    var parameters = new AeadParameters(new KeyParameter(key), MacBitSize, nonce, nonSecretPayload);
    cipher.Init(true, parameters);

    //Generate Cipher Text With Auth Tag
    var cipherText = new byte[cipher.GetOutputSize(secretMessage.Length)];
    var len = cipher.ProcessBytes(secretMessage, 0, secretMessage.Length, cipherText, 0);
    cipher.DoFinal(cipherText, len);

    //Assemble Message
    using (var combinedStream = new MemoryStream())
    {
        using (var binaryWriter = new BinaryWriter(combinedStream))
        {
            //Prepend Authenticated Payload
            binaryWriter.Write(nonSecretPayload);
            //Prepend Nonce
            binaryWriter.Write(nonce);
            //Write Cipher Text
            binaryWriter.Write(cipherText);
        }
        return HttpUtility.UrlEncode(Convert.ToBase64String(combinedStream.ToArray()));
    }
}
```

Sample Javascript Code (SubtleCrypto)

```
async function gcm_encrypt() {
  var iv = crypto.getRandomValues(new Uint8Array(16));
  var billerUuid = '<YOUR BILLER UUID HERE>'; //to be given by the onboarding team
  var secretKeyHex = '<YOUR BILLER AES KEY HERE>'; //to be given by the onboarding team
  var secretKey = hexStringToUint8Array(secretKeyHex);

  window.crypto.subtle.importKey('raw', secretKey, 'AES-GCM', true, ['encrypt', 'decrypt'])
    .then(function (key) {

      var payload = {
        Amt: '100', Email: 'juandelacruz@email.com', Mobile: '9123456789', Redir: 'https://yoursite.com',
        References: [
          { Id: '1', Name: 'Name of reference 1 here', Val: 'Value 1 here' },
          { Id: '1', Name: 'Name of reference 2 here', Val: 'Value 2 here' }
        ]
      }

      var jsonPayLoad = JSON.stringify(payload);
      window.crypto.subtle.encrypt({name: 'AES-GCM', iv: iv, taglength: 128}, key, new TextEncoder('utf-8').encode(jsonPayLoad))
        .then(function (cipherText) {
          var concatenatedArray = concatBuffers(iv, cipherText);
          var output = arrayBufferToBase64(concatenatedArray);
          var encoded_url = encodeURIComponent(output);
          console.log('https://ubotpsentry-tst1.outsystemsenterprise.com/UPAY/Whitelabel/' +billerUuid+ '?s=' + encoded_url);
        });
    });
}

function hexStringToUint8Array(hexString) {
  if (hexString.length % 2 !== 0)
    throw 'Invalid hexString';
  var arrayBuffer = new Uint8Array(hexString.length / 2);

  for (var i = 0; i < hexString.length; i += 2) {
    var byteValue = parseInt(hexString.substr(i, 2), 16);
    if (byteValue == NaN)
      throw 'Invalid hexString';
    arrayBuffer[i / 2] = byteValue;
  }
  return arrayBuffer;
}

function arrayBufferToBase64(buffer) {
  var binary = '';
  var bytes = new Uint8Array(buffer);
  var len = bytes.byteLength;
  for (var i = 0; i < len; i++) {
    binary += String.fromCharCode(bytes[i]);
  }
  return window.btoa(binary);
}

function concatBuffers(buffer1, buffer2) {
  var tmp = new Uint8Array(buffer1.byteLength + buffer2.byteLength);
  tmp.set(new Uint8Array(buffer1), 0);
  tmp.set(new Uint8Array(buffer2), buffer1.byteLength);
  return tmp.buffer;
}
```

API Direct Integration

URL

Environment	Domain
UAT	https://apiuat.unionbankph.com/ubp/external/upay/payments/v1
Prod	TBA

API

Endpoint:

Method	Resource	Description
POST	/transactions	Posts a transaction to UPAY's system.

Request Header Parameters

Parameter	Data Type	Required?	Description
accept	string	Optional	To indicate the media type of the response content it is expecting. Sample value: application/json
authorization	string	Required	Generated access token using Partner Authentication API. See Below. Format: Bearer <Authorization string from Partner Auth API>
content-type	string	Optional	to indicate the media type of request being sent from the client to the server. Sample value: application/json.
x-ibm-client-id	string	Required	This will be provided by the onboarding team.
x-ibm-client-secret	string	Required	This will be provided by the onboarding team.
x-partner-id	string	Required	This will be provided by the onboarding team.

Request Body (Instapay, PCHC Paygate, UB Online):

Parameter	Data Type	Required?	Min/Max	Description
senderRefId	string	Required	-/20	Transaction reference/identifier. Generated by the biller.
transRequestDate	string	Required	-/23	Date and time of request. Format: YYYY-MM-DDTHH:MM:SS Example: 2022-10-10T12:11:50.333
emailAddress	string	Required	-/50	Email address of the payor
amount	decimal	Required	-/16	Transaction Amount
paymentMethod	string	Required	-/12	Payment method for the transaction. Possible values: UB Online instapay paygate
MobileNumber	alphanumeric with symbol	Required	-/13	Mobile number of the payor. Supports DITO numbers (+63 8). Example: 9171234567, 8941234567
skipWhiteLabelPage	boolean	Required	-/13	Set to true to skip UPAY's Whitelabel page. Biller must generate the qr code in the response (instapay) or redirect the payor to the url in the response (others).
callbackURL	string	Required	-/25	This URL will be used in the back-to-biller buttons in the White-Label Page (skipWhiteLabelPage = false) or will be used as a redirect after the transaction is completed (skipWhiteLabelPage = true)
references	Object array	Required	-	Array of objects containing the references used by the biller. These are defined in the backoffice. See below.

References Object:

Parameter	Data Type	Required?	Min/Max	Description
index	integer	Required	-/-	Index of the reference
value	string	Required	-/-	Value of the reference

Sample Request (instapay, skipWhitelabelPage = true)

This sample request shows a transaction request for instapay that skips the Whitelabel page. The response will include a qr string that can be used to generate a qr image and a transaction id that can be used for transferring the funds using the preferred banking app.

```
{
  "senderRefId": "FUNCTIONALTEST-05",
  "tranRequestDate": "2022-10-10T12:11:50.333",
  "emailAddress": "juandelacruz@email.com",
  "mobileNumber": "9123400123",
  "amount": 1,
  "paymentMethod": "instapay",
  "skipWhitelabelPage": "true",
  "callbackUrl": "https://www.google.com/",
  "references": [
    {
      "index": 1,
      "value": "Sample User B"
    },
    {
      "index": 2,
      "value": "92385921389412"
    },
    {
      "index": 3,
      "value": "Sample User Ref B"
    },
    {
      "index": 4,
      "value": "lastName"
    },
    {
      "index": "5",
      "value": "fName"
    }
  ]
}
```

Sample Response (instapay, skipWhitelabelPage = true)

```
{  
  "code": "SP",  
  "senderRefId": "FUNCTIONALTEST-05",  
  "state": "Sent for Processing",  
  "qrCode": "00020101021227660012com.p2pqrpay0111UB-  
PHPHMMXXX02089996440304198834702211220159287520460165303608540501.005802PH5910BLOOM-  
SOLUT6009PASIGCITY63048E10",  
  "transactionId": "8834702211220159287",  
  "uuid": "df920b19-c0fa-4ff8-a9d2-195c202e4771"  
}
```

Sample Request (instapay, skipWhitelabelPage = false)

This sample request shows a transaction request for instapay that uses UPAY's Whitelabel page. The response will include a url that the payor should be redirected to.

```
{
  "senderRefId": "FUNCTIONALTEST-05",
  "tranRequestDate": "2022-10-10T12:11:50.333",
  "emailAddress": "juandelacruz@email.com",
  "mobileNumber": "9123400123",
  "amount": 1,
  "paymentMethod": "instapay",
  "skipWhitelabelPage": "false",
  "callbackUrl": "https://www.google.com/",
  "references": [
    {
      "index": 1,
      "value": "Sample User B"
    },
    {
      "index": 2,
      "value": "92385921389412"
    },
    {
      "index": 3,
      "value": "Sample User Ref B"
    },
    {
      "index": 4,
      "value": "lastName"
    },
    {
      "index": "5",
      "value": "fName"
    }
  ]
}
```

Sample Response (instapay, skipWhitelabelPage = false)

```
{  
  "code": "SP",  
  "senderRefId": "FUNCTIONALTEST-05",  
  "state": "Sent for Processing",  
  "message": "https://ubotpsentry-tst1.outsystemsenterprise.com/UPAY/WhiteLabel.aspx?  
BillerUuid=146F598A-01A1-AC6B-C5C2-7E52D76491A4&Cipher=A7WoMR0ZXgSq%2f0REFHHaQQ%3d%3dGH  
%2bKZEK41nVAhzDfucUZ67vKuhzxBX8i40szs2V70vo%3d&cc=",  
  "transactionId": "8836302210060327128",  
  "uuid": "16bdaccf-9555-4e80-a652-e0f7b1d9ba8a"  
}
```

Sample Request (UB Online, skipWhitelabelPage = true)

This sample request shows how to skip the Whitelabel Page and send the user directly to UB Online login to authorize payment. Redirect the user to the url in the "message" field.

```
{
  "senderRefId": "FUNCTIONALTEST-09",
  "tranRequestDate": "2022-10-10T12:11:50.333",
  "emailAddress": "juandelacruz@email.com",
  "mobileNumber": "9123400123",
  "amount": 1,
  "paymentMethod": "UB Online",
  "skipWhitelabelPage": "true",
  "callbackUrl": "https://www.google.com/",
  "references": [
    {
      "index": 1,
      "value": "Sample User B"
    },
    {
      "index": 2,
      "value": "92385921389412"
    },
    {
      "index": 3,
      "value": "Sample User Ref B"},
    {
      "index": 4,
      "value": "lastName"
    },
    {
      "index": "5",
      "value": "fName"
    }
  ]
}
```

Sample Response (UB Online, skipWhitelabelPage = true)

```
{  
  "code": "200",  
  "description": "Success",  
  "message": "https://ubotpsentry-tst1.outsystemsenterprise.com/UPAY/Redirect.aspx?BillerUuid=02C16F6A-8329-D696-FEA1-7E51304B8A2E&Cipher=7LLSxdHf5bzxqct3rGqWjQ%3d%3duMaAnNJ7dKZ61K4fJQ1aM5Ut%2fAtFF0erm30EkTBFTQ4%3d"  
}
```

Sample Request (UB Online, skipWhitelabelPage = false)

This sample request shows a transaction request for UB Online that uses UPAY's Whitelabel page. Redirect the user to the url in the "message" field.

```
{
  "senderRefId": "FUNCTIONALTEST-14",
  "tranRequestDate": "2022-10-10T12:11:50.333",
  "emailAddress": "juandelacruz@email.com",
  "mobileNumber": "9123400123",
  "amount": 1,
  "paymentMethod": "UB Online",
  "skipWhitelabelPage": "false",
  "callbackUrl": "https://www.google.com/",
  "references": [
    {
      "index": 1,
      "value": "Sample User B"
    },
    {
      "index": 2,
      "value": "92385921389412"
    },
    {
      "index": 3,
      "value": "Sample User Ref B"},
    {
      "index": 4,
      "value": "lastName"
    },
    {
      "index": "5",
      "value": "fName"
    }
  ]
}
```

Sample Response (UB Online, skipWhitelabelPage = false)

```
{
  "code": "SP",
  "senderRefId": "FUNCTIONALTEST-14",
  "state": "Sent for Processing",
  "message": "https://ubotpsentry-tst1.outsystemsenterprise.com/UPAY/Redirect.aspx?BillerUuid=02C16F6A-8329-D696-FEA1-7E51304B8A2E&Ci-pher=gnpjbA7RpxbEpx18T08ANw%3d%3d9Qo7cgVOT4esQzzKMeckPZKCSMfEpHH1LLq2XoxNE3A%3d",
  "transactionId": "8834702211220234940",
  "uuid": "8ef61fbc-e404-4005-b4f7-d46de3b1fb53"
}
```

Sample Request (PCHC Paygate, skipWhitelabelPage = true)

This sample request shows a transaction request for PCHC Paygate without using UPAY's Whitelabel page. Redirect the payor to the url in the "message" field.

```
{
  "senderRefId": "FUNCTIONALTEST-15",
  "tranRequestDate": "2022-10-10T12:11:50.333",
  "emailAddress": "juandelacruz@email.com",
  "mobileNumber": "9123400123",
  "amount": 1,
  "paymentMethod": "paygate",
  "skipWhitelabelPage": "true",
  "callbackUrl": "https://www.google.com/",
  "references": [
    {
      "index": 1,
      "value": "Sample User B"
    },
    {
      "index": 2,
      "value": "92385921389412"
    },
    {
      "index": 3,
      "value": "Sample User Ref B"},
    {
      "index": 4,
      "value": "lastName"
    },
    {
      "index": "5",
      "value": "fName"
    }
  ]
}
```

Sample Response (PCHC Paygate, skipWhitelabelPage = true)

```
{
  "code": "SP",
  "senderRefId": "FUNCTIONALTEST-15",
  "state": "Sent for Processing",
  "message": "https://pg-payment.pchcdev.com/callback/c4fdf908-43ea-6913-b5fa-7e64625aa859",
  "transactionId": "c4fdf908-43ea-6913-b5fa-7e64625aa859",
  "uuid": "2beb9dc3-d670-4062-ad15-61948982b1c0"
}
```

Sample Request (PCHC Paygate, skipWhitelabelPage = false)

This sample request shows a transaction request for PCHC Paygate that uses UPAY's Whitelabel page. Redirect the user to the url in the "message" field.

```
{
  "senderRefId": "FUNCTIONALTEST-15",
  "tranRequestDate": "2022-10-10T12:11:50.333",
  "emailAddress": "juandelacruz@email.com",
  "mobileNumber": "9123400123",
  "amount": 1,
  "paymentMethod": "paygate",
  "skipWhitelabelPage": "false",
  "callbackUrl": "https://www.google.com/",
  "references": [
    {
      "index": 1,
      "value": "Sample User B"
    },
    {
      "index": 2,
      "value": "92385921389412"
    },
    {
      "index": 3,
      "value": "Sample User Ref B"
    },
    {
      "index": 4,
      "value": "lastName"
    },
    {
      "index": "5",
      "value": "fName"
    }
  ]
}
```

Sample Response (PCHC Paygate, skipWhitelabelPage = false)

```
{
  "code": "SP",
  "senderRefId": "FUNCTIONALTEST-15",
  "state": "Sent for Processing",
  "message": "https://ubotpsentry-tst1.outsystemsenterprise.com/UPAY/WhiteLa-
bel.aspx?BillerUuid=146F598A-01A1-AC6B-C5C2-7E52D76491A4&Ci-
pher=17fUzbgC1qhfj%2fvL8PidBA%3d%3dygL%2fFXGZ6YNuOhN%2f%2b2X1QX90eBOQ60zScoq70wRUWQuNcP-
cIUd1AXptoC%2bD87jYk&cc=",
  "transactionId": "c4fdf908-43ea-6913-b5fa-7e64625aa859",
  "uuid": "2beb9dc3-d670-4062-ad15-61948982b1c0"
}
```

Sample curl request

```
curl --location --request POST 'https://api-uat.unionbankph.com/ubp/external/upay/payments/v1/transactions' \  
--header 'x-ibm-client-id: 12348793-124c-1543-2afd-53cd73f56204' \  
--header 'x-ibm-client-secret: Fkcod5320vGje5328k6363fb15Asdf3AJH4670pU1gE8cS3vA8' \  
--header 'x-partner-id: 5a6f9e45-332b-354f-a41a-35ff5adc0015' \  
--header 'Content-Type: application/json' \  
--header 'accept: application/json' \  
--header 'authorization: Bearer AAIk0Th1MzAwMjItMWUxYy00MmWYzLTkyNDItNWQ2OGFiN2QwMmWI07Ir-huxT7QGwpEKfSSy2fX0KQZ6gZlMeJTHaQv15-Y5yQpU8Ucd6l0SjTF8CnvZ5HWycxSiGiiJRmCYsSeZJK3ize-gGGOW5oZkqGvhvorwU_4ACSwjQGhaGapF7u8rVUYgxXj2FGNfGzhCEpNR77xzQDMPga0qFWCTJdPk7Di6F-yEwiTH-PffHc6P3AWSTr7GouJGf1gfRyE3fu6ChAm2gYrVDDj9jEQRJAgyniAYnaoVI7lcZ5yXsZSmqqVAUAhEtvEck-YHLfR9NxDqFvk-C33EHcDmrYzPS_EZS1mITPpU7EgpDj7UnXS506Q_FNtcyl013-02360NgrUqczKfB9Q' \  
--header 'Cookie: BIGipServerpool_api-uat.unionbankph_443=1763062538.47873.0000' \  
--data-raw '{  
  "senderRefId": "FUNCTIONALTEST-16",  
  "tranRequestDate": "2022-10-10T12:11:50.333",  
  "emailAddress": "juandelacruz@email.com",  
  "mobileNumber": "9123400123",  
  "amount": 1,  
  "paymentMethod": "paygate",  
  "skipWhitelabelPage": "false",  
  "callbackUrl": "https://www.google.com/",  
  "references": [  
    {  
      "index": 1,  
      "value": "Sample User B"  
    },  
    {  
      "index": 2,  
      "value": "92385921389412"  
    },  
    {  
      "index": 3,  
      "value": "Sample User Ref B"  
    },  
    {  
      "index": 4,  
      "value": "lastName"  
    },  
    {  
      "index": "5",  
      "value": "fName"  
    }  
  ]  
}'
```

Response - Error Codes

Code	Message	Description
TF	Account is not active	Failed to process request
NC	Internal Server Error.	Network Issue - Core
-1	references.value you entered has invalid character(s).	Missing/Invalid Parameters
-20	senderRefId already exist.	Failed to process request

Sample Error Response (TF)

```

{
  "errors": [
    {
      "code": "TF",
      "description": "Failed to processed request",
      "details": {
        "senderRefId": "FUNCTIONALTEST-12",
        "message": "The PAYOR FIRST NAME is a required field.",
        "coreCode": "400",
        "uuid": "229f818b-dfd1-41c7-937b-45e3ab92efe0"
      }
    }
  ]
}
    
```

Sample Error Response (TF)

```
{
  "errors": [
    {
      "code": "TF",
      "description": "Failed to process request",
      "details": {
        "senderRefId": "FUNCTIONALTEST-13",
        "message": "Maximum amount is set at 50000",
        "uuid": "3f451592-e87a-4d6e-90ae-a35d5942de8c",
        "trace": "ParamValidation"
      }
    }
  ]
}
```

Sample Error Response (-1)

```
{
  "errors": [
    {
      "code": -1,
      "description": "Failed to process request",
      "details": {
        "message": "Missing/Invalid Parameters.",
        "uuid": "a21ef641-d2f9-4312-a6ee-faf760f61f23",
        "trace": "ParamValidation"
      },
      "parameters": [
        {
          "field": "tranRequestDate",
          "message": "You entered invalid date"
        }
      ]
    }
  ]
}
```

Sample Error Response (-1)

```
{
  "errors": [
    {
      "code": -1,
      "description": "Missing/Invalid Parameters.",
      "details": [
        {
          "field": "paymentMethod",
          "message": "paymentMethod you entered has invalid character"
        }
      ]
    }
  ]
}
```

Sample Error Response (-20)

```
{
  "errors": [
    {
      "code": -20,
      "description": "Failed to process request",
      "details": {
        "senderRefId": "FUNCTIONALTEST-14",
        "message": "senderRefId already exist",
        "uuid": "f83b479b-cc34-4d8c-8543-03650cfd2510",
        "trace": "SenderRefIdValidation"
      }
    }
  ]
}
```

Sample Error Response (TF)

```
{
  "errors": [
    {
      "code": "TF",
      "description": "Bad Request",
      "details": {
        "message": "The body of the request, which was expected to be J
        "uuid": "64dc6e4b-8b0b-4842-a2ae-40fa22615fc3",
        "coreCode": 400
      }
    }
  ]
}
```

Sample Error Response (NC)

```
{
  "errors": [
    {
      "code": "NC",
      "description": "Network Issue - Core",
      "details": {
        "message": "",
        "uuid": "bacah46a-946a-4642-afb4-6897a48agef9",
        "trace": "InternalResource"
      }
    }
  ]
}
```

BILLER AUTO POSTING

During payment processing, The Collections Portal is capable of automatically posting a transaction to the biller's system. The biller would supply an API to UnionBank that will automatically credit or "post" payment to its system. UnionBank will then call the merchant's API whenever there's a successful transaction in UPAC.

Biller Autopost Request and Response:

The structure of the autopost request and response is entirely dependent on the biller. The biller must develop the endpoint and relay the sample request and response to UnionBank.

PARTNER AUTHENTICATION API

This is used with APIs and functionalities built by UnionBank that are consumed by external entities/partners. The purpose is to embed banking functionalities within their application/platform through UnionBank’s APIs.

Credentials

Partners are provided with unique credentials that are required to call the API. The **Client ID (x-client-id)** and **Client Secret (x-client-secret)** are generated when an application is created for the Partner. Meanwhile, the **Partner ID (x-partner-id)** is generated by UnionBank for a specific partner. The Partner ID is linked to the Partner’s corporate account. Most APIs require all three parameters.

Bearer Tokens

UnionBank uses the OAuth 2.0 authentication protocol to authorize client requests and ensure that all transactions are done securely; even if the API the Partner is subscribed to is secured by OAuth2, the Partner shall not be able to access the said API without providing a valid bearer token. The process for token generation is discussed in the Partner Authentication section below.

Validation

UnionBank’s security gateway verifies the parameters passed in each request. If validation fails, an error is returned with the corresponding code and description.

URL

Environment	Domain
UAT	https://api-uat.unionbankph.com/ubp/uat/ partners/v1/oauth2/token
Prod	https://api.unionbankph.com/ubp/external/ partners/v1/oauth2/token

Endpoint

Method	Resource	Description
POST	partners/v1/oauth2/token	Request for authentication to be used with UnionBank’s APIs.

Guidelines

- This provides the application with access to a corporate client’s account.
- Authentication would require the partner’s credentials to be passed to an endpoint to request an Online Access Token.
- Token generated expires after 3600s / 1 hour.

Header Parameters

Name	Type	Required	Validations
accept	string	Yes	Required; Value: application/json
content-Type	string	Yes	Required; Value: application/x-www-form-urlencoded

Form DataParameters (Body)

Name	Type	Required	Validations
grant_type	string	Yes	Value: “password”
client_id	string	Yes	Required: the Client Id of the application in the UnionBank Developer Portal. For UAT, this is provided to the partner since UnionBank creates the application on behalf of the partner.
username	string	Yes	Required; Value: Unionbank provided username linked to your corporate account
password	string	Yes	Required; Value: Unionbank provided password linked to your corporate account
scope	string	Yes	Required; Sample value: getgo_wallet Please refer to the Authorization section in each API document.

Sample cURL request in UAT

```
curl -L -X POST 'https://api-uat.unionbankph.com/ubp/uat/partners/v1/oauth2/token' \  
-H 'accept: application/json' \  
-H 'content-type: application/x-www-form-urlencoded' \  
--data-urlencode 'grant_type=password' \  
--data-urlencode 'client_id=REPLACE_CLIENT_ID' \  
--data-urlencode 'username=REPLACE_USERNAME' \  
--data-urlencode 'password=REPLACE_PASSWORD' \  
--data-urlencode 'scope=REPLACE_SCOPE'
```

Sample cURL request in PROD

```
curl --location --request POST \  
'https://api.unionbankph.com/ubp/external/partners/v1/oauth2/token' \  
--header 'accept: application/json' \  
--header 'content-type: application/x-www-form-urlencoded' \  
--data-urlencode 'grant_type=password' \  
--data-urlencode 'client_id=REPLACE_CLIENT_ID' \  
--data-urlencode 'username=REPLACE_USERNAME' \  
--data-urlencode 'password=REPLACE_PASSWORD' \  
--data-urlencode 'scope=REPLACE_SCOPE'
```

Sample cURL response

```
{
  "token_type": "Bearer",
  "access_token": "AAIk0Th1MzAwMjItMWUxYy00MwYzLTkyNDItNWQ2OGFiN2QwMmWI07Ir-
huxT7QGwpEKfSSy2fX0KQZ6gZ1MeJTHaQv15-Y5yQpU8Ucd610SjTF8CnvZ5HWycxSiGiiJrmCYsSeZJK3ize-
gGG0W5oZkqGvhvorwU_4ACSwjQGhaGapF7u8rVUYgxXj2FGnFGzhCEpNR77xzQDMPga0qFWCTJdPk7Di6F-yEwiTH-
PffHc6P3AWSTr7GouJGF1gfRyE3fu6ChAm2gYrVDDj9jEQRJAgyniAYnaoVI7lcZ5yXsZSmqqVAUAhEtvEcK-
YHLfR9NxDqFVk-C33EHcDmrYzPS_EZS1mITPpU7EgpDj7UnXS506Q_FNtcy1013-02360NgrUqczKfB9Q",
  "metadata": "a:rY5CFD9ja3as2I/pjgVocC/qY81KB3G1cdrLxZYBB/1itKb6zGqICs4iU-
IDe3B/8Lla7pjFCw/Yd61sTmcVnWi/sRz4v1NGCmn/v0jTh-
FxtXHTtQ5fsfHB12f3kTDsg3sD5RSiSiU+MHgy+bcLiCp4V2PSU1DB1RH33a",
  "expires_in": 3600,
  "consented_on": 1669096711,
  "scope": "upay_payments",
  "refresh_token": "AAKTANW5s5cNw66n29BMDepdFmc1sjKmicE9tQ4AB8LpMkUB_IGN11BrrIuGJmw-
dapLEjwWXqRbvsaXYCWVaPa6aukBT3qwP0A0gwHL9-pZc3wqCct2NeG6DGD1UqhRCEsjru1NTqR504tPA6MZxU-
WAMGmkEsZnZTc1wixE3t-3bMTw_M17sATn-GFhp6s413kUz662pvz5tS_q-ZDs0xwBMrFUAZ-
BHS8UzT7uxQg0YqzZTryN14DB0cXCS5yk0Lb5358zFgS_X4x-VF1QGum7nxi6D_913j1C3Dx6BHcNwLhJib-Ee-
hcDBqYE8vHvFNdBwBEh302V9dswzcgGneQo8DqoqumEK47sj_RrddZoGwaQ",
  "refresh_token_expires_in": 2682000
}
```