PayDollar PayGate

Integration Guide (Wallet Direct Connection)

Version 1.3

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Confidentiality and Usage

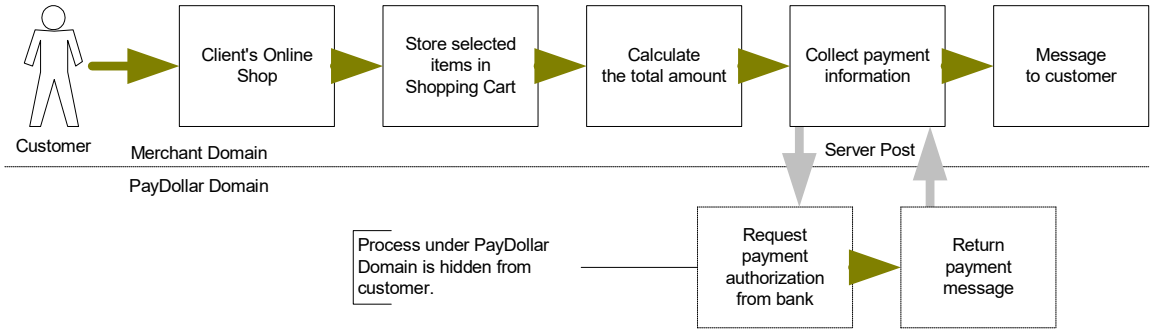
Revision History

Revision	Date	Revision Description
1.0	Jul 08, 2020	First Draft
1.1	Jul 15, 2020	Added FPS
1.2	Aug 11, 2020	Added OCTOPUS
1.3	Aug 26, 2020	Updated Google Pay

Connection method

Server Side Direct Connection

This connection method is for merchant to request payment authorization from bank directly through PayDollar PayGate system and subject to approval of acquiring bank. For example, merchant's IVR system or mobile application can directly integrate to us. And in this connection, merchants need to build their own payment information collection page to collect payment information, such as credit card number, expire data, holder's name and etc. Then, payment information has to be sent to a defined URL provided by the acquiring bank. Customer of the merchant, therefore, will not see any bank's payment page.



For merchant who chooses this method of connection, 128-bit SSL cert must be installed for data encryption. The system does not accept non-encrypted data.

PayDollar uses Extended Validation (EV) SSL Certificate. To ensure your system function properly, please check your certificate store can recognize VeriSign intermediate CA certificate - Secure Site Pro/Managed PKI for SSL Premium with EV Certificates. If not, you are required to install the VeriSign intermediate CA certificate in your certificate store.

Please download the primary and secondary VeriSign EV SSL Intermediate CA certificates from the following link then import the 2 certificates into the keystore of your environment.

http://www.verisign.com/support/verisign-intermediate-ca/extended-validation-pro/index.html

(Please be reminded that you should choose the option "Issued After May 17th, 2009")

Definition of Parameters in the Integration Page

The following are the parameters for integration. PayDollar PayGate is case sensitive. Make sure the typeface is correct. When a transaction is finish, the system will return customer a payment message on the page created by merchant.

Parameters	Data Type	Descriptions
Required Parameter (with UTF-8 Encoding) for connect to our payment interface		
orderRef	Text (35)	Merchant's Order Reference Number
amount	Number (12,2)	Total amount your want to charge the customer [Up to 2 decimal place]
currCode	Text (3)	The currency of the payment: "344" – HKD "840" – USD "702" – SGD "156" – CNY (RMB) "392" – JPY "901" – TWD "036" – AUD "978" – EUR "826" – GBP "124" – CAD "446" – MOP "608" – PHP "764" – THB "458" – MYR "360" – IDR "410" – KRW "682" – SAR "554" – NZD "784" – AED "096" – BND "704" – VND "356" – INR
lang	Text (1)	The language of the payment page : "E" – English
merchantId	Number	The merchant ID we provide to you
payType	Text (1) ("N","H")	The payment type: "N" – Normal Payment (Sales) "H" – Hold Payment (Authorize only) For merchants who use authorize mode, please be reminded to perform the CAPTURE action as soon as the transaction is confirmed as valid. Once captured, the customer's credit card will be debited in coming bank settlement processing. If the merchant does not capture/reverse the authorized transaction over 14 days, the credit limit will be released to the cardholder after a time period which is subjected to card issuing bank Merchant may capture/reverse the authorized transaction in the merchant administration site > Operation > Transaction Detail.
Optional Parameter for billing information		
billingFirstName	Text(60)	First name of customer
billingLastName	Text(60)	Last name of customer

billingStreet1	Text(40)	Address of customer
billingStreet2	Text(40)	Address of customer ,only mandatory if address exceed 40
billingCity	Text(50)	City
billingState	Text(2)	Mandatory if customer's country is USA or Canada
billingPostalCode	Text(10)	Mandatory if customer's country is USA or Canada
billingCountry	Text(2)	Eg.HK
billingEmail	Text(255)	Email address
custIPAddress	Text(15)	192.168.180.100
Optional Parameter for connect to our payment interface		
remark	Text	An additional remark field that will appear in the confirmation email and transaction detail report to help you to refer the order
secureHash	Text (40)	Secure hash is used to authenticate the integrity of the transaction information and the identity of the merchant. It is calculated by hashing the combination of various transaction parameters and the Secure Hash Secret. *Applies to merchants who registered this function only. For more information, please refer to section 4.
Optional Parameter for using device wallet		
eWalletService	Text ("T","F")	eWallet service indicator "T" for device wallet payment "F" for other payment
eWalletBrand	Text (10)	The value of the device wallet type: "SAMSUNG" – Samsung Pay "APPLEPAY" – Apple Pay "GOOGLE" – Google Pay™
eWalletPaymentData	Text	Retrieved device wallet payment data from related SDK with Base64 Format
Optional Parameter for using third party wallet		
pMethod	Text	The payment method type "ALIPAYAPP" – Alipay Global App "ALIPAYCNAPP" – Alipay China App "ALIPAYHKAPP" – Alipay HK App "WECHATAPP" – WeChat Pay App "FPS" – FPS App 2 App "OCTOPUS" – Octopus App 2 App

Return Parameter		
src	Number	Return bank host status code
prc	Number	Return bank host status code
Ord	Number	Bank Reference Number
Holder	Text	The Holder Name of the Payment Account
successcode	Number	Transaction Status: 0 – Transaction succeeded 1 – Transaction Failure 2 – Transaction Pending (for App–2–App integration)
Ref	Text	Merchant's Order Reference Number
PayRef	Number	PayDollar Payment Reference Number
Amt	Number (12,2)	Transaction Amount
Cur	Number (3)	Transaction Currency i.e. "344" - HKD
AuthId	Text	Approval Code
TxTime	Text (YYYY-MM-DD HH:MI:SS.0)	Transaction Time
errMsg	Text	Return Message or Data from payment method

All the return parameters will be concatenated as in html request format by separate with **&**.

Sample return string:

successcode=0&Ref=Test&PayRef=4780&Amt=1.0&Cur=344&prc=0&src=0&Ord=6697090&Holder=edward&AuthId=123456&TxTime=2003-10-07 17:48:02.0&errMsg=Transaction completed

Kick Off

After the integration has been completed, it is ready to launch your e-commerce web to serve your customers. Please copy the following **TESTING URL** for Direct Connect Server Post method:

---

https://test.paydollar.com/b2cDemo/eng/directPay/payComp.jsp

Please copy the following **PRODUCTION URL** for Direct Connect Server Post method:

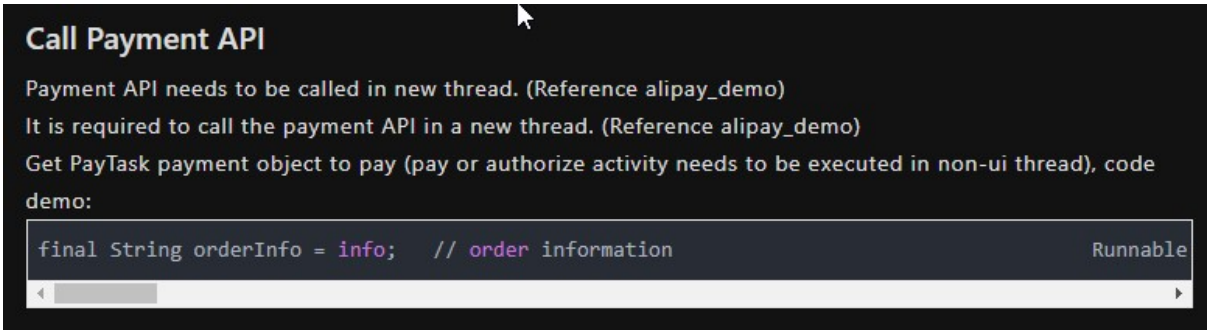
---

https://www.paydollar.com/b2c2/eng/directPay/payComp.jsp

SDK Integration Step

Alipay Global App
Alipay China App
Alipay HK App

1. Send the related order information to PayDollar Server Side Direct Connection.
2. PayDollar will return related transaction information at parameter "**errMsg**".
3. Set the content at "**errMsg**" to the Alipay SDK "order information" string.



4. Initialize Alipay SDK and handle the response.
5. PayDollar will send the data feed to merchant server for the final transaction result.

Related SDK document:

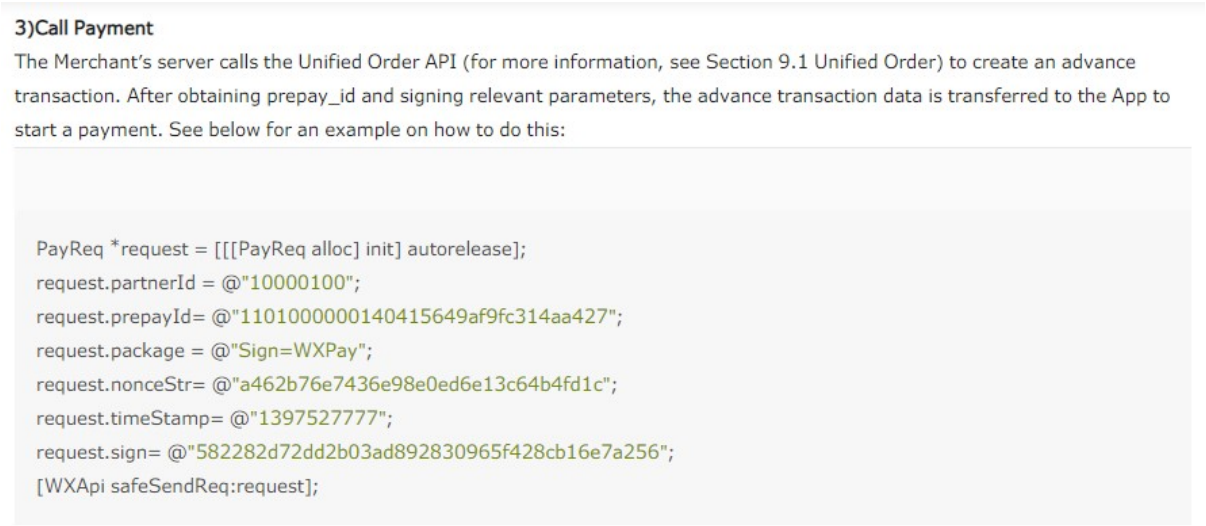
Alipay Global: https://global.alipay.com/docs/ac/app/sdk_integration

Alipay HK: https://global.alipay.com/docs/ac/app_hk/sdkintegration

Alipay China: https://opendocs.alipay.com/open/204/105296

WeChat Pay App

1. Send the related order information to PayDollar Server Side Direct Connection.
2. PayDollar will return related transaction information at parameter "**errMsg**".
   successful "**errMsg**" format:
   appId|nonceStr|package|partnerId|prepayId|timeStamp|sign|end
3. Split the "**errMsg**" with using "|" and put the data to WeChat SDK with the corresponding variable.



3)Call Payment

The Merchant's server calls the Unified Order API (for more information, see Section 9.1 Unified Order) to create an advance transaction. After obtaining prepay_id and signing relevant parameters, the advance transaction data is transferred to the App to start a payment. See below for an example on how to do this:

```
PayReq *request = [[[PayReq alloc] init] autorelease];
request.partnerId = @"10000100";
request.prepayId= @"1101000000140415649af9fc314aa427";
request.package = @"Sign=WXPay";
request.nonceStr= @"a462b76e7436e98e0ed6e13c64b4fd1c";
request.timeStamp= @"1397527777";
request.sign= @"582282d72dd2b03ad892830965f428cb16e7a256";
[WXApi safeSendReq:request];
```

4. Submit the SDK request.
5. PayDollar will send the data feed to merchant server for the final transaction result.

Related SDK document:
https://pay.weixin.qq.com/wiki/doc/api/wxpay/pay/In-AppPay/chapter6_2.shtml

Google Pay™

By using PayDollar Google Pay™ service, please use the below configuration at the Google Pay™ SDK configuration.

- "**gateway**": "asiapay"
- "**gatewayMerchantId**": "PayDollar Merchant Id"

For the below configuration, please contact the PayDollar support team about it. It is related to the acquirer bank and your account supported.

Android:

- getAllowedCardNetworks
- getAllowedCardAuthMethods

Web:

- allowedAuthMethods
- allowedCardNetworks

For the detail, please reference to the following URL:

https://developers.google.com/pay/api/android/reference/request-objects#PaymentMethod

Step:

1. Follow the Google Pay™ SDK integration guide with using PayDollar provided configuration values
2. Implement Google Pay™ and prepare the payment token
   a. Android:

   At the Google Pay™ SDK function **handlePaymentSuccess**

```
/**
 * PaymentData response object contains the payment information, as well as any additional
 * requested information, such as billing and shipping address.
 *
 * @param paymentData A response object returned by Google after a payer approves payment.
 * @see <a href="https://developers.google.com/pay/api/android/reference/
 * object#PaymentData">PaymentData</a>
 */
private void handlePaymentSuccess(PaymentData paymentData) {

  // Token will be null if PaymentDataRequest was not constructed using fromJson(String).
  final String paymentInfo = paymentData.toJson();
  if (paymentInfo == null) {
    return;
  }
```

   Encode the **paymentInfo** with Base64 format

```
byte[] byteString=paymentInfo.getBytes("UTF-8");
String base64encodedString= android.util.Base64.encodeToString(byteString, Base64.NO_WRAP);
```

   b. Web:

   Follow the Google Pay™ JavaScript integration guide and retrieve the paymentToken at **processPayment** function.

```
/**
 * Process payment data returned by the Google Pay API
 *
 * @param {object} paymentData response from Google Pay API after user approves payment
 * @see {@link https://developers.google.com/pay/api/web/reference/response-objects#PaymentData|Pay
 */
function processPayment(paymentData) {
  // show returned data in developer console for debugging
    console.log(paymentData);
  // @todo pass payment token to your gateway to process payment
  paymentToken = paymentData.paymentMethodData.tokenizationData.token;
}</script>
<script async
  src="https://pay.google.com/gp/p/js/pay.js"
  onload="onGooglePayLoaded()"></script>
```

Send the paymentToken to the merchant server and encode it with Base64 format

```
byte[] byteString=paymentToken.getBytes("UTF-8");
String base64encodedString= java.util.Base64.getEncoder().encodeToString(byteString);
```

3. Submit the payment request to PayDollar Server Side Direct Connection with the following parameter:

   eWalletPaymentData: Encoded Base64 payment token String

   eWalletService: T

   eWalletBrand: GOOGLE

4. PayDollar will send the data feed to merchant server for the final transaction result.

Please read and accept the following policy for Google Pay™:

Google Pay™ API Acceptable Use Policy:

https://payments.developers.google.com/terms/aup

Google Pay™ API Terms of Service:

https://payments.developers.google.com/terms/sellertos

Google Play™ Developer Policy:

https://support.google.com/googleplay/android-developer/answer/9858738

Related SDK document:

Android: https://developers.google.com/pay/api/android/overview

Web: https://developers.google.com/pay/api/web/overview

Apple Pay

1. Follow the Apple account configuration step to create Apple merchant ID and upload the acquiring bank certificate to the account.
2. Follow the Apple Pay SDK integration step and get the Apple Pay token data (**PKPayment**)

> The actions on your server vary depending on whether you process your own payments or work with a payment platform. In both cases, your server handles the order and sends a status back to the device, which your delegate passes to its completion handler, as described in Processing Payments.

```
- (void) paymentAuthorizationViewController:(PKPaymentAuthorizationViewController
*)controller
                       didAuthorizePayment:(PKPayment *)payment
                                completion:(void (^)
(PKPaymentAuthorizationStatus))completion
{
    NSError *error;
    ABMultiValueRef addressMultiValue = ABRecordCopyValue(payment.billingAddress,
kABPersonAddressProperty);
    NSDictionary *addressDictionary = (__bridge_transfer NSDictionary *)
ABMultiValueCopyValueAtIndex(addressMultiValue, 0);
    NSData *json = [NSJSONSerialization dataWithJSONObject:addressDictionary
options:NSJSONWritingPrettyPrinted error: &error];

    // ... Send payment token, shipping and billing address, and order information to your
server ...

    PKPaymentAuthorizationStatus status;  // From your server
    completion(status);
}
```

3. Convert the PKPayment object to JSON format and encode it with **Base64** format

Example JSON for PKPayment:

```
{
  "token":{
    "paymentMethod":{
      "displayName":"Visa 1234",
      "network":"Visa",
      "type":"1"
    },
    "transactionIdentifier":"xxxxxxxxxxxx",
    "paymentData":{
      "header":{
        "publicKeyHash":"xxxxxxxxxxxx",
        "ephemeralPublicKey":"xxxxxxxxxxxxxxxxxxxxx",
```

```
            "transactionId":"xxxxxxxxxxxxxx"
        },
        "signature":"xxxxxxx",
        "version":"EC_v1",
        "data":"xxxxxxxxxxx"
      }
    }
  }
```


4. Submit the payment request to PayDollar Server Side Direct Connection with the following parameter:
   eWalletPaymentData: Encoded Base64 PKPayment
   eWalletService: T
   eWalletBrand: APPLEPAY
5. PayDollar will send the data feed to merchant server for the final transaction result.

Related SDK document:
https://developer.apple.com/documentation/passkit/
https://developer.apple.com/library/archive/ApplePay_Guide/index.html#//apple_ref/doc/uid/TP40014764-CH1-SW1

FPS

1. Merchant APP request FPS transaction and send request to Merchant Server
2. Merchant Server send the related order information to PayDollar Server Side Direct Connection.
3. PayDollar will return the FPS payment token at parameter "**errMsg**".
4. Merchant Server store the FPS payment token and Generate an URL to retrieve the token:
    a. URL must be in HTTPS and with sub-domain "fps.", for example: https://fps.xxxxxx.xxx
    b. Sub-domain must be applied HKPost e-Cert and main domain name must be matched
    c. Merchant name at HKPost e-Cert must be **TOTALLY** matched with the Merchant FPS account name
    d. HKPost e-Cert must not be expired

    Example:

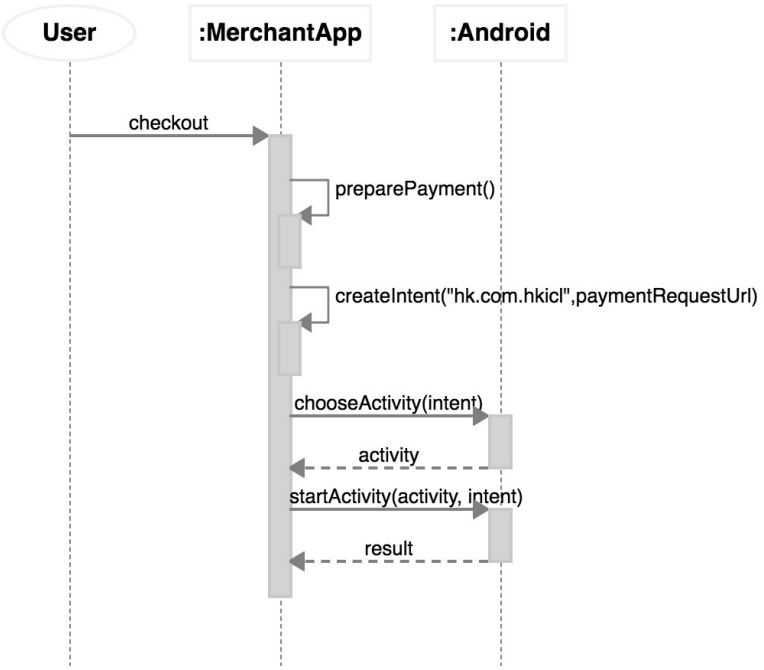
    URL: https://fps.merchant.com/order/123456

    Response:

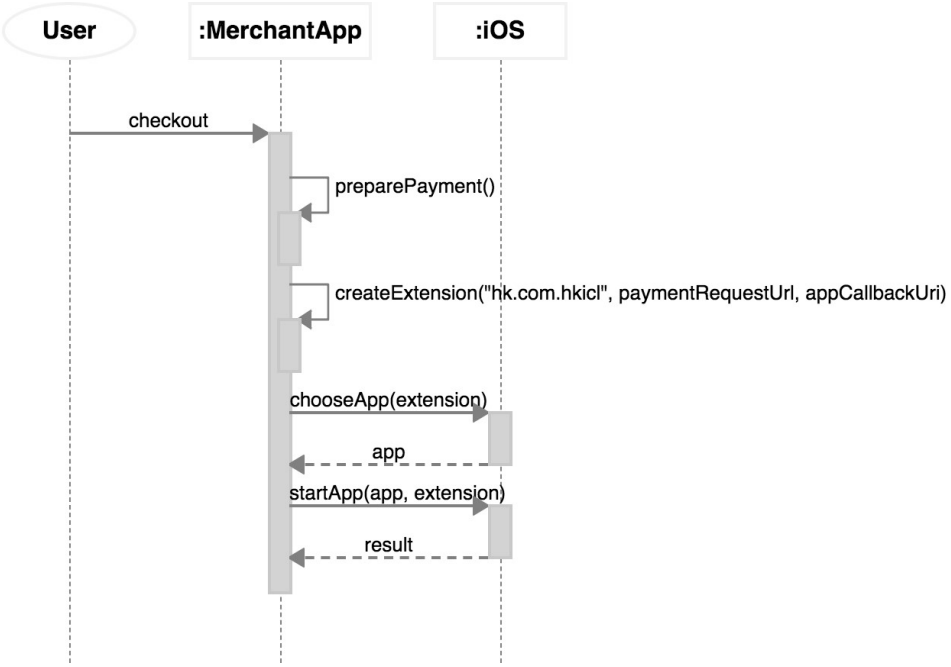
    000201010212304701156490328544319410210111031831303101110318313520470115303
    76454032.05802TH5908SCB
    Test6007BANGKOK62770110111031831303155181764896976980523020071403224139 4
    0000000713OON111031831363048814
5. Merchant Server return the URL to the Merchant APP and call payment request to the "hk.com.hkicl" with the above URL.
6. Supported Bank / Payment APP will be triggered and Client complete the payment.
7. PayDollar will send the data feed to merchant server for the final transaction result.

Merchant App Flow:

Android:



iOS:



Octopus

1. Send the related order information to PayDollar Server Side Direct Connection.
2. PayDollar will return related transaction URI with Base64 format at parameter "**errMsg**".

   successful "**errMsg**" format:

   Base64(octopus payment URI)

   Example:

   data = octopus://payment?token=ysadsxs

   errMsg = b2N0b3B1czovL3BheW1lbnQ/dG9rZW49eXNhZHN4cw==
3. Decode the errMsg with Base64 to retrieve the Octopus payment URI.
4. Pass the Octopus payment URI to the application to trigger the payment.
5. PayDollar will send the data feed to merchant server for the final transaction result.

Sample Code:

Android:

```
public final static int OCTOPUS_APP_REQUEST_CODE = 10000; // This CODE is subject to
change by SI
List<PackageInfo> packs = getPackageManager().getInstalledPackages(0);
boolean hasOctopusApp = false;

for (int i = 0; i < packs.size(); i++) {
    PackageInfo p = packs.get(i);
    if (p.packageName.contains("com.octopuscards.nfc_reader")) {
        hasOctopusApp = true;
    }
}

if (hasOctopusApp) {
    // Make payment request to OOS
    // ……
    // method to get the URI in response data.
    String octopusuri = getOctopusURI(…..)
    // if installed package is OctopusApp
    Intent intent = new Intent(Intent.ACTION_VIEW, Uri .parse(octopusuri));
    startActivityForResult(intent, OCTOPUS_APP_REQUEST_CODE);
} else {
    // don't have any octopus app. prompt to Google Play for download
    // ……
}
```

```
@Override
protected void onActivityResult(int requestCode, int resultCode, Intent data) {
    super.onActivityResult(requestCode, resultCode, data);

    if (requestCode == OCTOPUS_APP_REQUEST_CODE && resultCode == Activity.RESULT_OK)
{
        // Octopus returns here.
        // Merchant APP should get latest payment status from Payment gateway
    }
}
```

iOS:

```
// decode octopus payment token from the PayDollar response
let decodedData = Data(base64Encoded: str, options: .ignoreUnknownCharacters)
// sample decoded value : octopus://payment?token=1234567
let octopusPaymentUrl = String(data: decodedData!, encoding: .utf8)!

// build the return deeplink
let appName = Bundle.main.object(forInfoDictionaryKey: "CFBundleName") as! String
let appReturnUrl = appName + "://octopus/return"

// build the octopus payment url
let cURL = URL(string: octopusPaymentUrl! + "&return=" + appReturnUrl)!

// check octopus app installed or not
var canOpen : Bool = UIApplication.shared.canOpenURL(cURL)
if canOpen == true {
    UIApplication.shared.open(cURL, options: [:]) { (res) in
        print("Octopus app open response: \(res)")
    }
} else {
    // display app not installed or redirect client to App Store
}
```