DOKU ANDROID SDK DOCUMENTATION

Version 2

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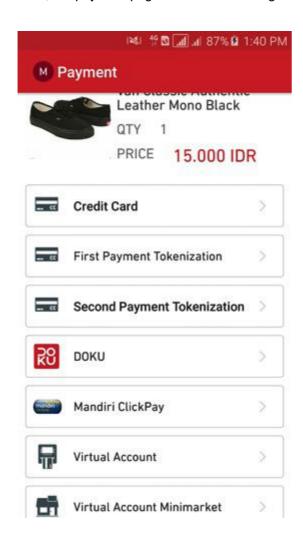
1.0 Introduction

This document will act as a tutorial to help you integrate your Android mobile application to DOKU API and start receiving payments from mobile transactions. The DOKU Android SDK enables you to accept payments from customers who make a purchase on mobile devices through your Android application, and currently supports the following payment methods:

- · Credit Card
- DOKU Wallet
- Bank Transfer
- Convenience Store
- Mandiri Clickpay

The payment page and data input is native to the merchant's mobile app, without having to redirect to a DOKU-hosted page. Having the payment form on the merchant page does not compromise the security of the cardholder however, as DOKU is PCI (Level 1) certified, and none of the cardholder data will actually be stored on the merchant's server.

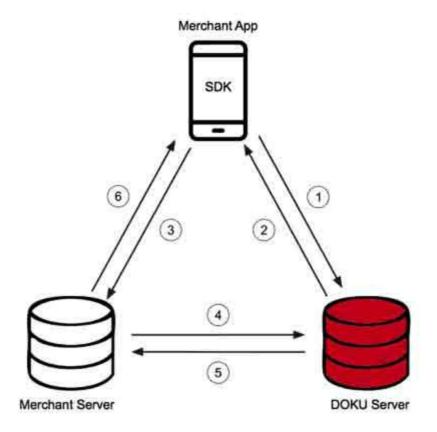
The DOKU API only provides the fields to be filled in by the customer. All other parts of the payment page, including the logo, colour and 'Process Payment' button are customizable to your needs for a completely white label payment flow. Learn how to customize your page in Section 6.0. Once you have installed your SDK, the payment page will look something like this:





www.doku.com

1.1 Payment Flow



- 1. When the customer inputs their card/payment data into the payment form on your app, the embedded SDK will send a token request with the card information to the DOKU server.
- 2. The DOKU server will generate a **cc_token** and **pairing_code** and send the response to the DOKU SDK within the merchant app. Through this process, none of the credit card data is captured by the merchant, and everything is securely processed by DOKU.
- 3. The merchant app sends the card data to the merchant server, according to the action parameter in the SDK.
- 4. The merchant server will send a payment request to DOKU, containing the payment data such as price, customer information and the token.
- 5. DOKU processes the payment and sends a response in JSON format.
- 6. The merchant displays the payment result on the app, according to the response sent by DOKU.

See Appendix (Section 7.0) for response codes.

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1.2 Integration

The following section gives an example of how you can integrate the various payments into your Android mobile application. Once you have confirmed to become a DOKU merchant through our Sales process, you will be contacted by our integration team to proceed to the technical integration stage. All new merchants will receive a *shared key* and a *merchant code*. Take note of this information as you will need to enter them into the API script during integration. The response codes are categorized by payment method, and can be found in the appendix.

The instructions are divided into separate sections for each payment method, as the integration process will differ for each method. Credit Card and DOKU Wallet payments use a mobile SDK, while Bank Transfer, Convenience Store and Internet Banking payments use the Merchant-hosted web API.

SDK integration has the following requirements:

- · Android studio IDE
- Build SDK v21
- Minimum Android SDK 11 Gingerbread

2.0 Credit Card

By default all credit card payments processed by DOKU will undergo 3D secure. Non-3D secure payments are available, however would require further assessment by DOKU and the bank.

Credit card integration comprises 3 steps:

- 1. Embed the DOKU Android SDK into your mobile app
- 2. Retrieve token
- Send payment request
- 1. Embed the DOKU Android SDK into your mobile app

Download the AAR library at http://doku.com/AndroidOCO/SDKOCO-DummyMerchant V2.zip a. and paste it to your App's libs folder. See example:



b. Set the required permissions by pasting the following script into your app's manifest.xml file

c. The SDK uses a type of plugin called Gradle for processing and layouting. Processing includes payment and prepayment requests, while layouting refers to the format of the input form (e.g. how to display the credit card number). Add a reference to Gradle using flatDirs script on the top level of the all projects section (see below).

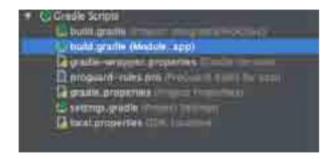


Add the flatDir script to your 'allprojects':

```
flatDir {
  dirs 'libs'
}
```

d. Create the dependencies for your project by adding the following code into the 'build.gradle' section:

```
compile 'com.doku.sdkocov2:sdkocov2-release:1.0@aar'
```



The installation process is complete; you may now commence integration with the payment library.



- 2. Retrieve Token
 - a. Initiate the SDK by pasting the following script to your app:

```
Direct SDK directSDK = new DirectSDK();
```

b. Below is an example code for the parameter which will be sent by the merchant app to the SDK (see the **Payment Flow** diagram for details). See the Appendix (Section 7.2) for parameter format details.

```
PaymentItems paymentItems = new PaymentItems();
paymentItems.setDataAmount(AppsUtil.generateMoneyFormat("15000"));
paymentItems.setDataBasket("[{\"name\":\"sayur\",\"amount\":\"10000.00\",\"quantity\":\"1\",\"su
btotal\":\"10000.00\"},{\"name\":\"buah\",\"amount\":\"10000.00\",\"quantity\":\"1\",\"subtotal\
":\"10000.00\"}]");
paymentItems.setDataCurrency("360");
paymentItems.setDataWords(AppsUtil.SHA1(AppsUtil.generateMoneyFormat("15000") + "2074" +
"eaM6ilJjS19J" + invoiceNumber + 360 +
telephonyManager.getDeviceId()));telephonyManager.getDeviceId()));
paymentItems.setDataMerchantChain("NA");
paymentItems.setDataSessionID(String.valueOf(AppsUtil.nDigitRandomNo(9)));
paymentItems.setDataTransactionID(invoiceNumber);
paymentItems.setDataMerchantCode("2074");
paymentItems.setDataImei(telephonyManager.getDeviceId());
paymentItems.setMobilePhone("08123123112");
paymentItems.isProduction(false); //set 'true' for production and 'false' for development paymentItems.setPublicKey(""); //PublicKey can be obtained from the DOKU
Back Office directSDK.setCart_details(paymentItems);
```

c. Set the payment channel code as

follows: 15 = for Credit Card

```
directSDK.setPaymentChannel(15);
```

d. In order for your Android mobile app to receive response from the SDK, you will need to create an interface handler in your activity or fragment. This is an example of how the code will look like:

e. Once you have entered all the conditions above correctly, the merchant app should receive the following response token from the SDK which indicates success.

```
"res_token_id":
"53beb0d8da617828d1c6295d822d84b4a12c33ea",
   "res_pairing_code": "07041613200336243915",
   "res_name": "test",
   "res_data_email": "test@mail.com",
   "res_response_msg": "SUCCESS",
   "res_device_id": "867804025368595",
   "res_token_code": "0000",
   "res_amount": "15000.00",
   "res_response_code": "0000",
   "res_payment_channel": "15",
   "res_transaction_id": "1410757974"
}
```

f. After getting your token, there will be instances where your app send it forward to your server, for example for charging payments. To do this, we will use AsyncTask from Android to send it asynchronously. Please see the script below as an example.

3. Send Payment Request

a. Your app will send the data response to your server, which you can pass on to the DOKU server to process the payment.

```
<?php
require_once('../Doku.php');
Doku Initiate::$sharedKey = '<Put Your Shared Key Here>';
Doku_Initiate::$mallId = '<Put Your Merchant Code Here>';
$token = $_POST['doku-token'];
$deviceid = $_POST['deviceid'];
$pairing_code = $_POST['doku-pairing-code'];
$ invoice_no = $ POST['doku-invoice-no'];
$params = array(
     'amount' => '10000.00',
     'invoice' => $invoice_no,
'currency' => '360',
     'pairing_code' => $pairing_code,
     'token' => $token,
     'deviceid' => $deviceid
);
$ words = Doku Library::doCreateWords($params);
$basket[] = array(
    'name' => 'sayur'
     'amount' => '10000.00',
     'quantity' => '1',
'subtotal' => '10000.00'
);
$customer = array(
     'name' => 'TEST NAME'
     'data_phone' => '08121111111',
'data_email' => 'test@test.com',
     'data_address' => 'bojong gede #1 08/01'
);
     $dataPayment = array(
          'req mall_id' => Doku_Initiate::$mallId,
          'req chain merchant' => 'NA',
         'req_amount' => '10000.00',
'req_words' => $words,
'req_purchase_amount' => '10000.00',
'req_trans_id_merchant' => $invoice_no,
          'req_request_date_time' => date('YmdHis'),
'req_currency' => '360',
'req_purchase_currency' => '360',
          'req_session_id' => shal(date('YmdHis')),
          'req name' => $customer['name'],
          'req_payment_channel' => 15,
'req_basket' => $basket,
'req_address' => $customer['data_address'],
          'req email' => $customer['data email'],
          'req token id' => $token
     $result = Doku Api::doPayment($dataPayment);
     if($result->res_response_code == '0000'){
         echo 'SUCCESS';
          //success
     }else{
         echo 'FAILED';
         //failed
```

At this stage, add token_id & pairing_code to WORDS:

'WORDS = Amount + Mall ID + Shared Key + Invoice + 360 + Token ID + Pairing Code + Device ID'

b. If you have successfully charged payments from a credit card, you will received responses from DOKU Server as shown below. (see response codes definitions in Appendix)

Example success response for payments made using a credit card:

```
"res_tid": "13019501",
  "res trx code":
"ae9e5\overline{4}a6f\overline{0}788c41a8c4d468f83fc7c268fc0725",
  "res_currency": "IDR",
"res_approval_code": "900059",
  "res_eci": "",
  "res_chain_mall_id": "",
  "res_card_number": "4********1111",
  "res_amount": "15000.00",
"res_message": "PAYMENT_APPROVED",
  "res_issuer_bank": "JPMORGAN CHASE BANK",
  "res_liability": "MERCHANT",
  "res_mid": "000100013000195",
  "res result": "SUCCESS",
  "res_payment_date": "20160411180526",
  "res_three_d_secure_status": "FALSE",
"res_bank": "BNI",
"res_invoice_number": "1210090970",
"res_response_code": "0000",
  "res_session_id":
"7a573175e3762c01145be0ae155fcacedce030e3",
  "res_payment_channel": "15"
```

2.1 Advanced Features

2.1.1 2-Click Payment

2-click payment enables the customer to make a purchase without having to input card details or personal information, apart from the CVV number. This process is typically used by merchants that have repeat customers who will benefit from a faster checkout by reducing the number of fields the customer needs to fill in. If the card issuer requires 3D secure verification process, the customer will still have to complete this to make a purchase. In order for this process to work, the customer enters all of the card information only during the very first time they make a purchase. DOKU stores this data in a secure form and gives the merchant a token, which is paired to the customer's login credentials on the merchant website. After this process has been completed, each time they make a payment from hereon out, they only have to input the CVV.

Follow these steps to apply 2-click payment to your credit card payment process:

- 1. Insert the additional script to your server under the payment data.
- 2. Generate and save the token during the first payment.
- 3. For subsequent payments, retrieve the token from your database and send it to the DOKU server.
- 1. To initialize 2-click payment, follow the same steps as general credit card processing, but add the additional parameter 'CustomerID' to your script under the payment data. The 'CustomerID' parameter may represent the customer ID that you assign to each customer within your database. This ID will be paired with the token that DOKU gives in the status response.

```
PaymentItems paymentItems = new PaymentItems();
paymentItems.setDataAmount(AppsUtil.generateMoneyFormat("15000"));
paymentItems.setDataBasket("[{\"name\":\"sayur\",\"amount\":\"10000.00\",\"quantity\":\"1\",\"su
btotal\":\"10000.00\"},{\"name\":\"buah\",\"amount\":\"10000.00\",\"quantity\":\"1\",\"subtotal\
":\"10000.00\"}]");
paymentItems.setDataCurrency("360");
paymentItems.setDataWords(AppsUtil.SHA1(AppsUtil.generateMoneyFormat("15000") + "2074" +
"eaM6ilJjS19J" + invoiceNumber + 360 +
telephonyManager.getDeviceId()));telephonyManager.getDeviceId()));
paymentItems.setDataMerchantChain("NA");
paymentItems.setDataSessionID(String.valueOf(AppsUtil.nDigitRandomNo(9)));
paymentItems.setDataTransactionID(invoiceNumber);
paymentItems.setDataMerchantCode("2074");
paymentItems.setDataImei(telephonyManager.getDeviceId());
paymentItems.setMobilePhone("08123123112");
paymentItems.isProduction(false); //set `true' for production and `false' for development paymentItems.setPublicKey(""); //PublicKey can be obtained from the DOKU
Back Office paymentItems.setCustomerID("12124")
directSDK.setCart_details(paymentItems);
```

The script with the additional parameter will generate the following payment form, which enables the customer to save their credit card, for faster payment. When a transaction is sent as a 2-Click payment to DOKU, in addition to the 4 fields for credit card data, DOKU will also display on the merchant website a tick box asking the customer's approval to save the card.



2. When the customer has filled in their card details and clicked "Process Payment", the data is sent to the DOKU server. Because the 'CustomerID' parameter has been added to the payment form, the DOKU server will create a token to pair with the Customer ID. If the customer checks the box next to "Save credit card data" the payment response to the Merchant server will include this token. See example response:

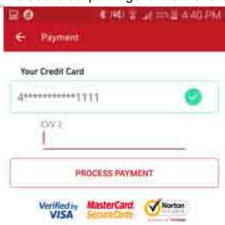
When the payment response is received, store it in your database for the next payment using the 2-Click service.



3. After a successful first payment, (assuming that the merchant has been correctly storing the Token data) only a slight modification needs to be made to the script. Add the extra parameter 'TokenPayment' as seen below, by using the token value that was obtained during the first payment:

```
PaymentItems paymentItems = new PaymentItems();
paymentItems.setDataAmount(AppsUtil.generateMoneyFormat("15000"));
paymentItems.setDataBasket("[{\"name\":\"sayur\",\"amount\":\"10000.00\",\"quantity\":\"1\",\"su
btotal\":\"10000.00\"},{\"name\":\"buah\",\"amount\":\"10000.00\",\"quantity\":\"1\",\"subtotal\
":\"10000.00\"}]");
paymentItems.setDataCurrency("360");
paymentItems.setDataWords(AppsUtil.SHA1(AppsUtil.generateMoneyFormat("15000") + "2074" +
"eaM6i1JjS19J" + invoiceNumber + 360 +
telephonyManager.getDeviceId()));telephonyManager.getDeviceId()));
paymentItems.setDataMerchantChain("NA");
paymentItems.setDataSessionID(String.valueOf(AppsUtil.nDigitRandomNo(9)));
paymentItems.setDataTransactionID(invoiceNumber);
paymentItems.setDataMerchantCode("2074");
paymentItems.setDataImei(telephonyManager.getDeviceId());
paymentItems.setMobilePhone("08123123112");
paymentItems.isProduction(false); //set 'true' for production and 'false' for
development paymentItems.setPublicKey(""); //PublicKey can be obtained from the DOKU
Back Office paymentItems.setCustomerID("12124");
       \verb"paymentItems.setTokenPayment("0bea1c1c653dbc8e1e6c24155c629fe237325a06");
directSDK.setCart details(paymentItems);
```

The above script will generate the following payment form:



As you can see from the screenshot above, the customer no longer needs to fill out the credit card data apart from the CVV number. When the customer clicks the "Process Payment" button, it will follow the same process as regular card payments.

2.1.3 1-Click Payment

Using the same principles as 2-Click Payment, 1-Click payment takes it a step further and allows the customer to make a purchase with a single click on the mobile app. This means that they can skip the process of inputting their card details, personal information, CVV number and 3D secure. The customer will have to enter the card details and complete the 3D secure verification process only during the first time they make a purchase. By eliminating the extra steps, you are able to create a more seamless and easy checkout process, which may lead to a lower drop-off rate. However, please note that this is **subject to DOKU's** and the bank's approval due to an increase in fraud risk. Please contact DOKU if you are interested to implement the 1-Click Payment feature.

Follow these steps to apply 1-click payment to your credit card payment process:

- 1. Insert the additional script to your server under the payment data.
- 2. Generate and save the token during the first payment.
- 3. Change method of payment in the payment request form.
- 1. To initialize 1-click payment, follow the same steps as general credit card processing, but add the additional parameter 'CustomerID' to your script under the payment data. The 'CustomerID' parameter may represent the customer ID that you assign to each customer within your database. This ID will be paired with the token that DOKU gives in the status response.

```
PaymentItems paymentItems = new PaymentItems();
paymentItems.setDataAmount(AppsUtil.generateMoneyFormat("15000"));
paymentItems.setDataBasket("[{\"name\":\"sayur\",\"amount\":\"10000.00\",\"quantity\":\"1\",\"subtotal\":\"10000.00\",\"quantity\":\"1\",\"subtotal\
":\"10000.00\"}]");
paymentItems.setDataCurrency("360");
paymentItems.setDataWords(AppsUtil.SHA1(AppsUtil.generateMoneyFormat("15000") + "2074" +
"eaM6i1JjS19J" + invoiceNumber + 360 +
telephonyManager.getDeviceId()));telephonyManager.getDeviceId()));
paymentItems.setDataMerchantChain("NA");
paymentItems.setDataSessionID(String.valueOf(AppsUtil.nDigitRandomNo(9)));
paymentItems.setDataTransactionID(invoiceNumber);
paymentItems.setDataMerchantCode("2074");
paymentItems.setDataImei(telephonyManager.getDeviceId());
paymentItems.setMobilePhone("08123123112");
paymentItems.isProduction(false); //set 'true' for production and 'false' for
development paymentItems.setPublicKey(""); //PublicKey can be obtained from the DOKU
Back Office paymentItems.setCustomerID("12124")
directSDK.setCart_details(paymentItems);
```

The script with the additional parameter will generate the following payment form, which enables the customer to save their credit card:



2. When the customer has filled in their card details and clicked "Process Payment", the data is sent to the DOKU server. Because the 'CustomerID' parameter has been added to the payment form, the DOKU server will create a token to pair with the Customer ID. If the customer checks the box next to "Save credit card data", the payment response to the Merchant server will include this token. See example response:

```
{
             "res_approval_code":"844647",
            "res_trans_id_merchant":"1706221359",
"res_amount":"30000.00",
            "res_payment_date_time":"20160319114638",
            "res_verify_score":"-1",
"res_verify_id":"",
            "res_verify_status":"NA",
"res_words":"7553a51a091775a2462eb9150c7135f4a8d58ff161db022ca42e0ef65666ebf0",
             "res_response_msg":"SUCCESS",
             "res_mcn":"4*********1111"
            "res mid":"000100013000195"
             "res bank": "JPMORGAN CHASE BANK",
            "res response code":"0000",
             "res_session_id":"4cf212f141a1d7fe672db93db75cc069,PRODUCTION",
             "res_payment_channel":"15",
             "res_bundle_token":"{"res_token_payment":"<a href="https://docs.org/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learning/learnin
                                                                                                                                                                        "res_token_msg":"SUCCESS",
                                                                                                                                                                       "res_token_code":"0000"
```

When the payment response is received, store it in your database for the next payment using the 1-Click service.

3. For future payments, the request will work server-to-server without involving the SDK. However, when you make the payment request, you must change the method of payment to <code>Doku_Api::dopayment</code> instead of <code>Doku_Api::dopayment</code>. See example:

```
require once('../Doku.php');
Doku Initiate::$sharedKey = '<Put Your Shared Key Here>';
Doku Initiate::$mallId = '<Put Your Merchant Code Here>';
$params = array(
     'amount' => '100000.00',
'invoice' => '123456789'
$words = Doku_Library::doCreateWords($params);
$customer = array(
     'name' => 'TEST NAME',
     'data_phone' => '08121111111',
'data_email' => 'test@test.com',
     'data_address' => 'bojong gede #1 08/01'
);
$basket[] = array(
    'name' => 'sayur'
     'amount' => '10000.00',
     'quantity' => '1',
'subtotal' => '10000.00'
);
$basket[] = array(
    'name' => 'buah'
     'amount' => '10000.00',
     'quantity' => '1',
'subtotal' => '10000.00'
$dataPayment = array(
     'req mall id' => Doku Initiate::$mallId,
     'req chain merchant' => 'NA',
     'req_amount' => $params['amount'],
'req_words' => $words,
     'req_purchase_amount' => $params['amount'],
    'red_purchase_amount' => $params['amount'],
'req_trans_id_merchant' => $params['invoice'],
'req_request_date_time' => date('YmdHis'),
'req_currency' => '360',
'req_purchase_currency' => '360',
     'req_session_id' => shal(date('YmdHis')),
     'req name' => $customer['name'],
     'req_payment_channel' => '15',
'req_email' => $customer['data_email'],
     'req_basket' => $basket,
'req_address' => $customer['data_address'],
     'req token payment' =>
'Obea1c1c653dbc8e1e6c24155c629fe237325a06',
     'req_customer id' => '12124'
$response = Doku_Api::doDirectPayment($dataPayment);
if($response->res_response_code == '0000'){
    echo 'PAYMENT SUCCESS -- ';
}else{
    echo 'PAYMENT FAILED -- ';
?>
```

At this stage, add **token_id** & **pairing_code** to WORDS:

'WORDS = Amount + Mall ID + Shared Key + Invoice + 360 + Token ID + Pairing Code + Device ID'

3.0 DOKU Wallet

DOKU Wallet integration comprises 3 steps:

- 1. Embed the DOKU Android SDK into your mobile app
- 2. Retrieve token
- 3. Send payment request
- Embed the DOKU Android SDK into your mobile app
 - a. Download the AAR library at http://doku.com/AndroidOCO/SDKOCO-DummyMerchant V2.zip and paste it to your App's libs folder. See example:



b. Set the required permissions by pasting the following script into your app's manifest.xml file

```
<uses-permission android:name="android.permission.INTERNET" /> <uses-
permission android:name="android.permission.ACCESS_NETWORK_STATE" />
<uses-permission android:name="android.permission.ACCESS_WIFI_STATE" />
<uses-permission android:name="android.permission.READ_PHONE_STATE" />
```

c. The SDK uses a type of plugin called Gradle for processing and layouting. Processing includes payment and prepayment requests, while layouting refers to the format of the input form (e.g. how



to display the credit card number). Add a reference to Gradle using flatDirs script on the top level of the all projects section (see below).



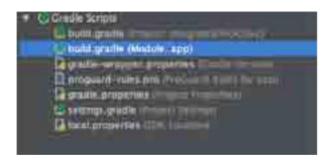
```
| callprojects {
| repositories {
| jcenter()
| flatDir {
| dirs 'libs'
| }
| }
```

Add the flatDir script to your 'allprojects':

```
flatDir {
  dirs 'libs'
}
```

d. Create the dependencies for your project by adding the following code into the 'build.gradle' section:

```
compile 'com.doku.sdkocov2:sdkocov2-release:1.0@aar'
```



The installation process is complete; you may now commence integration with the payment library.

2. Retrieve Token



a. Initiate the SDK by pasting the following script to your app:

```
Direct SDK directSDK = new DirectSDK();
```

b. Below is an example code for the parameter which will be sent by the merchant app to the SDK (see the **Payment Flow** diagram for details). See the appendix for parameter format details.

```
PaymentItems paymentItems = new PaymentItems();
paymentItems.setDataAmount(AppsUtil.generateMoneyFormat("15000"));
paymentItems.setDataBasket("[{\"name\":\"sayur\",\"amount\":\"10000.00\",\"quantity\":\"1\",\"su
btotal\":\"10000.00\"},{\"name\":\"buah\",\"amount\":\"10000.00\",\"quantity\":\"1\",\"subtotal\
":\"10000.00\"}]");
paymentItems.setDataCurrency("360");
paymentItems.setDataWords(AppsUtil.SHA1(AppsUtil.generateMoneyFormat("15000") + "2074" +
"eaM6i1JjS19J" + invoiceNumber + 360
telephonyManager.getDeviceId()));telephonyManager.getDeviceId()));
paymentItems.setDataMerchantChain("NA");
paymentItems.setDataSessionID(String.valueOf(AppsUtil.nDigitRandomNo(9)));
paymentItems.setDataTransactionID(invoiceNumber);
paymentItems.setDataMerchantCode("2074");
paymentItems.setDataImei(telephonyManager.getDeviceId());
paymentItems.setMobilePhone("08123123112");
directSDK.setCart details(paymentItems);
```

c. Set the payment channel code as

follows: 04 = for DOKU Wallet

```
directSDK.setPaymentChannel(04);
```

d. In order for your Android mobile app to receive response from the SDK, you will need to create an interface handler in your activity or fragment. This is an example of how the code will look like:

```
directSDK.getResponse(new iPaymentCallback() {
            @Override
            public void onSuccess(final String text) {
                try {
                    respongetTokenSDK = new JSONObject(text);
                    if (respongetTokenSDK.getString("res_response_code").equalsIgnoreCase("0000")) {
                        //do your background AsyncTask service to merchant server handler here
                } catch (JSONException e)
                    { e.printStackTrace();
            @Override
            public void onError(final String text) {
               //error handling here
            @Override
            public void onException(Exception eSDK) {
                eSDK.printStackTrace();
        }, getApplicationContext());
```

Once you have entered all the conditions above correctly, the merchant app should receive the following response token from the SDK which indicates success.

```
"res_token_id":
"53beb0d8da617828d1c6295d822d84b4a12c33ea",
    "res_pairing_code": "07041613200336243915",
    "res_name": "test",
    "res_data_email": "test@mail.com",
    "res_response_msg": "SUCCESS",
    "res_device_id": "867804025368595",
    "res_token_code": "0000",
    "res_amount": "15000.00",
    "res_response_code": "0000",
    "res_payment_channel": "04",
    "res_transaction_id": "1410757974"
}
```

e. After getting your token, there will be instances where your app send it forward to your server, for example for charging payments. To do this, we will use AsyncTask from Android to send it asynchronously. Please see the script below as an example.

3. Send Payment Request

 Your app will send the data response to your server, which you can pass on to the DOKU server to process the payment.

```
<?php
require_once('../Doku.php');
Doku Initiate::$sharedKey = '<Put Your Shared Key Here>';
Doku_Initiate::$mallId = '<Put Your Merchant Code Here>';
$token = $ POST['doku-token'];
$deviceid = $_POST['deviceid'];
$pairing_code = $_POST['doku-pairing-code'];
$ invoice_no = $ POST['doku-invoice-no'];
$params = array(
     'amount' => '10000.00',
    'invoice' => $invoice_no,
'currency' => '360',
'pairing_code' => $pairing_code,
     'token' => $token,
    'deviceid' => $deviceid
);
$ words = Doku Library::doCreateWords($params);
$basket[] = array(
     'name' => 'sayur',
     'amount' => '10000.00',
     'quantity' => '1',
'subtotal' => '10000.00'
);
$customer = array(
     'name' => 'TEST NAME'
     'data_phone' => '08121111111',
     'data_email' => 'test@test.com',
     'data_address' => 'bojong gede #1 08/01'
);
     $dataPayment = array(
         'req mall id' => Doku Initiate::$mallId,
          'req_chain_merchant' => 'NA',
         'req_amount' => '10000.00',
'req_words' => $words,
'req_purchase_amount' => '10000.00',
'req_trans_id_merchant' => $invoice_no,
         'req_request_date_time' => date('YmdHis'),
          'req_currency' => '360',
'req_purchase_currency' => '360',
          'req_session_id' => shal(date('YmdHis')),
'req_name' => $customer['name'],
          'req_payment_channel' => 04,
         'req_basket' => $basket,
'req_address' => $customer['data_address'],
          'req email' => $customer['data email'],
          'req_token id' => $token
     $result = Doku Api::doPayment($dataPayment);
     if($result->res response code == '0000'){
         echo 'SUCCESS';
         //success
     }else{
         echo 'FAILED';
         //failed
```

At this stage, add token_id & pairing_code to WORDS:

'WORDS = Amount + Mall ID + Shared Key + Invoice + 360 + Token ID + Pairing Code + Device ID'



b. If you have successfully charged payments from a DOKU Wallet, you will received responses from DOKU Server as shown below. See response code definitions in Appendix (Section 7.3).

Example success response for payments made using DOKU Wallet:

```
"res_dp_mall_id": 47,
   "res_tracking_id": 30267,
   "res_response_msg": "Berhasil",
   "res_approval_code": "253052",
   "res_trans_id_merchant": "1438202478",
   "res_payment_channel_code": "01",
   "res_status": "Success",
   "res_bank": "CASH",
   "res_response_code": "0000",
   "res_payment_channel": "04"
}
```

4.0 Virtual Account

DOKU Virtual Account aggregates the funds using 3 different entities – Bank Permata, Bank Sinarmas and Alfa Group. When the customer clicks 'Process Payment', DOKU will generate a one-time use, 11 digit payment code which is valid at any Prima, ALTO or Bersama ATM as well as all of Alfa Group's convenience stores. For each of the different acquiring entities, the first 5 digit codes will define where the payment should be made. See codes below:

Permata: 89650 Sinarmas: 88900 Alfa: 88888

So a payment code that is valid for payment at an Alfa store would look like this: 88888-39421877483. And a bank transfer with Permata acquiring would look like this: 89650-39421877483.

Integration for ATM transfer and convenient store is practically identical; however, keep in mind that you will have to set the first 5 digits according to the payment method, and the last 11 digits will be queried from the DOKU server.

4.1 Bank Transfer

Follow these simple steps for Bank Transfer integration:

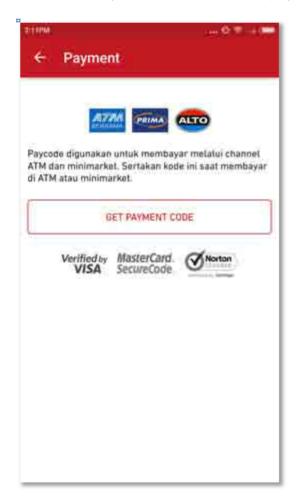
- 1. Generate Payment Code
- 2. Display Payment Code in your app
- 3. Receive Payment Notification
- 4. Notify DOKU server that Payment Notification has been received

To get started on your integration, follow these steps one by one by pasting these scripts into your app.

1. Get the device ID from your customer by pasting the script into your app:

TelephonyManager telephonyManager = (TelephonyManager)
getSystemService(Context.TELEPHONY_SERVICE);
telephonyManager.getDeviceId()

Create a "Get Payment Code" button, and display it in your app like this:



By using the DOKU PHP Library, you can make a payment code request with ease. The request process is performed host to host. Examples of the request is seen below:

```
require_once('../Doku.php');
date default timezone set('Asia/Jakarta');
Doku Initiate::$sharedKey = <Put Your Shared Key Here>;
Doku Initiate::$mallId = <Put Your Merchant Code Here>
$params = array(
   'amount' => $_POST['amount'],
'invoice' => $_POST['trans_id'],
    'currency' => $ POST['currency']
);
$words = Doku Library::doCreateWords($params);
$customer = array(
   'name' => 'TEST NAME'
    'data_phone' => '08121111111',
    'data_email' => 'test@test.com',
    'data_address' => 'bojong gede #1 08/01'
);
$dataPayment = array(
    'req mall id' => $ POST['mall id'],
    'req chain merchant' => $ POST['chain merchant'],
    'req_amount' => $params['amount'],
'req_words' => $words,
    'req_trans_id_merchant' => $_POST['trans_id'],
    'req_purchase_amount' => $params['amount'],
    'req_request_date_time' => date('YmdHis'),
'req_session_id' => shal(date('YmdHis')),
    'req email' => $customer['data email'],
    'req_name' => $customer['name'],
    'req_basket' => 'sayur,10000.00,1,10000.00;',
'req_address' => 'Menara Mulia Lt. 8 Kav 59',
    'req_mobile_phone' => '081987987999'
    'req expiry time' => '60'
$ response = Doku Api::doGeneratePaycode($dataPayment);
if($response->res response code == '0000'){
   echo 'GENERATE SUCCESS -- ';
   echo 'GENERATE FAILED -- ';
2>
```

The parameter 'reg_expiry_time' refers to the custom expiry window for the payment to be made. Exceeding this time limit will render the payment code invalid. You may set the time limit however you like, in *minute format*. If you do not set the expiry time parameter, DOKU will set it at the default time of 360 minutes (6 hours).

The DOKU server responds in JSON, like this:

```
"res_pay_code":"62700000003",
    "res_pairing_code":"290316110837531987",
    "res_response_msg":"SUCCESS",
    "res_response_code":"0000"
}
```



2. Display the result in your app however you wish. If you choose to display the 11 digits only, letting the customer choose their payment method (remember to add a "How To" in the instructions), the result can be display like this:



Alternatively, you can display all three options like this:



3. Once the customer has made a payment, DOKU will send a payment notification containing the payment parameters to your server. The notification sent from DOKU will look something like this:

```
PAYMENTDATETIME=20160329110948

PURCHASECURRENCY=360
PAYMENTCHANNEL=05
AMOUNT=10000.00
PAYMENTCODE=00100000029
WORDS=01d9b362d3c1b80ff9196c6a565c49e5d9b03b8a
RESULTMSG=SUCCESS
TRANSIDMERCHANT=ZA912172
BANK=PERMATA
STATUSTYPE=P
APPROVALCODE=068992
RESPONSECODE=0000
SESSIONID=7b6647973dd13211a7fcf42eba79acea68aa69a1
```

4. Notify the DOKU server that you have received the payment notification, using the following example script:

```
<?php
$PAYMENTDATETIME = $ POST['PAYMENTDATETIME'];
$PURCHASECURRENCY = $ POST['PURCHASECURRENCY'];
$PAYMENTCHANNEL = $_POST['PAYMENTCHANNEL'];
$AMOUNT = $_POST['AMOUNT'];
$PAYMENTCODE = $ POST['PAYMENTCODE'];
$WORDS = $_POST['WORDS'];
$RESULTMSG = $ POST['RESULTMSG'];
$TRANSIDMERCHANT = $ POST['TRANSIDMERCHANT'];
$BANK = $ POST['BANK'];
$STATUSTYPE = $_POST['STATUSTYPE'];
$APPROVALCODE = $POST['APPROVALCODE'];
$RESPONSECODE = $ POST['RESPONSECODE'];
$SESSIONID = $ POST[' SESSIONID']
$ WORDS GENERATED = <function to generate words>
if ( $WORDS == $WORDS GENERATED )
{
        echo "CONTINUE";
else
        echo "WORDS NOT MATCH";
```

4.2 Convenience Store

Follow these simple steps for convenience store payment integration:

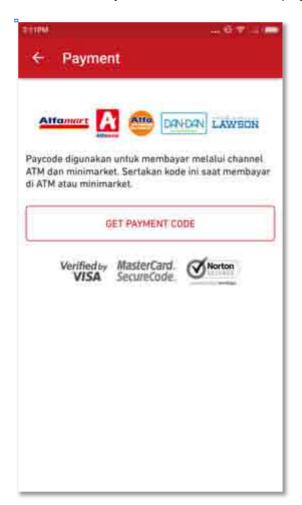
- 1. Generate Payment Code
- 2. Display Payment Code in your app
- 3. Receive Payment Notification
- 4. Notify DOKU server that Payment Notification has been received

To get started on your integration, follow these steps one by one by pasting these scripts into your app.

1. Get the device ID from your customer by pasting the script into your app:

```
TelephonyManager telephonyManager = (TelephonyManager)
getSystemService(Context.TELEPHONY_SERVICE);
telephonyManager.getDeviceId()
```

Create a "Get Payment Code" button, and display it in your app like this:



By using the DOKU PHP Library, you can make a payment code request with ease. The request process is performed host to host. Examples of the request is seen below:

```
require_once('../Doku.php');
date default timezone set('Asia/Jakarta');
Doku Initiate::$sharedKey = <Put Your Shared Key Here>;
Doku Initiate::$mallId = <Put Your Merchant Code Here>
$params = array(
   'amount' => $_POST['amount'],
'invoice' => $_POST['trans_id'],
    'currency' => $ POST['currency']
);
$ words = Doku Library::doCreateWords($params);
$customer = array(
    'name' => 'TEST NAME'
    'data phone' => '08121111111',
    'data_email' => 'test@test.com',
    'data_address' => 'bojong gede #1 08/01'
);
$dataPayment = array(
    'req mall id' => $ POST['mall id'],
    'req chain merchant' => $ POST['chain merchant'],
    'req_amount' => $params['amount'],
'req_words' => $words,
    'req_trans_id_merchant' => $_POST['trans_id'],
    'req_purchase_amount' => $params['amount'],
    'req_request_date_time' => date('YmdHis'),
'req_session_id' => shal(date('YmdHis')),
    'req email' => $customer['data email'],
    'req_name' => $customer['name'],
    'req_basket' => 'sayur,10000.00,1,10000.00;',
'req_address' => 'Menara Mulia Lt. 8 Kav 59',
    'req_mobile_phone' => '081987987999'
    'req expiry time' => '60'
$ response = Doku Api::doGeneratePaycode($dataPayment);
if($response->res response code == '0000'){
   echo 'GENERATE SUCCESS -- ';
   echo 'GENERATE FAILED -- ';
2>
```

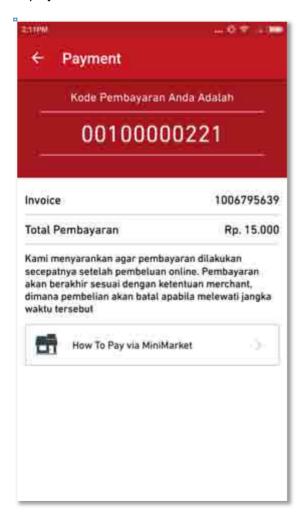
The parameter 'reg_expiry_time' refers to the custom expiry window for the payment to be made. Exceeding this time limit will render the payment code invalid. You may set the time limit however you like, in *minute format*. If you do not set the expiry time parameter, DOKU will set it at the default time of 360 minutes (6 hours).

The DOKU server responds in JSON, like this:

```
"res_pay_code":"62700000003",
    "res_pairing_code":"290316110837531987",
    "res_response_msg":"SUCCESS",
    "res_response_code":"0000"
}
```



2. Display the result in your app however you wish. If you choose to display the 11 digits only, letting the customer choose their payment method (remember to add a "How To" in the instructions), the result can be display like this:



Alternatively, you can display all three options like this:



5. Once the customer has made a payment, DOKU will send a payment notification containing the payment parameters to your server. The notification sent from DOKU will look something like this:

```
PAYMENTDATETIME=20160329110948

PURCHASECURRENCY=360
PAYMENTCHANNEL=05
AMOUNT=10000.00
PAYMENTCODE=00100000029
WORDS=01d9b362d3c1b80ff9196c6a565c49e5d9b03b8a
RESULTMSG=SUCCESS
TRANSIDMERCHANT=ZA912172
BANK=PERMATA
STATUSTYPE=P
APPROVALCODE=068992
RESPONSECODE=0000
SESSIONID=7b6647973dd13211a7fcf42eba79acea68aa69a1
```

6. Notify the DOKU server that you have received the payment notification, using the following example script:

```
<?php
$PAYMENTDATETIME = $ POST['PAYMENTDATETIME'];
$PURCHASECURRENCY = $ POST['PURCHASECURRENCY'];
$PAYMENTCHANNEL = $_POST['PAYMENTCHANNEL'];
$AMOUNT = $_POST['AMOUNT'];
$PAYMENTCODE = $_POST['PAYMENTCODE'];
$WORDS = $_POST['WORDS'];
$RESULTMSG = $ POST['RESULTMSG'];
$TRANSIDMERCHANT = $ POST['TRANSIDMERCHANT'];
$BANK = $ POST['BANK'];
$STATUSTYPE = $_POST['STATUSTYPE'];
$APPROVALCODE = $POST['APPROVALCODE'];
$RESPONSECODE = $ POST['RESPONSECODE'];
$SESSIONID = $ POST[' SESSIONID']
$ WORDS GENERATED = <function to generate words>
if ( $WORDS == $WORDS GENERATED )
{
        echo "CONTINUE";
else
        echo "WORDS NOT MATCH";
```

5.0 Internet Banking

Each bank has its own flow and authentication process for Internet Banking Payments. The majority of Internet Banking is hosted on the respective banks' own webpages where the customer enters his/her credentials and completes the authentication. So even though the initial payment steps will occur on the your page, it is redirected to the bank page eventually. Out of the Internet Banking facilities that are supported by DOKU currently, only Mandiri Clickpay allows for a merchant hosted flow.

5.1 Mandiri Clickpay

Mandiri Clickpay integration comprises 3 easy steps:

- 1. Create payment form and send parameters to your server
- 2. Insert the challenge code formula
- 3. Send payment request

To get started on your integration, follow these steps one by one by pasting these scripts into your app.

1. Create the payment form with a field for debit card number input, like this:



Get the device ID from your customer by pasting the script into your app:

```
TelephonyManager telephonyManager = (TelephonyManager)
getSystemService(Context.TELEPHONY_SERVICE);
telephonyManager.getDeviceId()
```

2. Once your customer has input their Mandiri Debit Card number, they will receive the first challenge code to enter into their Mandiri Token Device.

The challenge code formulas have different formats according to the table below:

Challenge Code 1	Last 10 digits from debit card	
Challenge Code 2	Amount for charging	
Challenge Code 3	8 digit random number	

Obtain challenge code 1 by copying the following script:

```
yourEditTextHere.addTextChangedListener(new TextWatcher()
            { @Override
            public void beforeTextChanged(CharSequence s, int start, int count, int after)
            public void onTextChanged(CharSequence s, int start, int before, int count) {
            public void afterTextChanged(Editable s) {
                // Remove spacing char
                if (s.length() > 0 && (s.length() % 5) == 0) {
                    final char c = s.charAt(s.length() - 1);
                    if (space == c) {
                        s.delete(s.length() - 1, s.length());
                // Insert char where needed.
                if (s.length() > 0 && (s.length() % 5) == 0) {
                    char c = s.charAt(s.length() - 1);
                    \ensuremath{//} Only if its a digit where there should be a space we insert a space
                                   if (Character.isDigit(c) && TextUtils.split(s.toString(),
               String.valueOf(space)).length <= 3) { s.insert(s.length()</pre>
                       - 1, String.valueOf(space));
                if (s.length() == 19) {
                    mandiriCardNumber = debitCard.getText().toString().replace("-",
                    ""); challengeValue1.setText(mandiriCardNumber.substring(6, 16));
        });
```

Generate random integers for Challenge Code 3 with the following script:

```
public static int nDigitRandomNo(int digits) {
   int max = (int) Math.pow(10, (digits)) - 1; //for digits = 7, max will be 9999999
   int min = (int) Math.pow(10, digits - 1); //for digits = 7, min will be 1000000
   int range = max - min; //This is 8999999
   Random r = new Random();
   int x = r.nextInt(range);// This will generate random integers in range 0 - 8999999
   int nDigitRandomNo = x + min; //Our random rumber will be any random number x + min
   return nDigitRandomNo;
}
```

To execute the above function, use this method:

String randomNumber = String.valueof(nDigitRandomNo(8));

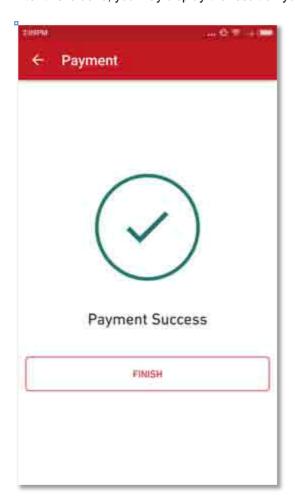
Once the customer has completed the Challenge Codes and clicked the "Process Payment" button, your app will send the data to your server. Then your server will pass through the data to the DOKU server, using our library. See example:

```
require_once('../Doku.php');
Doku_Initiate::$sharedKey = '<Put Your Shared Key Here>';
Doku Initiate::$mallId = '<Put Your Merchant Code Here>';
$params = array(
    'amount' => '100000.00',
'invoice' => $_POST['invoice_no']
$cc = str_replace(" - ", "", $_POST['cc_number']);
$ words = Doku_Library::doCreateWords($params);
$customer = array(
    'name' => 'TEST NAME',
    'data phone' => '08121111111',
    'data_email' => 'test@test.com',
    'data_address' => 'bojong gede #1 08/01'
);
$basket[] = array(
    'name' => 'sayur',
     'amount' => '10000.00',
    'quantity' => '1',
'subtotal' => '10000.00'
);
$basket[] = array(
    'name' => 'buah',
     'amount' => '10000.00',
     'quantity' => '1',
    'subtotal' => '10000.00'
);
$dataPayment = array(
    'req mall id' => '1',
    'req_chain_merchant' => 'NA',
'req_amount' => $params['amount'],
    'req_amount' >> \params['amount'],
'req_words' => \params['amount'],
'req_purchase_amount' => \params['amount'],
    'req trans id merchant' => $ POST['invoice no'],
    'req_request_date_time' => date('YmdHis'),
'req_currency' => '360',
     'req_purchase_currency' => '360',
     'req_session_id' => shal(date('YmdHis')),
    'req_name' => $customer['name'],
'req_payment_channel' => '02',
    'req_email' => $customer['data_email'],
     'req card number' => $cc,
    'req basket' => $basket,
    'req_challenge_code_1' => $ POST['CHALLENGE_CODE_1'],
'req_challenge_code_2' => $ POST['CHALLENGE_CODE_2'],
    'req_challenge_code_3' => $_POST['CHALLENGE_CODE_3'],
     'req_response_token' => $_POST['response_token'],
    'req mobile phone' => $customer['data phone'],
     'req address' => $customer['data address']
$response = Doku_Api::doDirectPayment($dataPayment);
if($response->res_response_code == '0000'){
   echo 'PAYMENT SUCCESS -- ';
}else{
    echo 'PAYMENT FAILED -- ';
```

A success response from Mandiri Clickpay will look like this:

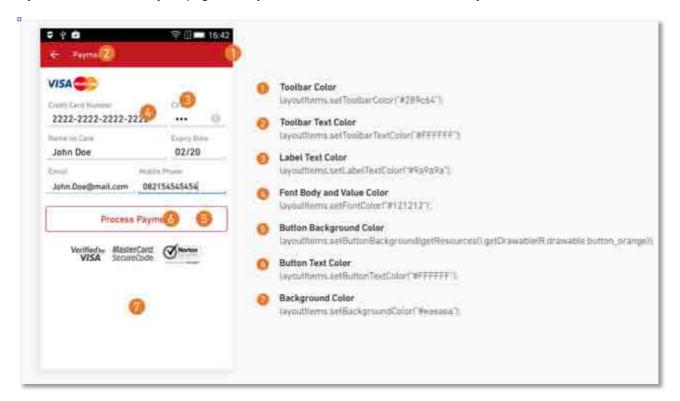
```
"res_response_msg": "SUCCESS",
    "res_transaction_code": "cb37e335793405d0741979785b1fe65814dab182",
    "res_mcn": "4***********111",
    "res_trans_id_merchant": "invoice_1460447091",
    "res_payment_date": "20160412144451",
    "res_bank": "MANDIRI CLICK PAY",
    "res_amount": "15000.00",
    "res_message": "PAYMENT APPROVED",
    "res_response_code": "0000",
    "res_session_id": "11c5075b3602138814a392fda3eca0ac9113dd76"
}
```

After this is done, you may display the result on your app for the customer to see.



6.0 Customization

In order to customize your payment page, you need to set the layout settings every time you call the library. If you do not customize your page, the layout will have the default theme set by DOKU, and will look like this:



Here is a sample script for how to set up your custom layout:

```
LayoutItems layoutItems = new LayoutItems();
layoutItems.setFontPath("fonts/dinbold.ttf");
layoutItems.setToolbarColor("#289c64");
layoutItems.setToolbarTextColor("#FFFFFF");
layoutItems.setFontColor("#121212");
layoutItems.setBackgroundColor("#eaeaea");
layoutItems.setLabelTextColor("#9a9a9a");

layoutItems.setButtonBackground(getResources().getDrawable(R.drawable.button_orange));
layoutItems.setButtonTextColor("#FFFFFFF");
```

Add the LayoutItems setup to your SDK request:

```
directSDK.setLayout(layoutItems);
```



Then your code will look like this:

```
DirectSDK directSDK = new DirectSDK();
       PaymentItems paymentItems = new PaymentItems();
       paymentItems.setDataAmount(AppsUtil.generateMoneyFormat("15000"));
       paymentItems.setDataAmount(AppsUtil.generateMoneyFormat("15000"));
       paymentItems.setDataBasket("[{\"name\":\"sayur\",\"amount\":\"10000.00\",\"quantity\":
       \"1\",\"subtotal\":\"10000.00\"},{\"name\":\"buah\",\"amount\":\"10000.00\",\"quantity
       \":\"1\",\"subtotal\":\"10000.00\"}]");
       paymentItems.setDataCurrency("360");
       paymentItems.setDataWords(AppsUtil.SHA1(AppsUtil.generateMoneyFormat("15000") + "2074"
       + "eaM6i1JjS19J" + invoiceNumber + 360 + Token ID + Pairing Code +
       telephonyManager.getDeviceId()));telephonyManager.getDeviceId()));
       paymentItems.setDataMerchantChain("NA");
       paymentItems.setDataSessionID(String.valueOf(AppsUtil.nDigitRandomNo(9)));
       paymentItems.setDataTransactionID(invoiceNumber);
       paymentItems.setDataMerchantCode("2074");
       paymentItems.setDataImei(telephonyManager.getDeviceId());
       paymentItems.setMobilePhone("08123123112");
       directSDK.setCart details(cardDetails);
       LayoutItems layoutItems = new LayoutItems();
       layoutItems.setFontPath("fonts/dinbold.ttf");
       layoutItems.setToolbarColor("#289c64");
       layoutItems.setToolbarTextColor("#FFFFFF");
       layoutItems.setFontColor("#121212");
       layoutItems.setBackgroundColor("#eaeaea");
       layoutItems.setLabelTextColor("#9a9a9a");
       layoutItems.setButtonBackground(getResources().getDrawable(R.drawable.button orange));
       layoutItems.setButtonTextColor("#FFFFFF");
       directSDK.setLayout(layoutItems);
       directSDK.setPaymentChannel(menuPaymentChannel);
       directSDK.getResponse(new iPaymentCallback() {
           @Override
           public void onSuccess(final String text) {
               trv {
                   respongetTokenSDK = new JSONObject(text);
(respongetTokenSDK.getString("res response code").equalsIgnoreCase("0000")) {
                       //do your background service to merchant server handler here
                   }
               } catch (JSONException e) {
                   e.printStackTrace();
            @Override
           public void onError(final String text) {
       //error handling here
           @Override
           public void onException(Exception eSDK) {
               eSDK.printStackTrace();
```

7.0 Appendix

7.1 Payment Methods

Payment Type	Description
Credit Card	 Visa and Mastercard for Overseas Partner. JCB upon request Direct API available Features (acquirer dependant): 3D and non 3D Secure, BIN filtering, 1-Click Payment, 2-Click Payment
Internet Banking	 Available: Mandiri Clickpay, BCA Klikpay, BRI e-Pay, Danamon, Muamalat, Permata Each bank has different authentication process through OTP or token Direct API only available for Mandiri Clickpay. The rest is re-direct only
DOKU Wallet	 E-wallet product issued by DOKU Source of fund: cash balance or linked credit card Max. transaction value is Rp1,000,000 for non-KYC and Rp5,000,000 for KYC users Authenticate with email, password and static PIN that is pre-set by the user Direct API available
Convenience Store	 Accessible in almost 10,000 Alfa group stores (Alfa Express, Alfa Midi, Alfa Mart, Lawson and DAN+DAN) Generate 16 digit payment code at checkout, user goes to nearest store and makes payment over the counter with cash or non-cash Max. transaction value of Rp2,000,000 Merchant can set payment code expiry time for every transaction Direct API available
Bank Transfer	 Virtual account housed in Bank Permata but payable from any bank that is connected to ATM Bersama, Prima or Alto networks (over 120 banks in Indonesia) Generate 16 digit payment code at checkout, user makes payment via ATM or Internet/mobile banking that is connected to 1 of the 3 networks Merchant can set payment code expiry time for every transaction Direct API available

7.2 Payment Request Parameters

No	No Name Type Description		Description	
1.	Merchant Code	String number	Merchant Code from DOKU	
2.	2. Words String + shared_key + transaction_id + currency		Data encrypted from Merchant (amount + mall_id + shared_key + transaction_id + currency + token ID + pairing code + imei device)	
3.	Transaction ID	String	Invoice number	
4.	Amount	String number	Amount to purchase	
5.	Currency	String number	Currency that are used	
6.	Chain Merchant	String	Chain merchant number	
7.	7. Basket String Order items		Order items	
8.	Session ID	String	Unique key from merchant	
9.	Imei Device	Strinng	Device Imei id from merchant	
10.	Mobile Phone	String number	Customer mobile phone number	
11.	Merchant Status	String	Status merchant 'TRUE': production, 'FALSE': staging'	
12.	Public Key	String	Public key from DOKU	
Extr	Extra Parameters for Credit Card Tokenization			
13.	Customer ID	String number	Customer ID set from merchant	
14.	Token Payment	String	Token from DOKU for save CC	

7.3 DOKU Response Codes

In this section of the Appendix, you will find the list of response codes and their description for the different payment methods.

7.3.1 General response codes

The response codes listed in this section include both prepayment and payment response codes, and mostly apply to all payment methods. These are the most common response codes you will receive from DOKU.

Error Code	Description
0000	Successful approval
5555	Undefined error
5501	Payment channel not registered
5502	Merchant is disabled
5503	Maximum attempt 3 times
5504	Words not match
5505	Invalid parameter
5506	Notify failed
5507	Invalid parameter detected / Customer click cancel process
5508	Re-enter transaction
5509	Payment code already expired
	Cancel by Customer
5511	Not an error, payment code has not been paid by Customer
5512	Insufficient Parameter
5514	Reject by Fraud System
5515	Duplicate PNR



5516 Tr	ransaction Not Found
5517 Eı	rror in Authorization process
5518 Eı	rror parsing XML
5519 C	ustomer stop at 3D Secure page
5520 Tr	ransaction Failed via scheduler
5521 In	valid Merchant
5522 R	ates were not found
5523 Fa	ailed to get Transaction status
5524 Fa	ailed to void transaction
	ransaction can not be process
5526 Tr	ransaction is voided because timeout to wallet
5527 Tr	ransaction will be process as Off Us Instalment
5529 In	valid Merchant
5530 In	iternal server error
5531 ₽	airing Code does not exist
5532 In	valid Payment Channel
5533 Fa	ailed to inquiry list of fund
5534 In	valid Pairing Code
	valid Token
5536 Ti	ime Out
5537 In	valid Currency
5538 In	valid Purchase Currency
5539 30	D Secure Enrolment check failed
5540 30	D Secure Authentication failed
5541 Fo	orm Type is not valid
5542 D	uplicate Transaction ID
5543 PI	lease check 3D Secure result
5544 Fa	ailed to delete token
	ailed to Void
5547 BI	IN are not allowed in promo
	valid Parameter
5553 Fa	ailed to tokenize

7.3.2 Credit Card

The response codes in this section only apply to credit card transactions.

Error Code	VISA	MASTERCARD	ORIGIN	ACTIONS
	Refer to card issuer	Refer to card issuer	VISA/MASTER	<u>l</u> Tell Customer to contact
0001	Refer to Card Issuer	Refer to card issuer	VISAVIVIASTER	the Bank Issuer of
				the card used.
0002	Refer to card issuer, special	-	VISA/MASTER	Tell Customer to contact
""	condition			the Bank Issuer of
				the card used.
0003	Invalid merchant or service	Invalid Merchant	VISA/MASTER	Contact DOKU or
	provider			acquiring bank
0004	Pickup card	Capture card	VISA/MASTER	Should consider
				blocking the card
				temporarily or Block login ID
0005	Do Not Honor	Do Not Honor	VISA/MASTER	Tell Customer to contact
0003	DO NOT HOHO!	DO NOL FIORIOI	VIOA/WASTER	the Bank Issuer of
				the card used.
0006	Error	-	VISA/MASTER	Tell Customer to contact
				the Bank Issuer of
				the card used.
0007	Pickup card, special condition		VISA/MASTER	Should consider
	(other than lost/stolen card)			blocking the card
			<u></u>	
0008	}-	Honor with ID	VISA/MASTER	Tell Customer to contact the Bank Issuer of
				the card used.
				Tell Customer to
0010	Partial Approval - Private label	-	VISA/MASTER	contact the Bank Issuer
				of the card used.
0011	VIP Approval		VISA/MASTER	Tell Customer to contact
0011	VIF Apploval		VISA/WASTER	the Bank Issuer of
				the card used.
0012	Invalid Transaction	Invalid Transaction	VISA/MASTER	Contact DOKU or
				ACQUIRING BANK
0013	Invalid amount (currency	Invalid Amount	VISA/MASTER	Contact DOKU or
	conversion field overflow. Visa			ACQUIRING BANK
	Cash - Invalid load mount)			
				011-00101
0014	Invalid account number (no	Invalid Card Number	VISA/MASTER	Contact DOKU or
004-	such number)		7/10 / / / / 0755	ACQUIRING BANK
0015	No such issuer	Invalid issuer	VISA/MASTER	Contact DOKU or ACQUIRING BANK
0040	Re-enter transaction		VISA/MASTER	Contact DOKU or
0019	1/6-61161 (141124611011			ACQUIRING BANK
0021	No Action taken (unable to back		VISA/MASTER	Contact DOKU or
3021	out prior transaction)			ACQUIRING BANK
0025	Unable to locate record in file,		VISA/MASTER	Contact DOKU or
	or account number is missing			ACQUIRING BANK
	from inquiry			
0028	File is temporarily unavailable	-	VISA/MASTER	Contact DOKU or
				ACQUIRING BANK
0030	-	Format error	VISA/MASTER	Contact DOKU or
			<u> </u>	ACQUIRING BANK
<u> </u>				

0041	Pickup card {lost card)	Lost Card	VISA/MASTER	Should consider
0041	Fickup card (lost card)	Lost Gard	VISAVIVIASTEN	blocking the card
				temporarily or Block
			<u></u>	login ID
0043	Pickup card [stolen card)	Stolen Card	VISA/MASTER	Should consider
				blocking the card
				temporarily or Block login ID
0051	Insufficient funds	Insufficient Funds/Over	VISA/MASTER	Tell Customer to contact
	=	Credit limit		the Bank Issuer of
				the card used.
0052	No checking account	-	VISA/MASTER	Tell Customer to
	, and the second			contact the Bank Issuer
				of the card used.
0053	non savings account	-	VISA/MASTER	Tell Customer to contact
				the Bank Issuer of
				the card used.
0054	Expired card	Expired Card	VISA/MASTER	Tell Customer to
				contact the Bank Issuer
	(DIN 0.5	r i Divi	1/10 A / A A C T T T	of the card used.
		Invalid PIN	VISA/MASTER	Tell Customer to contact the Bank Issuer of
	invalid or missing SI signature)			the card used.
0057	Transaction not permitted to	Transaction not	<u>i</u> VISA/MASTER	Tell Customer to contact
	•	permitted to	VISAVIVIASTEN	the Bank Issuer of the
		ssuer/cardholder		card used.
	request)			
0058	Transaction not allowed at	Transaction not	VISA/MASTER	Tell Customer to contact
	terminal	permitted to		the Bank Issuer of
		acquirer/terminal		the card used.
0061	Activity amount limit exceeded	Exceeds withdrawal	VISA/MASTER	Tell Customer to
		amount limit		contact the Bank Issuer
				of the card used.
	Restricted card (for example in	Restricted Card	VISA/MASTER	Tell Customer to contact
	country exclusion table)			the Bank Issuer of
UUE2	Security violation	Security Violation	VISA/MASTER	the card used.
0003	occurity violation	Occurry Violation	V IOAVIVIAO I EK	Contact DOKU or ACQUIRING BANK
0065	Activity count limit exceeded	Exceeds withdrawal	VISA/MASTER	Tell Customer to contact
0000		count limit	V.O. VIVIA OTEIX	the Bank Issuer of
				the card used.
0075	Allowable number of PIN-entry	Allowable number of PIN	VISA/MASTER	Tell Customer to contact
		tries exceeded		the Bank Issuer of
				the card used.
			VISA/MASTER	Contact DOKU or
		Account" specified		ACQUIRING BANK
	Retrieval Reference number)			
	Previous message located for a		VISA/MASTER	Contact DOKU or
	repeat or reversal, but repeat or reversal data are inconsistent	account" specified		ACQUIRING BANK
	reversal data are inconsistent with original message			
	5.19.10.11.000090			
0078	_	Invalid/nonexistent	VISA/MASTER	Contact DOKU or
0070		account specified	ONINAOTEN	ACQUIRING BANK
		(general)		AUQUINING DANN
0800	invalid date (For use in private		VISA/MASTER	Contact DOKU or
			:	
	label card transactions and			ACQUIRING BANK
	label card transactions and check acceptance transactions)			ACQUIRING BANK

0081	PIN Cryptographic error found	-	VISA/MASTER	Contact DOKU or
	(error found by VIC security			ACQUIRING BANK
	module during PIN decryption)			
			·	
0082	Incorrect CW/1CW	-	VISA/MASTER	Tell Customer to contact
				the Bank Issuer of the card used.
	llaskie te verific DINI		NICA/MACTED	Tell Customer to contact
0083	Unable to verify PIN		VISA/MASTER	the Bank Issuer of
				the card used.
0084		Invalid Authorization Life	 \/ISΔ/MΔSTER	Contact DOKU or
0004		Cycle	VIO/VIVI/IOTEIX	ACQUIRING BANK
0085	No reason to decline a request	. 	VISA/MASTER	Contact DOKU or
	for account number verification			ACQUIRING BANK
		nquiry, or SET		
	•	Cardholder certificate		
0004	G	requests [VISA Only)	A /IC A /NA CTED	Contact DOKU or
0091	Issuer unavailable or switch inoperative (STIP not applicable	Authorization System or	VISA/MASTER	ACQUIRING BANK
	or available for this transaction)			
0092	Destination cannot be found for	Unable to route	VISA/MASTER	Contact DOKU or
	£	transaction		ACQUIRING BANK
0093	Transaction cannot be	- -	VISA/MASTER	Contact DOKU or
	completed; violation of law		:	ACQUIRING BANK
0094			VISA/MASTER	Contact DOKU or
	·····	detected		ACQUIRING BANK
		System Error	VISA/MASTER	Contact DOKU or
	malfunction or certain field error conditions			ACQUIRING BANK
00NO			VISA/MASTER	Contact DOKU or
UUNO	Force STIP	-	VISA/IVIASTER	ACQUIRING BANK
00N3	Cash service not available		VISA/MASTER	Contact DOKU or
00113	Cash service not available		VIOANNAOTEIX	ACQUIRING BANK
00N4	Cash request exceeds issuer	-	VISA/MASTER	Contact DOKU or
	imit			ACQUIRING BANK
00N7	Decline for CW2 failure	_	VISA/MASTER	Contact DOKU or
				ACQUIRING BANK
00P2	Invalid biller information		VISA/MASTER	Contact DOKU or
			,	ACQUIRING BANK
	PIN Change/Unblock request	_	VISA/MASTER	Contact DOKU or
	declined			ACQUIRING BANK
00P6	Unsafe PIN	-	VISA/MASTER	Contact DOKU or
	Time and / Transaction	T:	DOKU	ACQUIRING BANK
00ТО	Timeout / Transaction's response exceed time limit	Timeout / Transaction's response exceed time	DOKU	Contact DOKU or
	i esponse exceed title iitliit	response exceed time limit		ACQUIRING BANK
00UE	Unknown Exception /	Unknown Exception /	DOKU	Contact DOKU or
		PosServer not		ACQUIRING BANK
		responding		

7.3.3 DOKU Wallet

The response codes in this section only apply to DOKU Wallet transactions.

	conse codes in this section only apply to DOKU Wallet transactions.
Error Code	Description
0E01	FAILED GET MERCHANT
0E02	MASTER MERCHANT INACTIVE
0E03	INVALID WORDS FROM MERCHANT
0E04	INVALID MERCHANT
0E05	FAILED TO PROCESS PAYMENT
0E06	PAYMENT METHOD NOT DEFINE
0E07	FAILED EXECUTE PRE AUTH PLUGINS
0E08	FAILED EXECUTE POST AUTH PLUGINS
0E09	INVALID PAY ID
0E10	ERROR PAY ID
0E11	FAILED EXECUTE PRE TRANS MIP PLUGINS
0E12	VERIFY RESPONSE STOP FROM MERCHANT
0E13	FAILED VERIFY TO MERCHANT
0E14	FAILED SEND PAYMENT CASH WALLET
0E15	NOTIFY RESPONSE STOP FROM MERCHANT
0E16	FAILED NOTIFY TO MERCHANT
0E18	FAILED EXECUTE POST TRANS MIP PLUGINS
	NOT ENOUGH CASH BALANCE AND DON'T HAVE CREDIT CARD
0E20	SPENDER NO HAVE LINK TO CREDIT CARD
0E21	ERROR CHECK 3D SECURE CREDIT CARD
	PIN/OTP IS NOT VALID
0E23	PLEASE INPUT CVV2
0E24	INVALID SESSION
0E25	FAILED SEND LINK AUTHENTICATION TO CARD HOLDER
0E26	INSUFFICIENT PARAMS
	FAILED EXECUTE PRE TRANS CIP PLUGINS
	FAILED EXECUTE POST TRANS CIP PLUGINS
	FAILED SEND PAYMENT MIP CREDIT CARD
	YOU DO NOT HAVE PIN
	DUPLICATE INVOICE NO
	URL NOT FOUND
	CUSTOMER NOT FOUND
	VOID PROCESS FAILED
	Failed Send ONE TIME PIN to your email
	Failed Send Link for create PIN to your email
	THIS SPENDER CAN'T TRANSACT IN THIS MERCHANT
	You have reach your DOKU ID Transaction Limit
	Process MIP Transaction Failed
<u>∪E9</u> 9	ERROR SYSTEM

7.3.4 Virtual Account

The response codes in this section only apply to Convenience Store and Bank Transfer transactions.

Error Code	Description
0001	Decline (internal error)
0013	Invalid amount
0014	Bill not found
0066	Decline
0088	Bill already paid

7.3.5 Mandiri Clickpay

The response codes in this section only apply to Mandiri Clickpay transactions.

Error	
Code	Description
0001	Internal system error: cannot parse message
0002	Internal system error: unmatched signature hash
0003	Internal system error: Cannot process message
	Internal system error: Error on field
0005	Internal system error: Transaction not found
0006	Internal system error: Create VPA response error
0101	Internal system error: Create velis-authenticator message
0102	Internal system error: Runtime try/catch error when creating VTCPStream
0103	Internal system error: Cannot connect to velis-authenticator
0104	Internal system error: Send request to velis-authenticator failed
0105	Internal system error: Waiting response from velis-authenticator failed
0106	Internal system error: Read response from velis-authenticator failed
0107	Internal system error: Parse response from velis-authenticator failed
0108	Internal system error: Signature key from velis-authenticator is invalid
1101	User not registered: Channel not register in database (not found)
1102	User not registered: User not active
1103	User not registered: User has deleted
1104	User not registered: User not found
1105	User not registered: Channel for User not active
1106	User not registered: Channel for User has deleted - no access
1107	User not registered: Channel for User not register / not found
L	User has blocked: User has disabled
L	User has blocked
L	User has blocked: Channel for User has disabled
	User has blocked: Channel for User has blocked
L	User already activated: User has invalid status (or already active)
	User already activated: Channel for User has invalid status (or already active)
	Invalid token: Token of User not active
	Invalid token: Token of User has disable
L	Invalid token: Token of User has deleted
1117	Invalid token: Token of User not found
1118	Invalid token: Method CR not allowed for Token of User
	Invalid token: Method RO not allowed for Token of User
	Invalid token: Method SG not allowed for Token of User
	Invalid token: Device Token Type not valid (only support VS = VASCO Token)
L	Invalid token response: Code Not Verified
1123	Invalid token response: Code Replay Attempt
	Invalid token response: Challenge Too Small
1125	Invalid token response: Challenge Too Long

1126 Invalid token response: Challenge Check Digit Wrong (Host Check Challenge Mode)
1127 Invalid token response: Challenge Character Not Decimal
1128 Invalid token response: Challenge Corrupt (Host Check Challenge Mode)
1129 Invalid token response: Response Length Out of Bounds
1130 Invalid token response: Response Too Small
1131 İnvalid token response: Response Too Long
1126 Invalid token response: Challenge Check Digit Wrong (Host Check Challenge
<u>Mode</u>)
1127 Invalid token response: Challenge Character Not Decimal
1128 Invalid token response: Challenge Corrupt (Host Check Challenge Mode)
1129 Invalid token response: Response Length Out of Bounds
1130 Invalid token response: Response Too Small
1131 Invalid token response: Response Too Long
1132 Invalid token response: Response Check Digit Wrong
1133 Invalid token response: Response Character Not Decimal
1134 Invalid token response: Response Character Not Hexadecimal
1135 Invalid token response: Token Authentication Failed
1199 Receive error response from VA
0201 Internal system error: Create DSP-ISO message failed
0202 Internal system error: No active DSPSession
0203 Internal system error: Cannot send request to DSP-Silverlake
0204 Internal system error: Waiting response from DSP-Silverlake
0205 Internal system error: Read response from DSP-Silverlake without bit 39
0206 Internal system error: Read response from DSP-Silverlake without bit126
0207 Invalid card number: Card number not belong to this CIF
2101 Invalid card number: Card not found
2102 Not enough balance
2103 Invalid customer account
2104 DSP-Silverlake system error
2199 Receive error response from DSP-Silverlake
0301 Internal system error: Cannot connect to VAM
3101 Invalid XML request: Invalid data XML (tc)
3102 Invalid XML request: Invalid data XML (userid)
3103 Invalid XML request: Invalid data XML (trace number)
3104 Invalid XML request: Invalid data XML (reference number)
3105 Invalid XML request: Invalid data XML (datetime)
3106 Invalid XML request: Invalid data XML (merchantid)
3107 Invalid XML request: Invalid data XML (bankid)
3108 Invalid XML request: Invalid data XML (item detail)
3109 Invalid XML request: Invalid data XML (amount)
3110 Invalid XML request: Invalid data XML (challenge)
3111 Invalid XML request: Invalid data XML (authentication)
3112 Invalid XML request: Invalid data XML (signature)
3113 Invalid XML request: Invalid data XML (aggregator)
(* 00 - 0 - 7

	Invalid XML request: Error parse XML
	Invalid XML request: XML data is null
	Invalid XML request: Unmatched signature request
3117	Invalid XML request: Cannot find Aggregator
3118	User already registered: Duplicate UserID
3119	Customer account not found: Cannot find customer account
3120	Not registered UserID
3121	Daily transaction limit is reached
3122	Maximum transaction limit is reached
3123	Transaction payment rejected: Invalid limit configuration
3124	Transaction payment rejected: Cannot find Merchant ID
3125	Transaction payment rejected: Inactive merchant
3126	Transaction payment rejected: Cannot find Bank Commission
	Transaction payment rejected: Cannot find Bank Commission Tearing
3128	Transaction payment rejected: Cannot find Aggregator Commission
3129	Transaction payment rejected: Cannot find Aggregator Commission Tearing
	Transaction payment rejected: Duplicate Transaction request
	Reversal rejected: Cannot find original data for reversal
3132	Reversal rejected: Cannot find merchant account for reversal
3133	Registration failed: Failed add customer channel
3134	Unregistered failed: Failed remove customer channel
3135	Merchant registration failed: Duplicate Merchant
	Error init database
	Error write to database
4000	No connection to Aggregator
9000	Other error
9013	Unable to send request to bank

7.4 Check Payment Status API



DOKU provides an API for merchants to check the status of a specific transaction. The implementation of this API is optional and can be used if the merchant wants to re-confirm the status of a particular transaction. This API can be accessed by the HTTP POST Method.

HTTP action URL: https://pay.doku.com/Suite/CheckStatus

To use this API, you should send the below parameters to the above URL:

No	Name	Туре	Length	Comments
1	MALLID	N		Given by DOKU
2	CHAINMERCHANT	N		Given by DOKU
3	TRANSIDMERCHANT	AN	30	Transaction ID from merchant
4	SESSIONID	AN	48	
5	WORDS	AN	200	Hashed key combination encryption (use SHA1 method). The hashed key is generated from combining the parameter values in this order: MALLID+ <shared key="">+TRANSIDMERCHANT. For transaction with currency other than 360 (IDR), use: MALLID+ <shared key="">+TRANSIDMERCHANT + CURRENCY</shared></shared>

Response Status

Once the API is executed, DOKU will respond with the payment status in XML format as per below. You can check the Response Code from the table above in this Appendix.

```
<?xml version="1.0"?>
<PAYMENT_STATUS>
       <AMOUNT></AMOUNT>
       <TRANSIDMERCHANT></TRANSIDMERCHANT>
       <WORDS></WORDS>
       <RESPONSECODE></RESPONSECODE>
       <APPROVALCODE></APPROVALCODE>
       <RESULTMSG></RESULTMSG>
       <PAYMENTCHANNEL></PAYMENTCHANNEL>
       <PAYMENTCODE></PAYMENTCODE>
       <SESSIONID></SESSIONID>
       <BANK></BANK>
       <MCN></MCN>
       <PAYMENTDATETIME></PAYMENTDATETIME>
       <VERIFYID></VERIFYID>
       <VERIFYSCORE></VERIFYSCORE>
       <VERIFYSTATUS></VERIFYSTATUS>
       <CURRENCY></CURRENCY>
       <PURCHASECURRENCY></PURCHASECURRENCY>
       <BRAND></BRAND>
       <CHNAME></CHNAME>
       <THREEDSECURESTATUS></THREEDSECURESTATUS>
       <LIABILITY></LIABILITY>
       <EDUSTATUS></EDUSTATUS>
</PAYMENT_STATUS>
```



7.5 Information for ProGuard users

Please add the following additional parameters in your proguard-rules.pro:

- dontwarn org.bouncycastle.**
- dontwarn com.doku.sdkocov2.**