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|----------------------------|--------------|-----------------|--|
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Table of Contents

| 1 | Pre | eface | 3 |
|---|-----|---|----|
| | 1.1 | About | 3 |
| | 1.2 | Intended Audience | 3 |
| | 1.3 | Integration scope | 3 |
| 2 | Int | roduction | 3 |
| | 2.1 | Payment Flow: | 4 |
| | 2.2 | PayFast Checkout Flow | 4 |
| | 2.2 | 2.1 For redirection implementation | 4 |
| | 2.3 | Merchant Logo/Name setup on PAYFAST gateway page | 5 |
| | 2.4 | Getting started with PAYFAST | 6 |
| | 2.4 | 4.1 Merchant Settlement Error! Bookmark not defined | ı. |
| 3 | Ме | rchant online Payment Integration | 7 |
| 4 | Re | sponse from Payment Gateway Error! Bookmark not defined | ı. |
| | 4.1 | 1.1 For Redirect implementation Error! Bookmark not defined | 1. |
| 5 | Te | chnical integration requirements | 7 |
| | 5.1 | Getting an ACCESS TOKEN | 7 |
| | 5.2 | Initiate Transaction via Form POST | 7 |
| | For | Redirection implementation | 7 |
| | 5.3 | Description of mandatory field | 4 |
| 6 | Err | or Codes & Description1 | 5 |
| 7 | PA | YFAST checkout Page1 | 7 |
| | 7.1 | For redirection implementation 1 | 7 |



I Preface

I.I About

This document contains detail explanation about how to integrate with PAYFAST Using Our Hosted Checkout and I-frame based transactions functionality. This document contains the details for online transactions.

1.2 Intended Audience

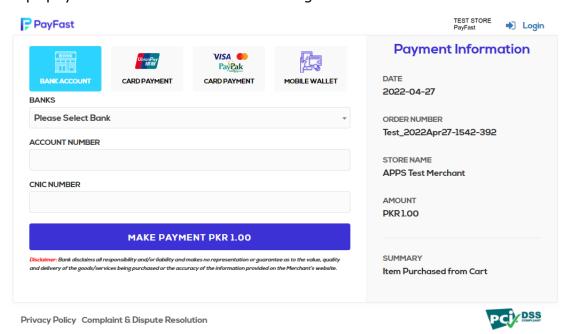
This document is for merchants, acquirers and developers who want to integrate with PAYFAST to perform Our Hosted Checkout and I-frame based transactions.

1.3 Integration scope

All the ecommerce functionality will be implemented by the merchant. PAYFAST service (*PayFast*) will be used only for payment processing.

2 Introduction

PAYFAST payment gateway is a payment service developed for merchants to accept payments from the customers using banks' instruments.





Transaction starts from the merchant's web based ecommerce portal, after this the customer checks out and is redirected to PAYFAST payment gateway web checkout page where customer will enter their credit, debit, wallet and, account number Buyer Send the correct OTP (one-time password), and completes the payment process, and customer will have redirected towards the same merchant's ecommerce portal where the customer order is confirmed by merchant if payment is successful.

2.1 Payment Flow:

A generic payment flow

in a typical PAYFAST payment flow, a buyer:



- 1. Buyer (customer) adds items in the shopping cart on merchant's ecommerce portal.
- 2. Buyer reaches checkout page and select the PAYFAST as the payment option.
- 3. Buyer is redirected to PAYFAST payment gateway web checkout page (For Details see section "3" PAYFAST Checkout Flow).
- 4. Buyer Send the correct OTP (one-time password), and completes the payment process. And customer will have redirected towards the same merchant's ecommerce portal where the customer order is confirmed by merchant if payment is successful.

2.2 PayFast Checkout Flow

In the PAYFAST checkout flow, the buyer:

a. Logged IN user and clicks, "Submit my order" button on the merchant's ecommerce portal.

2.2.1 For redirection implementation

- 1. Order request forward to the PAYFAST checkout page.
- 2. Buyer select banks and enter their credit, debit, wallet and, account number, and proceed payment.
- 3. After clicking validate button, transaction request to the selected bank for authentication via OTP from customer.
- 4. After receiving OTP, customer can enter the OTP which is provided by bank on SMS/USSD channel.
- 5. Returns to Merchant site and confirms the order then receives confirmation.

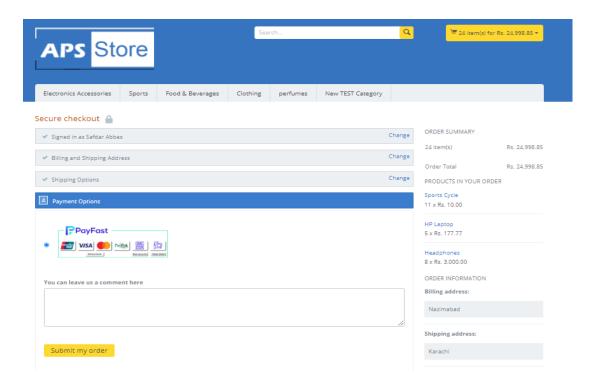


2.3 Merchant Logo/Name setup on PAYFAST gateway page



Before the transaction is processed the buyer is taken to a Merchant Logo/Name on PAYFAST payment gateway page, where the buyer's information is taken, and after submission the order information is displayed. Upon continuation, this page is used to process the transaction with the PAYFAST platform.

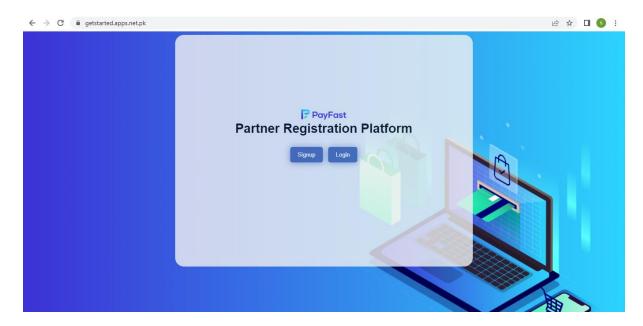
The buyer is subsequently taken to the merchant website order confirmation page.

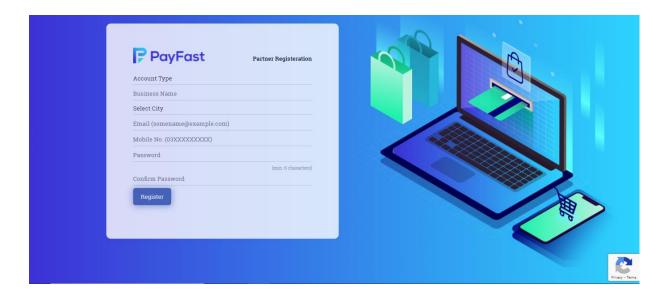




2.4 Getting started with PayFast

In order to proceed with PayFast- integration , merchant would be required to sign up on https://getstarted.PayFast.net.pk/, and would be proceeding with sign up flow





Once the merchant is signed up, he would be required to fill up the info required. For further details please refer DMS documentation document shared separately.

C:\Users\muhammad.arfeen\Downloads\DMSDocumentation.pdf



3 Technical integration requirements

3.1 Getting an ACCESS TOKEN

A web hook has to be called to get the access token. Merchant ID, Secure Key, Basket ID and Transaction ount are the values will be sent to fetch the access token. Moreover, Empty user agent not allowed. Please see below table 1.1.

| Table 1.0 | |
|---------------|---|
| URL | https://ipguat.apps.net.pk/Ecommerce/api/Transaction/GetAccessToken |
| Method | POST |
| Parameters | MERCHANT_ID (Mandatory) |
| | SECURED_KEY (Mandatory) |
| | BASKET_ID (Mandatory) |
| | TXNAMT (Mandatory) |
| Response Type | JSON |
| Response | { "MERCHANT_ID":"< <merchant_id>>" "ACCESS_TOKEN":"<<access_token>>" "NAME":"sha" "GENERATED_DATE_TIME":"<<generated_date_time>>" }</generated_date_time></access_token></merchant_id> |

3.2 Initiate Transaction via Form POST

For Redirection implementation, after getting an access token, ecommerce will send a **FORM POST** along with following parameters to PAYFAST payment gate.

| Table 1.1 | |
|----------------------------|--|
| URL for redirection option | https://ipguat.apps.net.pk/Ecommerce/api/Transaction/PostTransaction |
| Method | POST |
| Form Parameters | Description |
| MERCHANT_ID | A unique ID provided by PAYFAST |
| MERCHANT_NAME | Brand name |
| TOKEN | Access token fetched by web hook as mentioned in Table 1.0 |
| PROCCODE | 00 |
| TXNAMT | The amount which needs to be paid by the customer (this should |
| | match with the amount sent in the token API) |
| CUSTOMER_MOBILE_NO | Customer's mobile number |
| CUSTOMER_EMAIL_ADDRESS | Customer's email address |
| SIGNATURE | A random string value |
| VERSION | A random string value |
| TXNDESC | Short description of the goods purchased by customer |
| SUCCESS_URL | URL where customer will be redirected to in the browser if payment is successful. |
| EAULIDE LIDI | |
| FAILURE_URL | URL where customer will be redirected to in the browser if payment is unsuccessful. |
| BASKET_ID | A unique order id from the merchant, which will represent customer's order. (this should match with the Basket ID sent in the token API) |



| ORDER_DATE | Date of the order. (Format: YYYY-MM-DD e.g. 2018-01-01) | | |
|-------------------------------|---|--|--|
| CHECKOUT_URL | URL payment information or notification is pushed to the merchant at the backend. There are two types of checkout URL immediate(Transaction notification will be pushed immediately) or delayed(Transaction notification will be pushed after a minute) | | |
| STORE_ID | Alphanumeric string which would come from merchant portal's outlet section after outlet creation <optional></optional> | | |
| CURRENCY_CODE | PKR <optional></optional> | | |
| TRAN_TYPE | Transaction type for settlement <optional></optional> | | |
| | | | |
| CUSTOMER_NAME | Customer name from merchant's web site | | |
| MERCHANT_CUSTOMER_ID | Customer ID in merchant's web site | | |
| CUSTOMER_IPADDRESS | Customer IP address at merchant's web site | | |
| COUNTRY | Customer country | | |
| SHIPPING_CUSTOMER_NAME | Customer name for Shipping address | | |
| SHIPPING_ADDRESS_1 | Customer shipping address | | |
| SHIPPING_ADDRESS_2 | Customer shipping additional address | | |
| SHIPPING_STATE_PROVINCE | Shipping state/province | | |
| SHIPPING_ADDRESS_CITU | Shipping city | | |
| SHIPPING_POSTALCODE | Shipping postal code | | |
| SHIPPING_METHOD | Shipping method (Courier, Local Delivery etc) | | |
| BILLING_CUSTOMER_NAME | Billing customer name from merchant's web site | | |
| BILLING_ADDRESS_CITY | Billing city of customer | | |
| BILLING_ADDRESS_1 | Billing address | | |
| BILLING_ADDRESS_2 | Billing additional address | | |
| BILLING_STATE_PROVINCE | Billing state/province | | |
| BILLING_POSTALCODE | Billing postal code | | |
| MERCHANT_USERAGENT | Browser user agent from merchant's web site | | |
| ITEMS | An array (stating from zero) of purchased products from merchant's web site. S | | |
| | ITEMS[x][SKU] | | |
| | ITEMS[x][NAME] | | |
| | ITEMS[x][PRICE] | | |
| | ITEMS[x][QTY] | | |
| TRAVEL_FIRSTNAME | Travelling customer first name | | |
| TRAVEL_LASTNAME | Travelling customer last name | | |
| TRAVEL_NOOFPASSENGERS | Travelling no of customers | | |
| TRAVEL_CARRIERCODE | Travelling customer carrier code | | |
| TRAVEL_DESTINATION | Travelling destination | | |
| TRAVEL_DEPARTUREDATE | Travelling departure date | | |
| TRAVEL_DEPARTURETIME | Travelling departure time | | |
| TRAVEL_ORIGINATION | Travelling origination | | |
| TRAVEL_JOURNEYTYPE | Travelling journey type | | |
| _ | | | |
| TRAVEL_ACTUALFINALDESTINATION | Travelling actual destination | | |

Working Code Example

An example PHP code snippet is as follows:

| <html></html> | | | |
|---------------|--|--|--|
| <body></body> | | | |



```
<h1>PayFast Example Code For Redirection Payment Request</h1>
    <?php
   $merchant id = 102;
   $secured_key = 'zWHjBp2AlttNu1sK';
   $basket_id = 'ITEM-001';
   $trans_amount = 100;
   if (count($_GET) > 0) {
        processResponse($merchant_id, $basket_id, $trans_amount, $_GET);
    $token = getAccessToken($merchant_id, $secured_key, $basket_id,
$trans amount);
    /**
     * get access token with merchant id, secured key, basket id,
transaction amount
     */
    function getAccessToken($merchant_id, $secured_key, $basket_id,
$trans amount)
    {
        $tokenApiUrl =
'https://ipguat.apps.net.pk/Ecommerce/api/Transaction/GetAccessToken';
        $urlPostParams = sprintf(
            'MERCHANT_ID=%s&SECURED_KEY=%s&TXNAMT=%s&BASKET_ID=%s',
            $merchant_id,
            $secured_key,
            $trans amount,
            $basket_id
        );
```



```
$ch = curl init();
        curl setopt($ch, CURLOPT URL, $tokenApiUrl);
        curl_setopt($ch, CURLOPT_RETURNTRANSFER, 1);
        curl_setopt($ch, CURLOPT_POST, 1);
        curl_setopt($ch, CURLOPT_POSTFIELDS, $urlPostParams);
        curl_setopt($ch, CURLOPT_USERAGENT, 'CURL/PHP PayFast Example');
        $response = curl exec($ch);
        curl_close($ch);
        $payload = json_decode($response);
        $token = isset($payload->ACCESS_TOKEN) ? $payload->ACCESS_TOKEN
       return $token;
    /**
     * process response coming from PayFast
     */
   function processResponse($merchant_id, $original_basket_id, $txnamt,
$response)
    {
        /**
         * following parameters sent from PayFast after success/failed
transaction
         */
        $trans_id = $response['transaction_id'];
        $err_code = $response['err_code'];
        $err msg = $response['err msg'];
        $basket id = $response['basket id'];
        $order date = $response['order date'];
        $response key = $response['Response Key'];
```



```
$payment_name = $response['PaymentName'];
        $secretword = ''; // No secret code defined for merchant id 102,
secret code can be entered in merchant portal.
        $response_string = sprintf("%s%s%s%s%s", $merchant_id,
$original_basket_id, $secretword, $txnamt, $err_code);
        $response_hash = hash('MD5', $response_string);
        if (strtolower($response hash) != strtolower($response key)) {
            echo "<br/>>Transaction could not be varified<br/>>";
            return;
        }
        if ($err_code == '000' || $err_code == '00') {
            echo "<strong>Transaction Successfully Completed.
Transaction ID: " . $trans_id . "</strong><br/>>";
            echo "<br/>Date: " . $order date;
            return;
        }
        echo "<br/>Transaction Failed. Message: " . $err_msg;
    ?>
    <!-- For data integrity purpose, transaction amount and basket id
should be the same as the ones sent in token request -->
    <!--
        Actual Payment Request
    <form id='PayFast_payment_form' name='PayFast-payment-form'</pre>
method='post'
action="https://ipguat.apps.net.pk/Ecommerce/api/Transaction/PostTransac
tion">
        Currency Code: <input type="TEXT" name="CURRENCY_CODE"</pre>
value="PKR" /><br />
        Merchant ID: <input type="TEXT" name="MERCHANT_ID" value="<?php</pre>
echo $merchant_id; ?>" /><br />
```



```
Merchant Name: <input type="TEXT" name="MERCHANT_NAME"</pre>
value="UAT Demo Merchant" /><br />
        Token: <input type="TEXT" name="TOKEN" value="<?php echo $token;
?>" /><br />
        Success URL: <input type="TEXT" name="SUCCESS URL"
value="http://merchant-site-example.com" /><br/>
        Failure URL: <input type="TEXT" name="FAILURE_URL"</pre>
value="http://merchant-site-example.com" /><br/>
        Checkout URL: <input type="TEXT" name="CHECKOUT URL"
value="http://merchant-site-example.com" /><br/>
        Customer Email: <input type="TEXT" name="CUSTOMER_EMAIL_ADDRESS"
value="some-email@example.com" /><br />
        Customer Mobile: <input type="TEXT" name="CUSTOMER_MOBILE_NO"
value="00000000000" /><br />
        Transaction Amount: <input type="TEXT" name="TXNAMT"</pre>
value="<?php echo $trans_amount; ?>" /><br />
        Basket ID: <input type="TEXT" name="BASKET_ID" value="<?php echo</pre>
$basket id; ?>" /><br />
        Transaction Date: <input type="TEXT" name="ORDER_DATE"</pre>
value="<?php echo date('Y-m-d H:i:s', time()); ?>" /><br />
        Signature: <input type="TEXT" name="SIGNATURE" value="SOME-
RANDOM-STRING" /><br />
        Version: <input type="TEXT" name="VERSION" value="MERCHANT-CART-</pre>
0.1" /><br />
        Item Description: <input type="TEXT" name="TXNDESC" value="Item</pre>
Purchased from Cart" /><br />
        Proccode: <input type="TEXT" name="PROCCODE" value="00" /><br />
        Transaction Type: <input type="TEXT" name="TRAN TYPE"
value='ECOMM_PURCHASE' /><br />
        Store ID/Terminal ID (optional): <input type="TEXT"</pre>
name="STORE ID" value='102-ZEOJDZS3V' /><br />
<INPUT TYPE="HIDDEN" NAME="MERCHANT USERAGENT" value="Mozilla/5.0</pre>
(Windows NT 6.1; Win64; x64; rv:47.0) Gecko/20100101 Firefox/47.0">
<INPUT TYPE="HIDDEN" NAME="ITEMS[0][SKU]" value="SAMPLE-SKU-01">
<INPUT TYPE="HIDDEN" NAME="ITEMS[0][NAME]" value="An Awesome Dress">
<INPUT TYPE="HIDDEN" NAME="ITEMS[0][PRICE]" value="150">
<INPUT TYPE="HIDDEN" NAME="ITEMS[0][QTY]" value="2">
```



For Redirection implementation with store id

Please note that store id is optional but if added as a parameter then it will be validated in our system of which following example is slated below:

Store id of sample merchant: 102-ZEOJDZS3V

For Redirection implementation with transaction type

If merchant wants customer to pay with slab based banks then tran type would be passed as bill payment:

Transaction Type: <input type="TEXT" name="TRAN_TYPE" value='BILL_PAYMENT' />

For bill_payment tran_type, merchant may pass additional information in the respective form as follows:

Bill Number: <input type="TEXT" name="BILL NUMBER" value='12345' />

Please note that we are passing transaction type (tran_type) for the sole purpose of transaction settlement.

In either case, payment gateway will send additional parameters (along with those sent already by merchant) containing transaction information. These parameters are as follows:

| Table 1.2 | |
|----------------|---|
| Method | GET |
| URL | Merchant's supplied URL |
| transaction_id | Transaction ID processed at payment gateway |



| err_code | Status code of the transaction. |
|---|---|
| | ('000' is for successful transaction) |
| err_msg | Descriptive message in case of failed transaction |
| basket_id | Order ID sent by merchant. |
| order_date | Date of order sent by merchant. |
| Rdv_Message_Key | Payment gateway middleware transaction id. |
| responseKey (it will be depreciated soon) | An MD5 hash of combination of multiple fields, to verify authenticated response: |
| , | merchant_id + basket_id + <secret word="">+ txnamt + err_code</secret> |
| validation_hash | A SHA256 hash of combination of following fields in particular order: |
| | Basket ID |
| | Merchant Secured Key |
| | Merchant ID |
| | Error Code (received from PayFast) |
| | String Sequence: |
| | "your_basket_id your_merchant_secret_key yo ur_merchant_id payasft_err_code" |
| | e.g. BAS-01 jdnkaabcks 102 000 |
| | SHA256 of above example will make following hash: e8192a7554dd699975adf39619c703a492392edf 5e416a61e183866ecdf6a2a2 |
| | (please note " " (pipe) sign is included in the string) |
| | Value received from PayFast should match with your calculated hash for data integrity. |
| | |

3.3 Description of mandatory field

| Mandatory Field | Description |
|-----------------|---------------------------------|
| MERCHANT_ID | A unique ID provided by PAYFAST |
| Merchant_Name | Your brand name |

| 14 Page | PayFast |
|------------------|---------|
| | |



| TOKEN | Access token fetched by web hook as mentioned in Table 1.0 |
|------------------------|--|
| PROCCODE | 00 |
| TXNAMT | The amount which needs to be paid by the customer |
| CUSTOMER_MOBILE_NO | Customer's mobile number |
| CUSTOMER_EMAIL_ADDRESS | Customer's email address |
| SIGNATURE | A random string value |
| VERSION | A random string value |
| TXNDESC | Short description of the goods purchased by customer |
| SUCCESS_URL | URL where customer will be redirected to in the browser if payment is successful. |
| FAILURE_URL | URL where customer will be redirected to in the browser if payment is unsuccessful. |
| BASKET_ID | A unique order id from the merchant that will represent customer's order. |
| ORDER_DATE | Date of the order. (Format: YYYY-MM-DD e.g. 2018-01-01) |
| CHECKOUT_URL | URL payment information or notification is pushed to the merchant at the backend. There are two types of checkout URL immediate(Transaction notification will be pushed immediately) or delayed (Transaction notification will be pushed after a minute) |

The code being flexible is easily embedded on the merchant payment page. The buyer payment information will need to be parsed to the PAYFAST gateway page via this relay form.

4 Error Codes & Description

| ERROR CODES | ERROR DESCRIPTIONS |
|-------------|--|
| 00 | Processed OK |
| 002 | Time Out |
| 97 | Dear Customer, You have an Insufficient Balance to proceed |
| 106 | Dear Customer, Your transaction Limit has been exceeded please contact your bank |
| 03 | You have entered an Inactive Account |
| 104 | Entered details are Incorrect |
| 55 | You have entered an Invalid OTP/PIN |
| 54 | Card Expired |
| 13 | You have entered an Invalid Amount |
| 126 | Dear Customer your provided Account details are Invalid |
| 75 | Maximum PIN Retries has been Exceeded |
| 14 | Dear Customer, You have entered an In- Active Card number |
| 15 | Dear Customer, You have entered an In- Active Card number |



| 42 | Dear Customer, You have entered an Invalid CNIC |
|------|--|
| 423 | Dear Customer, We are unable to process |
| | your request at the moment please try |
| | again later |
| 41 | Dear Customer, entered details are |
| | Mismatched |
| 801 | {0} is your PayFast OTP (One Time |
| | Password). Please do not share with |
| | anyone. |
| 802 | OTP could not be sent. Please try again |
| | later. |
| 803 | OTP has been sent to your email address. |
| 804 | OTP has been sent to your mobile number. |
| 805 | OTP Verified |
| 806 | OTP could not be verified. |
| 807 | Too many attempts. Please try again later in |
| | few minutes. |
| 808 | Passwords do not match |
| 809 | Invalid Password |
| 810 | Password could not be changed |
| 811 | Password changed successfully |
| 812 | Request could not be validated. Please try |
| | again. |
| 813 | Email address already registered |
| 9000 | FRMS Rejected |
| 9010 | FRMS Error |
| 308 | Dear Customer your provided Account |
| | details are Invalid |
| 600 | OTP Already Expired |
| 309 | You have entered Invalid OTP Length |
| 853 | Dear Customer, Your provided Account |
| | details are Invalid |
| 04 | You have entered a Closed Account |
| 537 | You have entered a Dormant Account |
| 359 | Blocked Account |
| 8811 | Password changed successfully |
| 880 | Transaction declined due to non-activation |
| | of local ecommerce session. Please call |
| | your bank. |
| 881 | Your transaction is declined due to |
| | insufficient funds. Please call your bank for |
| 903 | assistance |
| 882 | Your transaction is declined due to |
| | consumption of daily local epayment transaction limit/count. |
| | transaction mind count. |

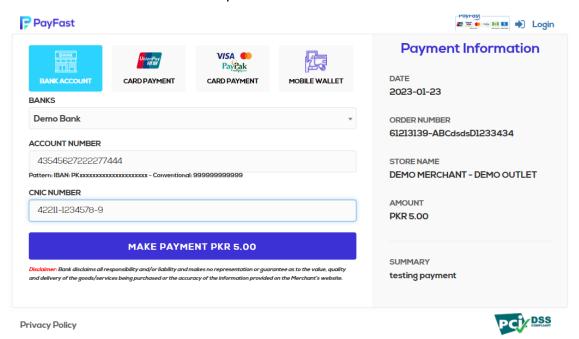


| 883 | Your transaction is declined. Please call |
|-----|---|
| | your bank to activate local epayment |
| | service |

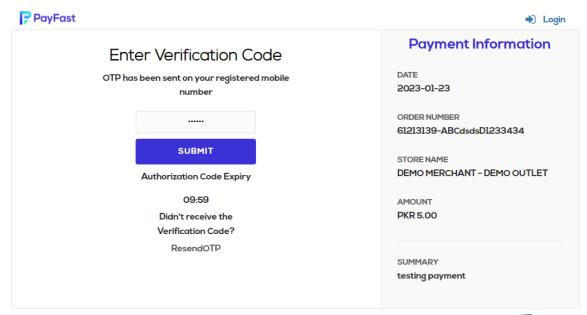
PayFast checkout Page

4.1 For redirection implementation

On posting the form data, customer will be redirected to the following page of the PAYFAST web ecommerce portal.







Privacy Policy

