



# ***Website Payments Pro Hosted Solution Integration Guide***

***United Kingdom***

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## *Website Payments Pro Hosted Solution Integration Guide*

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# Preface

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## About This Guide

The *Website Payments Pro Hosted Solution Integration Guide* describes how to integrate with *Hosted Solution*. It includes information about:

- Features and benefits of Hosted Solution.
- Value-added services.
- Moving from Website Payments Standard to Hosted Solution.
- Integrating your website with Hosted Solution.
- Customising your hosted payment page.
- Testing your integration in the Sandbox environment.
- Verifying the status and authenticity of the transactions before fulfilling the orders.

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## Intended Audience

This guide is for merchants and developers that want to integrate with Hosted Solution to add transaction processing to their website.

Hosted Solution is not available in the United States. It is only available in the countries in the table below. The product name may vary from country to country.

Country	Product Name
Australia	Website Payments Pro Hosted Solution
France	PayPal Intégral Evolution
Hong Kong	Website Payments Pro Hosted Solution
Singapore	Website Payments Pro Hosted Solution
Italy	PayPal Pro
Japan	Website Payments Plus
Spain	Pasarela Integral
United Kingdom	Website Payments Pro Hosted Solution

For more information go to

<https://developer.paypal.com/webapps/developer/docs/classic/products/website-payments-pro-hosted-solution/>

## Revision History

Revision history for *Website Payments Pro Hosted Solution Integration Guide*.

**TABLE P.1 Revision History**

Date	Description
May 2014	Updated the secure payments URL shown in the examples throughout the guide. Removed the s-xclick command from all examples and also updated the example hosted button IDs to use HSSS instead of HSS.
October 2013	Updated the list of supported browsers in <a href="#">Integrating iFrame in Your Website</a> . Added information about verifying a card by submitting an authorization with a transaction amount of zero in <a href="#">Integrating Your Website Using HTML</a> and <a href="#">Getting Started with Website Payments Pro Hosted Solution</a> .
August 2013	Updated the <a href="#">Testing Your Integration in Sandbox</a> and <a href="#">Error Messages</a> chapters. Updated the possible values of the language code <code>lc</code> request field in the <a href="#">HTML Variables for Payment Page Settings</a> section. Added a note in the <a href="#">Verifying Transaction Status and Authenticity</a> section on the PayPal account settings which result in appending each Transaction ID to your return URL. Updated content and URLs.
February 2013	Added a section on <a href="#">The Mobile Optimized Payment Flow</a> . Updated the values of the <code>template</code> HTML variable in the <a href="#">HTML Variables for Payment Page Look and Feel</a> table. Added information on mobile optimized payment pages in the <a href="#">Integrating iFrame in Your Website</a> chapter.
October 2012	Added the new payment page customisation features to the <a href="#">Customising Your PayPal Payment Page</a> chapter.
August 2012	Updated the <a href="#">Intended Audience</a> section. Updated the endpoint in the examples.
July 2012	Removed references to the deprecated HTML variable: <code>shopping_url</code>



**TABLE P.1 Revision History**

Date	Description
June 2012	<ul style="list-style-type: none"><li>• Updated the requirements for the billing address fields in the <a href="#">HTML Variables for Payment Page Settings</a> section.</li><li>• Added a character limitations note to the following sections: <a href="#">HTML Variables for Payment Page Settings</a>, <a href="#">HTML Variables for Payment Page Look and Feel</a> and <a href="#">BMCreateButton API Operation</a>.</li><li>• Corrected the HTML samples in <a href="#">Chapter 2</a> and <a href="#">Chapter 5</a>.</li></ul>
May 2012	Added IE9 to list of browsers that support iFrame.

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## Documentation Feedback

Help us improve this guide by sending feedback to:

[documentationfeedback@paypal.com](mailto:documentationfeedback@paypal.com)



# 1

## Getting Started with Website Payments Pro Hosted Solution

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### Overview

Website Payments Pro provides an all-in-one package of a gateway, a merchant account, and a virtual terminal. There are a number of options to integrate Website Payments Pro, either through a shopping cart, through Direct Payment API, or using a PayPal hosted integration - Website Payments Pro Hosted Solution.

Hosted Solution is the fast and easy way to add transaction processing to your website. It is a secure, PayPal-hosted, web-based payment solution that allows you to securely send your buyers to PayPal's payment page to authorise and process transactions. Buyers pay with a debit or credit card, or their PayPal account and you do not have to capture or store credit card information on your website, thereby helping towards achieving PCI compliance.

Hosted Solution is the choice for merchants who prefer a solution where all financial details are handled by PayPal.

In addition to Hosted Solution, PayPal recommends that you implement the PayPal Express Checkout button on your website. The button appears much earlier in the payment flow and gives existing PayPal account holders the opportunity to use PayPal, thereby increasing the transaction completion rate.

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### Features and Benefits

Here are the features and benefits of Hosted Solution:

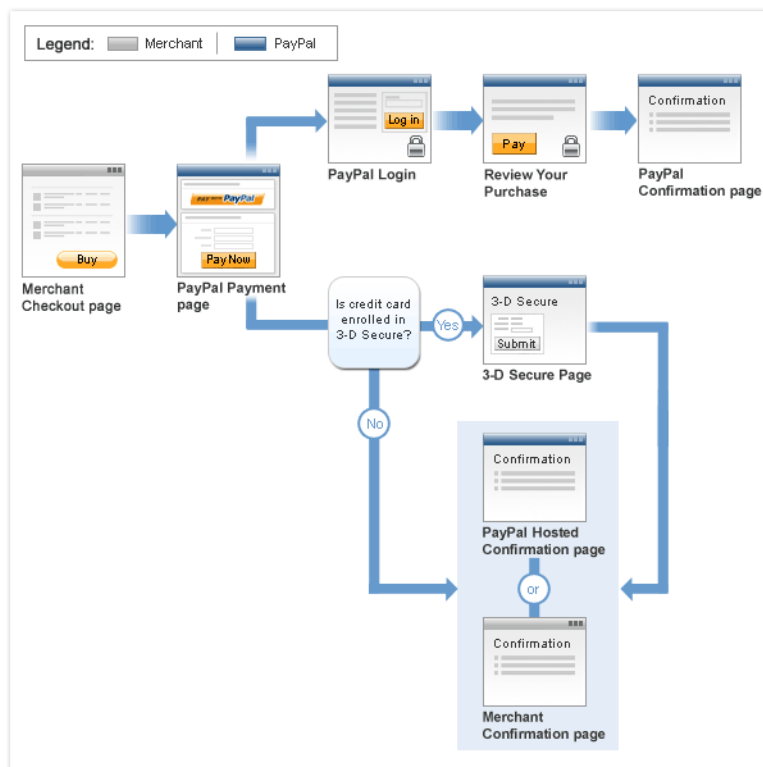
- **PCI compliance** - Payment Card Industry (PCI) Data Security Standards (DSS) is a global security standard which applies to all businesses that collect, store, process, or transmit card holder information. You can use PayPal's hosted payment page as part of the PCI compliance solution for your business.

**NOTE:** Hosted Solution implementation helps achieving PCI compliance, and does not necessarily guarantee it.

- **Supports iFrame** - PayPal offers a compact payment form that can be integrated in an iFrame on your website. The buyer completes the payment on your website and you can maintain the checkout look and feel in the master frame that surrounds the compact form. The credit card fields are part of the compact form so you do not have to collect this information separately. For more information, refer to "[Integrating iFrame in Your Website](#)" on page 47.

- **Support for 3-D Secure Buyer Authentication Protocol** - 3-D Secure can help to add an extra layer of fraud protection for online credit and debit card payments from your buyers. It can benefit your business by helping to reduce the number of unauthorised chargebacks you receive and the time it takes to resolve them. You can enable 3-D Secure via the PayPal-hosted payment page quickly, easily, and at no extra cost.
- **Virtual Terminal** - PayPal-hosted online payment form, which enables you to accept phone fax, mail orders for all major credit cards.
- **PayPal Express Checkout** - Two-click payment option for PayPal account holders. For more information, refer to [“PayPal Express Checkout Transaction Processing”](#) on page 15.
- **Supports Major Credit and Debit Cards** - Supports Visa, Visa Debit, Visa Electron, MasterCard, and Maestro (UK).
- **Mobile Support** - Hosted Solution payment pages are optimized for both desktop and mobile browsers. For more information, refer to [“The Mobile Optimized Payment Flow”](#) on page 41.
- **Account Verification** - Verify cards by submitting authorization transaction with a transaction amount of zero.

## How Hosted Solution Works



In the figure above, the top flow is for paying using your PayPal account and the bottom flow is for paying with a card.

To integrate your website with Hosted Solution:

1. Generate a button in your website checkout flow using HTML or API solution. The button could be labeled **Pay** or **Buy** or similar. When the buyer clicks this button, they are redirected to the payment page hosted by PayPal.
2. On the payment page, the buyer enters their debit or credit card information and clicks the **Pay Now** button. They do not have to have a PayPal account, although they have the option to use it if they have one.
3. If the transaction is successful, the buyer either sees PayPal's confirmation page or is redirected to a URL you specify. If the transaction is unsuccessful, an error message is displayed, and the buyer can rectify the error and retry the transaction.

You can specify the content of the payment page and configure its appearance to reflect the look and feel of your website (including your logo).

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## Value-Added Services

The following value-added services are offered to Website Payments Pro and can be used with Hosted Solution transactions:

### Fraud Management Filters

PayPal provides many Fraud Management Filters (FMF), which make it easier for you to detect and respond to fraudulent transactions. FMF provides you with tools, called filters, that can identify potentially fraudulent transactions. The kinds of filters can be divided into the following categories:

- Free filters include basic filters that screen against the country of origin, the value of transactions, and such. PayPal provides basic filters for business accounts and Website Payments Pro accounts.
- Advanced filters include filters that screen credit card and addresses information, filters that screen against lists of high-risk indicators, and filters that screen additional transaction characteristics. Website Payments Pro merchants can upgrade to use advanced filters.

FMF checks for payment characteristics that may indicate fraudulent activity. You set up FMF to provide the tightest control possible over payments so that you can deny payments that are likely to result in fraudulent transactions and accept payments that are not typically a problem. Payments that may require further investigation or intervention, such as comparing prior orders or contacting the customer for more information, can be flagged or put on hold or pended for review. For more information, refer to [Fraud Management Filters Guide](#).

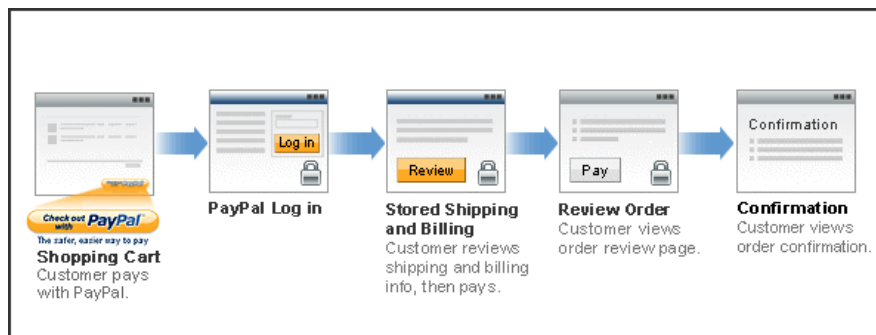
## Recurring Payments

Recurring Payments is a scheduled payment solution that enables you to automatically bill a buyer for a fixed amount of money on a fixed schedule. When you create recurring payments for a buyer, you create a recurring payments profile. The profile contains information about the recurring payments, including details for an optional trial period and a regular payment period. Each of these subscription periods contains information about the payment frequency and payment amounts, including shipping and tax, if applicable. For more information, refer to [Website Payments Pro Integration Guide](#).

**NOTE:** Recurring Payments is not supported by Hosted Solution. It is only supported using the DirectPayment API.

## PayPal Express Checkout Transaction Processing

PayPal Express Checkout is PayPal's premier checkout solution. It makes it easier for your buyers to pay and allows you to accept PayPal while retaining control of the buyer and overall checkout flow. It enables the buyers to use shipping information stored securely at PayPal to check out, so they do not have to re-enter it on your site. The **Pay with PayPal** button can be placed on both the product page as well as the shopping cart page and is a great tool to increase checkout conversion.



The following steps describe how PayPal Express Checkout works

1. After selecting products to purchase on your website, buyers click **Pay with PayPal** button.
2. They are redirected to the PayPal site where they log in using their PayPal login and password.
3. After logging in, they review the order summary, and click **Continue Checkout** to authorise the transaction.
4. The buyers are then returned to the confirmation page on your website where they can verify the order details and submit the transaction.

For complete details on PayPal Express Checkout, refer to the [Express Checkout Integration Guide](#).

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## Introduction to Integrating with Hosted Solution

After signing up for Hosted Solution, follow these steps to integrate your website with Hosted Solution:

1. Connect your website to Hosted Solution: Identify a point in your website checkout flow where you want to place a **Pay** or similar button that the buyer clicks on to initiate the payment. You can do this using HTML or API. Clicking on this button redirects the buyer's browser to PayPal's payment page for transaction processing. Depending on how you want to integrate, follow the steps described in [Chapter 2, "Integrating Your Website Using HTML" on page 17](#) or [Chapter 5, "Integrating Your Website Using API" on page 53](#).
2. Optionally, customise the appearance and content of your PayPal-hosted payment page by either sending the appropriate HTML variables or by editing your PayPal account settings. Refer to [Chapter 3, "Customising Your PayPal Payment Page" on page 23](#).
3. Optionally, test your integration in the PayPal Sandbox environment. This step is described in [Chapter 6, "Testing Your Integration in Sandbox" on page 61](#).





# 2

## Integrating Your Website Using HTML

This chapter provides instructions for a simple integration that enables you to begin processing transactions using Hosted Solution.

**NOTE:** PayPal recommends that you implement the simple integration to familiarise yourself with Hosted Solution before implementing a more customised integration.

As part of a simple integration, you get the default settings on your payment page. To customise the look and feel of the page so it matches your website, you can do one of the following:

- Change your settings in your Profile section on PayPal.com, as described in [“Modifying Your PayPal Account Settings” on page 24](#).
- Add the appropriate HTML variables to the payment page, as described in [Table 2.1, “HTML Variables for Settings of Payment Page” on page 19](#) and [Table 3.2, “HTML Variables for Look and Feel of Payment Page” on page 43](#).

**IMPORTANT:** HTML variables will override the settings you save on your profile page.

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### Simple Hosted Solution Integration

To integrate your website with Hosted Solution, identify a point in your website checkout flow where you want to place a button that the buyer clicks to initiate the payment. The button should be labeled **Continue to Payment, Pay** or similar, and when clicked, should execute a Form POST to PayPal. Clicking on this button redirects the buyer’s browser to the PayPal payment page where they can pay with debit or credit card, or their PayPal account.

The Form POST contains a set of HTML variables that describe the transaction and associate it with your Website Payments Pro account. In the Form POST, you must specify the following:

- `subtotal` - amount of the transaction
- `business` - Secure Merchant ID (found on the profile page) or the email address associated with your PayPal account.
- `paymentaction` - Indicates whether the transaction is for payment on a final sale or an authorisation for a final sale (to be captured later). You can also submit an authorization with a transaction amount of zero to verify the card. Since the amount of such a transaction is zero, it does not need to be captured.

The default currency is USD. Additionally, you can specify the appropriate HTML variables listed in [Table 2.1, “HTML Variables for Settings of Payment Page” on page 19](#) to customise the information collected on the payment page or [Table 3.2, “HTML Variables for Look and Feel of Payment Page” on page 43](#) to customise the look and feel of the page. If the payment is

successful, then the buyer either sees the PayPal confirmation page or is redirected to the URL you specify in your configuration.

The return URL is appended with a Transaction ID on the query string during the redirect back from the payment page to your website. This Transaction ID can be used to retrieve the status and verify the authenticity of the transaction. For detailed information on verifying the authenticity of the transaction before fulfilling the order, refer to [Chapter 7, “Order Processing”](#) on page 67.

## Sample Integration

Below is an example of a simple Hosted Solution integration:

### 1. Sample Hosted Solution Form POST:

```
<form
action="https://securepayments.paypal.com/webapps/HostedSoleSolutionApp/
webflow/sparta/hostedSoleSolutionProcess"
method="post">
<input type="hidden" name="cmd" value="_hosted-payment">
<input type="hidden" name="subtotal" value="50">
<input type="hidden" name="business" value="HNZ3QZMCPBAAA">
<input type="hidden" name="paymentaction" value="sale">
<input type="hidden" name="return"
value="https://yourwebsite.com/receipt_page.html">
<input type="submit" name="METHOD" value="Pay">
</form>
```

The bold text is the value for the corresponding variable. It is recommended that you enclose the values in quotes. For detailed information on these values, refer to [Table 2.1, “HTML Variables for Settings of Payment Page”](#) on page 19.

2. Output the HTML text into your website at the point where buyers will proceed with their checkout.
3. Open your checkout page and test the button to ensure that it opens the PayPal payment page.

You can also use the PayPal sandbox environment to test your integration. For complete information on testing your integration in the PayPal Sandbox environment, refer to [Chapter 6, “Testing Your Integration in Sandbox”](#) on page 61.

## HTML Variables for Payment Page Settings

The table below lists the Hosted Solution HTML variables you can use to send in additional transaction information along with your web request. For a list of HTML variables that you can use to customise the look and feel of your payment page, refer to [Table 3.2, “HTML Variables for Look and Feel of Payment Page”](#) on page 43.

**NOTE:** The values you pass must not contain any of these special characters (){}<>\";

**NOTE:** Some merchants are required to pass billing information with every transaction. It is recommended that you test your integration first, particularly if you plan to use iFrame, to determine if the billing information fields are required.

**TABLE 2.1 HTML Variables for Settings of Payment Page**

Variable	Description	Required
address1	Street name of shipping address. (1 of 2 fields).	No
address2	Street name of shipping address. (2 of 2 fields).	No
address_override	The payer is shown the passed-in address but cannot edit it. This variable is overridden if there are errors in the address. The allowable values are true/false. Default is false.	No
billing_address1	Street name of the billing address. (1 of 2 fields).	Conditional
billing_address2	Street name of the billing address. (2 of 2 fields).	No
billing_city	City name of the billing address.	Conditional
billing_country	Country code of the billing address.	Conditional
billing_first_name	First name of person the item is being billed to.	Conditional
billing_last_name	Last name of person the item is being billed to.	Conditional
billing_state	State name of the billing address.	Conditional
billing_zip	Zip code of the billing address.	Conditional
bn	Identifies the source that built the code for the button. <b>Format</b> - <Company>_<Service>_<Product>_<Country>	No
business	Your PayPal account email address or your PayPal ID (Secure Merchant ID) associated with your PayPal account. It is recommended that you use your PayPal ID, which can be found on the top section of the Profile page on PayPal.com	Yes
buyer_email	Email address of the buyer.	No

**TABLE 2.1 HTML Variables for Settings of Payment Page** (Continued)

Variable	Description	Required
cancel_return	The browser will be redirected to this URL if the buyer clicks “Return to Merchant” link. Be sure to enter the complete URL, including http:// or https://.	No
cbt	Sets the text for the “Return to Merchant” link on the PayPal confirmation page. For business accounts, the return button displays your business name in the place of the word “Merchant” by default.	No
city	City name of shipping address.	No
country	Country name of shipping address.	No
currency_code	The currency of the payment. The default is USD.	No
custom	Pass through variable never presented to the payer.	No
first_name	First name of person the item is being shipped to.	No
handling	Handling charged. This amount is added to subtotal for the total amount.	No
invoice	Order number in the merchant’s ordering/invoice system.	No
last_name	Last name of person the item is being shipped to.	No
lc	The display language of the login or sign-up page. Possible values are: GB, FR	No
night_phone_a	The area code of the U.S. phone number, or the country code of the phone number outside the U.S. This pre-populates the buyer’s home phone number.	No
night_phone_b	The three-digit prefix for U.S. phone numbers, or the entire non-U.S. phone number for numbers outside the U.S., excluding the country code. This pre-populates the buyer’s home phone number. <b>NOTE:</b> Use this variable for non-US numbers.	No
night_phone_c	The four-digit phone number for U.S. phone numbers. This pre-populates the buyer’s home phone number.	No
notify_url	The URL to which PayPal posts information about the transaction in the form of Instant Payment Notification. Be sure to enter the complete URL, including http:// or https://.	No
paymentaction	Indicates whether the transaction is for payment on a final sale or an authorisation for a final sale (to be captured later). For account verification, you can also submit an authorization with a transaction amount of zero. <ul style="list-style-type: none"> <li>• <b>Allowable Values:</b> - authorization or sale</li> <li>• <b>Default Value</b> - sale</li> </ul>	Yes

**TABLE 2.1 HTML Variables for Settings of Payment Page** (Continued)

<b>Variable</b>	<b>Description</b>	<b>Required</b>
return	The URL to which the buyer's browser is redirected to after completing the payment. Be sure to enter the complete URL, including http:// or https://.	No
shipping	Shipping charged. This amount is added to subtotal for the total amount.	No
state	State of the shipping address.	No
subtotal	Amount charged for the transaction. If shipping, handling, and taxes are not specified, this is the total amount charged.	Yes
tax	Taxes charged. This amount is added to subtotal for the total amount.	No
zip	Postal code of the shipping address.	No



# 3

## Customising Your PayPal Payment Page

You can customise the look and feel of the PayPal payment page in the following two ways:

- [Modifying Your PayPal Account Settings](#).
- Using [HTML Variables for Payment Page Look and Feel](#).

**NOTE:** HTML variables will override the account settings you save on your profile page.

This chapter also includes information on [The Mobile Optimized Payment Flow](#).

**NOTE:** Your payment page will appear to customers after you complete your HTML integration.

### Modifying Your PayPal Account Settings

The settings and appearance of your PayPal payment page can be customised. To modify your payment page, login to your account on PayPal.com. On the *Profile* page, under the *Website payment settings* section, select:

- **Settings**: to configure your payment page settings.
- **Customisation**: to specify your payment page layout and appearance.

The screenshot shows the PayPal Profile page with the following structure:

- Navigation:** My Account, Send Money, Request Money, Merchant Tools, Auction Tools, Products and Services. Sub-navigation: Overview, Add Funds, Withdraw, History, Resolution Center, Reports, Profile.
- Profile Section:** Business: Your Company (youremail@yourdomain.com), Secure Merchant ID: ID777242ABC. Includes a "Help with this page" link.
- Services Table:**

Services	Status
Website Payments Pro	Live
<a href="#">Virtual Terminal</a>	<a href="#">Live</a>
<a href="#">Advanced Fraud Management</a>	<a href="#">Live</a>
<a href="#">Recurring Payments</a>	<a href="#">Live</a>
<a href="#">PayPal Express Checkout</a>	<a href="#">Live</a>
- Account information:** Email, Street address, Phones and mobile payments, Password, Notification/information sharing, Time zone, Manage Users, Request API credentials, Business information, Close Account, Identification Preference.
- Financial information:** Bank accounts, Debit/credit cards, Manage currency balances, Redemption codes, Monthly Account Statements, Preapproved Payments, Recurring payments dashboard.
- Website payment settings:** Website Payments Pro (highlighted with a red arrow), Settings, Customisation.
- Other sections:** Security and risk settings (Payment receiving preferences), Report settings (Manage Report subscriptions, Secure FTP server settings), Selling preferences (Auctions, Customer service message, Invoice templates, Instant Payment Notification preferences, Language Encoding, Create New Button), Billing (View PayPal bills, Manage monthly billing), Implementation Testing (Sandbox testing environment).
- First steps with PayPal:** Your guide to getting paid. [Start Now](#)



## Settings

**FIGURE 3.1 Settings - Overview**

**Setting up your hosted payment solution** [Help with this page](#)

Overview Here's how to set up or change your hosted payment solution.

**Configure**  
Select the links on the left to set up your hosted payment solution.

- **Customer Information:** Choose the information PayPal collects from your customers, and manage security settings.
- **Payment Confirmation Page:** Set up a PayPal confirmation page or automatically redirect customers to your website
- **Email Receipt:** Allow PayPal to email receipts to your customers.
- **Security Settings:** Set up buyer authentication for credit cards.
- **URLs and Data Transfer:** Manage URLs and change your data transfer method.

---

**Customize**  
Add your logo and choose the color of your checkout pages to reflect your company's brand.  
[Go to Customization](#)

**Integrate**  
Learn how to integrate your hosted checkout page to your site. Download the integration guide, or get help from other developers, or getting help from our PCI Compliant Partners.  
[Go to X.com](#)  
[PCI Compliant partners](#)

From the *Settings* overview page you can navigate to each of the following tabs to configure the settings of your PayPal payment page:

- **Customer Information:** Specify if you would like to display the customer's billing or shipping information on your payment page and which fields are required or editable.
- **Payment Confirmation Page:** Choose the settings for your payment confirmation page. This is the page that your customers see after a successful transaction.
- **Email Receipt:** Select to send your customers an email receipt and customise this email receipt.
- **Security Settings:** Enroll in the buyer authentication program.
- **URLs and Data Transfer:** Specify the significant URLs on your website. PayPal will redirect your customers from your PayPal payment page to the URLs you provide.
- **General Settings:** Customise the payment page button label.

The *Settings* overview page also includes a link to the [PayPal developer portal](#) and a link to the [Customisation](#) page where you can modify the appearance of your payment page.

### Customer Information

From the *Customer Information* settings tab, you can select if you would like to display *Billing information* and *Shipping information* fields on your PayPal payment page. When you check the checkbox next to either *Billing information* or *Shipping information*, a list of applicable fields appears on the page. All of the listed fields will be displayed on your payment page.

**FIGURE 3.2** Settings - Customer Information

The screenshot shows the PayPal account settings page for 'Collecting customer information'. The page has a navigation bar at the top with tabs for 'My Account', 'Send Money', 'Request Money', 'Merchant Tools', 'Auction Tools', and 'Products and Services'. Below the navigation bar, there are links for 'Overview', 'Add Funds', 'Withdraw', 'History', 'Resolution Center', 'Reports', and 'Profile'. The main content area is titled 'Collecting customer information' and includes a 'Help with this page' link. On the left side, there is a sidebar with links for 'Overview', 'Customer Information', 'Payment Confirmation Page', 'Email Receipt', 'Security Settings', 'URLs and Data Transfer', and 'General Settings'. The main content area contains the following sections:

- Billing information** (checked):
  - Name**:
    - Make these fields editable:  Company Name,  First Name,  Last Name
    - Make these fields required:  Company Name,  First Name,  Last Name
  - Address**:
    - Make these fields editable:  Address 1,  Address 2,  City,  State/Province/Region,  ZIP/Postal code,  Country
    - Make these fields required:  Address 1,  Address 2,  City,  State/Province/Region,  ZIP/Postal code,  Country
  - Contact information**:
    - Make these fields editable:  Phone number,  Email address
    - Make these fields required:  Phone number,  Email address
- Shipping information** (unchecked):
  - Shipping information

A 'Save Changes' button is located at the bottom right of the form.

From this list of customer information fields you can select which fields you would like to make *editable* or *required* on your payment page. Check the box next to each required field in

the *make these fields required* section and next to the editable fields in the *make these fields editable* section.

PayPal recommends that you display as few options as possible on the payment page. Also, if you choose to collect information on the payment page that you have already collected on your website, this creates a poor buyer experience. For example, you may have already collected shipping address on your own website to calculate the shipping cost. Therefore, it is not necessary to collect this information again on the payment page.

Instead of collecting the buyer’s shipping address again on the PayPal payment page, you can pass to PayPal the shipping address information which you already collected. PayPal will then display the pre-filled and editable shipping address fields on your payment page. For more information on passing values to the PayPal payment page go to: [“HTML Variables for Payment Page Settings” on page 19.](#)

From the *Customer Information* page tab you can choose whether to display the following customer billing information or shipping information fields on your payment page. You can also determine which of these fields will be required and/or editable.

**NOTE:** Some merchants are required to pass the customer’s billing information with every transaction. It is recommended that you test your integration first, particularly if you plan to use the iFrame integration, to determine if the billing information fields are required.

Billing Information Fields	Shipping Information Fields
<p><b>Name</b></p> <ul style="list-style-type: none"> <li>• Company Name</li> <li>• First Name</li> <li>• Last Name</li> </ul> <p><b>Address</b></p> <ul style="list-style-type: none"> <li>• Address 1</li> <li>• Address 2</li> <li>• City</li> <li>• State/Province/Region</li> <li>• ZIP/Postal code</li> <li>• Country</li> </ul> <p><b>Contact Information</b></p> <ul style="list-style-type: none"> <li>• Phone number</li> <li>• Email address</li> </ul>	<p><b>Name</b></p> <ul style="list-style-type: none"> <li>• Company Name</li> <li>• First Name</li> <li>• Last Name</li> </ul> <p><b>Address</b></p> <ul style="list-style-type: none"> <li>• Address 1</li> <li>• Address 2</li> <li>• City</li> <li>• State/Province/Region</li> <li>• ZIP/Postal code</li> <li>• Country</li> </ul> <p><b>Contact Information</b></p> <ul style="list-style-type: none"> <li>• Phone number</li> <li>• Email address</li> </ul>

You can also override the *Customer Information* tab settings at transaction time by passing HTML variables to the paypal payment page. For more information see: [“HTML Variables for Payment Page Look and Feel” on page 43.](#)

### Payment Confirmation Page

From the *Payment Confirmation Page* tab, you can specify which page the buyer will see after making a successful payment. You can choose to display either a PayPal confirmation page or a payment confirmation page hosted on your website:

**FIGURE 3.3 Settings - Payment Confirmation Page**

The screenshot shows the PayPal account settings interface. The top navigation bar includes 'My Account', 'Send Money', 'Request Money', 'Merchant Tools', 'Auction Tools', and 'Products and Services'. Below this is a secondary navigation bar with 'Overview', 'Add Funds', 'Withdraw', 'History', 'Resolution Center', 'Reports', and 'Profile'. The main heading is 'Setting up your payment confirmation page' with a 'Help with this page' link. A left sidebar contains menu items: 'Overview', 'Customer Information', 'Payment Confirmation Page', 'Email Receipt', 'Security Settings', 'URLs and Data Transfer', and 'General Settings'. The main content area explains that after payment, users can either see a confirmation page or be redirected to their own. It asks 'Where would you like to display the payment confirmation message?' with two radio button options: 'On my site's confirmation page.' and 'On a PayPal confirmation page. See sample.' Below this are two text areas for 'Optional header text (character limit: 720)' and 'Optional footer text (character limit: 720)'. Further down are input fields for 'Customer service phone number' (0254448585), 'Customer service email address' (cs\_email@paypal.com), 'Return URL' (http://www.google.co.uk), and 'Text for Return button' (Continue Shopping). A tip at the bottom states: 'After the transaction is complete, you will receive an email. You can also see the transaction details in Transaction History. Tip: To send data to your web server with HTTP POST or GET, click [URLs and Data Transfer](#).' A 'Save Changes' button is at the bottom right.

- **On my site's confirmation page**

If you select this option, you are asking PayPal to redirect the buyer to your own payment confirmation page hosted on your website. You will be asked to provide the *Return URL*. The *Return URL* is the first page the customer sees on your site after leaving the PayPal pages. If you choose to host your own payment confirmation page, enter the path to your payment confirmation page in the *Return URL* field.

When PayPal redirects the buyer to a payment confirmation page hosted on your website, you will have to include a message on this page about the outcome of the transaction. Be sure to display the specifics of the order using the Transaction ID that is passed back to you.

- **On a PayPal confirmation page**

By selecting this option you are choosing to display a PayPal hosted confirmation page to the buyer. You can customise your PayPal hosted confirmation page with the following information:

- (Optional) header text
- (Optional) footer text
- Customer service phone number.

To update your customer service contact information go back to the *Profile* page.

- Customer service email address.

To update your customer service contact information go back to the *Profile* page.

- Return URL

The *Return URL* is the first page the customer sees on your site after leaving the PayPal pages. In the the *Return URL* field, enter the path to a page on your site that you would like buyers to see after the PayPal payment confirmation page. The buyer returns to your site by clicking a link on the PayPal confirmation page. You can customise the link text.

- Text for return button / link

Here you can specify the *text* of the link on the PayPal confirmation page that sends the user back to your site.

To change how information is sent from PayPal to your web server, via HTTP POST or GET, go to the [URLs and Data Transfer](#) settings tab.

## Email Receipt

From the *Email Receipt* settings tab, you can specify if you would like PayPal to send an email receipt to the buyer after a successful transaction. This feature is disabled by default. To enable it, check the checkbox next to *Allow PayPal to email receipts*.

You can customise the following information in the email receipt page:

- Sender's email address
- Reply-to email address (optional)
- Display your business name or logo?

You can select from the following options:

- Show my business name as text
- Show my business logo
- Do not display

- Header text (optional)
- Footer text (optional)
- Customer service phone number
- Customer service email address

To update your customer service contact information, go back to the *Profile* page.

**FIGURE 3.4 Settings - Email Receipt**

**My Account** | Send Money | Request Money | Merchant Tools | Auction Tools | Products and Services

Overview | Add Funds | Withdraw | History | Resolution Center | Reports | Profile

### Customizing email receipts [Help with this page](#)

Overview

Customer Information

Payment Confirmation Page

**Email Receipt**

Security Settings

URLs and Data Transfer

General Settings

After your customers pay, we email receipts to them. To customize the receipt, you can choose which email addresses appear in the "From" and "Reply to" fields, and add header and footer text. [See sample.](#)

Allow PayPal to email receipts.

Sender email address

Reply to email address (optional)

Display your business name or logo?

Show my business name as text

Show my business logo

Upload a JPG, GIF, or PNG file (maximum size: 255 X 55 pixels)

File: bal.jpg

Position

Do not display

Header text (optional)

Footer text (optional)

Customer service phone number

Customer service email address

To edit your customer service information, go to your [Profile](#).



## Security Settings

**FIGURE 3.5 Settings - Security Settings**

From the *Security Settings* tab, you can enroll in buyer authentication programs for the 3 major card issuers.

### Buyer Authentication:

Some card issuers offer buyer authentication programs. These programs require buyers to enter a password when paying online with their card. A buyer authentication program like the 3-D Secure implementations: Verified by Visa or MasterCard SecureCode is an additional form of authentication which provides a credit and debit card holder another layer of security while paying for online purchases. This deters the unauthorised use of the buyer's credit or debit card during online purchases and also reduces the chargeback rate for the merchants implementing this scheme.

*Enroll in buyer authentication for these card types:*

- Maestro

Do you want to accept transactions that aren't covered by buyer authentication?

- Yes
- No

- Visa
  - Do you want to accept transactions that aren't covered by buyer authentication?
    - Yes
    - No
- Mastercard
  - Do you want to accept transactions that aren't covered by buyer authentication?
    - Yes
    - No

**NOTE:** Maestro transactions require buyer authentication information. If buyer authentication information is not present, your transaction will be declined.

When you select “No”, you are choosing to accept transactions that are not protected by buyer authentication (transactions that do not pass the 3-D Secure check).

### URLs and Data Transfer

The *URLs and Data Transfer* settings help you manage how data is transferred between PayPal and your website (via GET or POST). You can also set your Cancel and Error URL values here. To modify the Return URL, go to the [Payment Confirmation Page](#).

You can configure the following settings from the *URLs and Data Transfer* tab:

#### Data transfer method

Select the HTTP method you would like PayPal to use to send back payment data to your web server. This data transfer method applies to Return, Cancel and Error URLs. The options are:

- GET
- POST

#### Cancel URL

If a customer chooses to cancel a payment, this link will direct the customer back to a page on your site that you specify.

- Cancel URL

Enter the URL of the page on your website where the buyer should return to if the buyer chooses to cancel the payment.

You can also set the Cancel URL dynamically at transaction time by passing a HTML variable to PayPal. This HTML variable will override the Cancel URL specified in your account settings. For more information, go to: “[HTML Variables for Payment Page Settings](#)” on page 19.



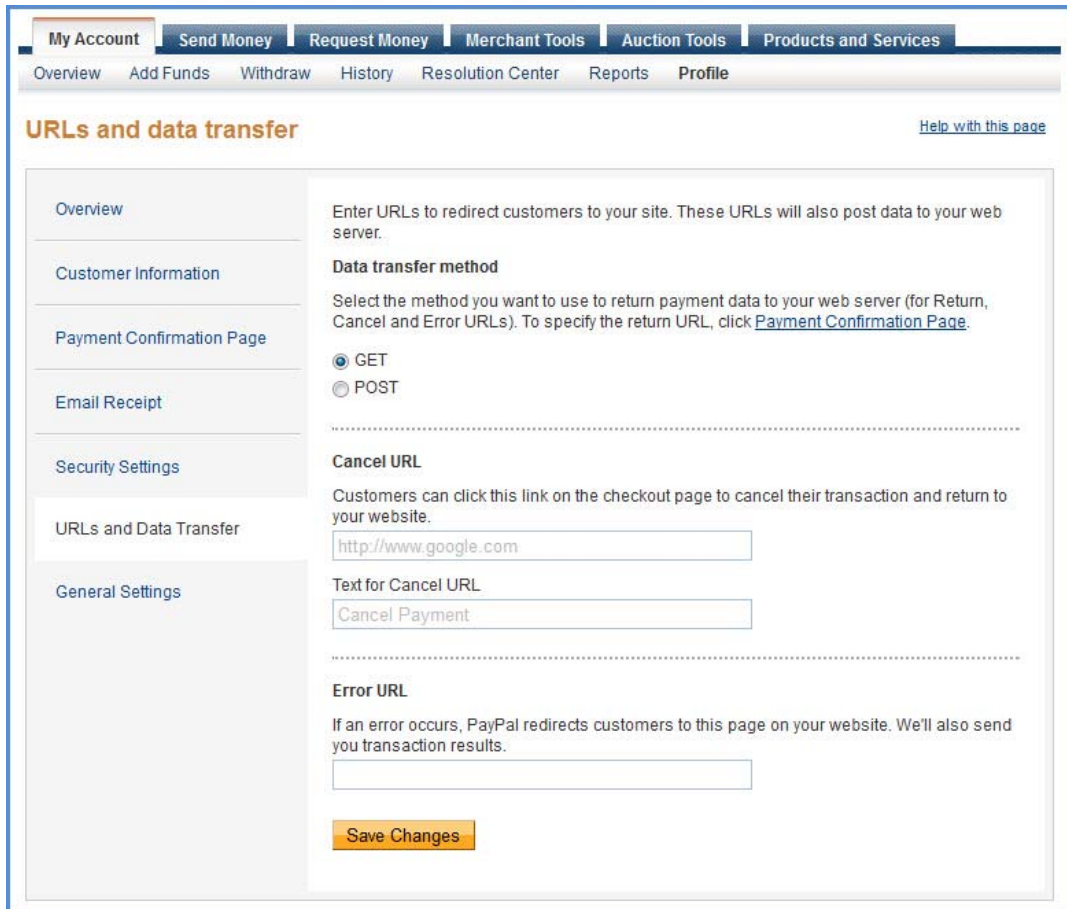
- Text for Cancel URL

Here you can customize the text of the payment cancellation link displayed on your PayPal payment page.

### Error URL

This is the URL of the page on your website that PayPal should redirect buyers to if an error occurs during the payment transaction.

**FIGURE 3.6 Settings - URL and Data Transfer**



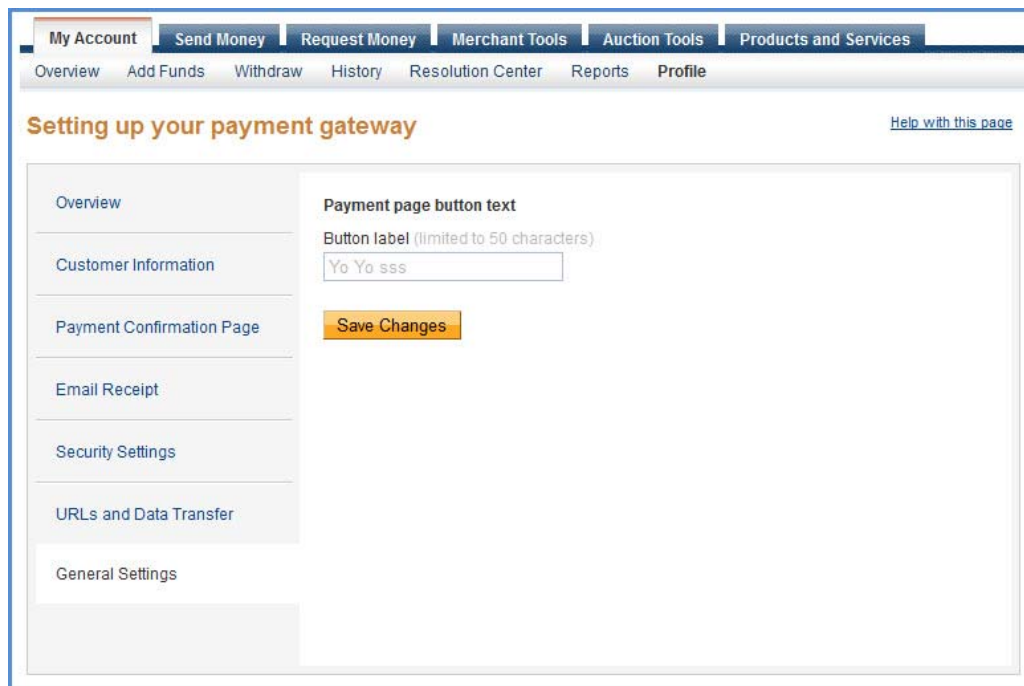
### General Settings

The *General Settings* page helps you customise PayPal payment page further.

### Payment page button text

You can customise the text on the *Pay Now* button.

**FIGURE 3.7 Settings - General Settings**



## Customisation

The *Customisation* page allows you to customise the layout and appearance of your PayPal payment page. Here you can select one of the available page layouts. Depending on which layout you select, you can customise the header, the background color, the subheader text, the color of the pay button, the color of the button text, and the order summary section of your payment page. PayPal payment pages are optimized for both desktop and mobile browsers. To learn more about payment page behavior with mobile browsers see [“The Mobile Optimized Payment Flow”](#) on page 41.

At the top of the page, you will see the four layout templates that PayPal offers. Template A is the default template. You can select any one of these templates. If you would like an iFrame integration, select the *MiniLayout* template.

After you select the layout template you prefer, you can customise individual sections of this template. To make changes to a section, left-click on the section you are trying to modify or on the corresponding *Click to Edit* button for that section. A pop-up window will appear containing the settings applicable to that section, such as a color selector to change the color or a field for you to enter text.

When you have completed customising your layout template, click one of the following buttons:

- **Preview** - Preview the changes you have made to your template before saving and publishing it.

- **Save and Publish** - Save all of the changes you have made and publish the updated template. Your buyers will see the updated payment page.
- **Cancel** - Discard all the changes you have made in this session.
- **Previous Version** - Discard all changes you have made since the last time you saved the template. Your buyers will see the last saved template.

**PayPal**

**Customise Website Payments Pro Hosted Solution** [Help with this page](#)

We've created a basic template for you to follow, but you can customise it.

1. **Choose a layout.** With A, your page design will be simple in white. With B, you have the most freedom and you can customize your Order Summary. With C, your Order Summary is at the top.
2. **Click the pencil symbol to edit areas.** You can upload your company's logo in the header. If you choose layouts B or C, you can add color from an entire wheel of colors!
3. **Save and Publish.** After you've finished customizing your page, be sure to click Save and Publish. You may also Preview your page to check your work as you go.

Preview Save and Publish Cancel

Choose a layout and colour:

Layout A Layout B Layout C MiniLayout

Your Company Logo Goes Here

**Choose a way to pay**

Pay with my PayPal account

The faster, safer way to pay.

**PayPal** PAY WITH PayPal

Pay with a Card

Credit Card Number

VISA **Sample only** Mastercard

Live page will reflect your settings. Click Preview to see what the page will look like to your buyers.

CSC

Pay Now

Secure payments by **PayPal**

Order Summary

Subtotal	Sample Only	£300.00
Tax	Your Order Summary will appear here.	£2.00
Total		£302.00 GBP

PayPal. The safer, easier way to pay.  
Copyright © 1999-2012 PayPal. All rights reserved.

Previous Version Preview Save and Publish Cancel

## Customising Your PayPal Payment Page

### *Modifying Your PayPal Account Settings*

**NOTE:** You must make all modifications (including changing templates) within the same session, otherwise all changes will be lost and you will have to redo your changes. If the session times out, the design of the template will remain at the version that was last saved and published.

#### **Choosing a Template**

Choose from the following four design templates:

- [Layout A](#)
- [Layout B](#)
- [Layout C](#)
- [MiniLayout](#)

**Layout A.** Layout A is selected by default. Layout A consists of a header at the top of the page, a payment method section on the left and an order summary section on the right. You can only customise the header in this layout. You can specify the height of the header, show your company name in text or upload your company logo. You can also choose the horizontal alignment of the header.

**NOTE:** For Layout templates A, B and C, when the payment page is viewed from a supported mobile browser, PayPal automatically displays a mobile-optimized payment flow instead of the layout template. The mobile-optimized payment pages cannot be customized and will look the same for layouts A, B and C.

**FIGURE 3.8 Customisation - Layout A**

The screenshot displays the PayPal payment page customisation interface for Layout A. At the top, there are three buttons: "Preview", "Save and Publish", and "Cancel". Below this, a section titled "Choose a layout and colour:" shows four layout options: "Layout A" (selected), "Layout B", "Layout C", and "MiniLayout".

The main content area is divided into two columns. The left column is titled "Choose a way to pay" and contains two sections: "Pay with my PayPal account" and "Pay with a Card". The "Pay with my PayPal account" section features the PayPal logo and a "PAY WITH PayPal" button. The "Pay with a Card" section includes a "Credit Card Number" input field, a "VISA" logo, a "Sample only" notice, a "Live page will reflect your settings. Click Preview to see what the page will look like to your buyers." message, a "CSC" input field, a "What is this?" link, and a "Pay Now" button. At the bottom of this section, it says "Secure payments by PayPal".

The right column is titled "Order Summary" and contains a table with the following data:

Order Summary	
Subtotal	Sample Only £300.00
Tax	Your Order Summary will £0.00
Shipping handling	appear here. £5.00
<b>Total</b>	<b>£307.00 GBP</b>

At the bottom of the interface, there are three buttons: "Previous Version", "Preview", "Save and Publish", and "Cancel".

**Layout B.** Layout B has the most customisation options. Like Layout A, it consists of a header at the top of the page, a payment method section to the left and an order summary section to the right. In Layout B, you can also customise the header background color, the page background color or choose a page background image. In the payment method section on the left, you can choose the colors of the subheader text, the section border, the Pay button, and the Pay button text. In the order summary section on the right, you can customise the background color or use a background image.

**NOTE:** For Layout templates A, B and C, when the payment page is viewed from a supported mobile browser, PayPal automatically displays a mobile-optimized payment flow instead of the layout template. The mobile-optimized payment pages cannot be customized and will look the same for layouts A, B and C.

**FIGURE 3.9 Customisation - Layout B**

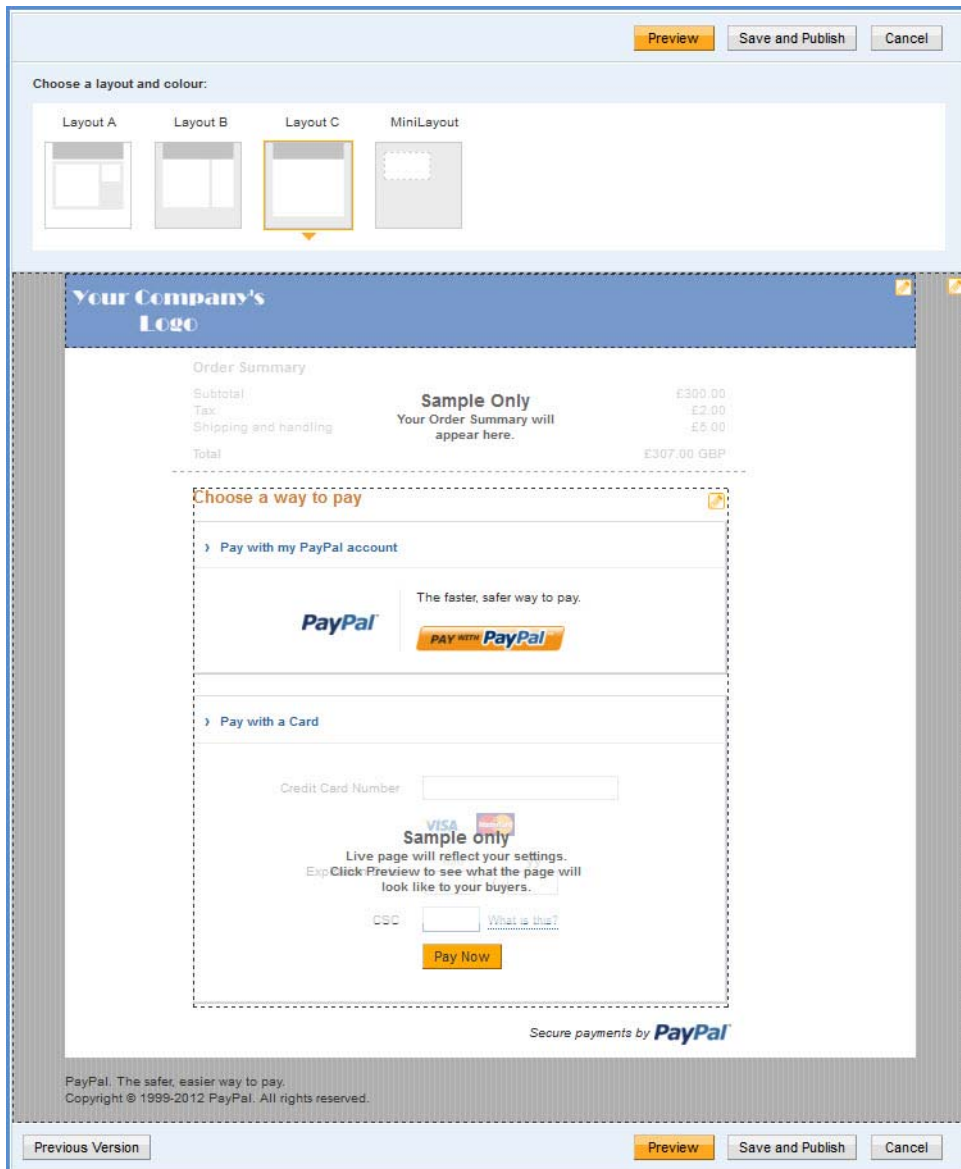
The screenshot shows the PayPal payment page customisation interface for Layout B. At the top, there are three buttons: "Preview", "Save and Publish", and "Cancel". Below this is a section titled "Choose a layout and colour:" with four layout options: "Layout A", "Layout B" (selected), "Layout C", and "MiniLayout". Each option has a corresponding thumbnail. The main preview area shows a payment page with a blue header containing "Your Company's Logo". The page is divided into two main sections: "Choose a way to pay" on the left and "Order Summary" on the right. The "Choose a way to pay" section has two options: "Pay with my PayPal account" and "Pay with a Card". The "Pay with my PayPal account" option is selected and shows the PayPal logo and a "PAY WITH PayPal" button. The "Pay with a Card" option shows a "Credit Card Number" input field, a "CSC" input field, and a "Pay Now" button. The "Order Summary" section shows a table with the following items:

Order Summary	
Subtotal	£300.00
Tax	£2.00
Shipping handling	£5.00
Total	£307.00 GBP

At the bottom of the preview area, there is a "Previous Version" button on the left and "Preview", "Save and Publish", and "Cancel" buttons on the right. The footer of the page contains the text: "PayPal. The safer, easier way to pay. Copyright © 1999-2012 PayPal. All rights reserved."

**Layout C.** In Layout C, the order summary section appears towards the top of the page, just below the header and is followed by the Payment method section. Similar to Layout B, Layout C allows you to customise the header, the page background and the colors on the payment method section. However, you cannot customise the order summary section.

**FIGURE 3.10** For Layout templates A, B and C, when the payment page is viewed from a supported mobile browser, PayPal automatically displays a mobile-optimized payment flow instead of the layout template. The mobile-optimized payment pages cannot be customized and will look the same for layouts A, B and C.  
**Customisation - Layout C**





**MiniLayout.** Unlike the other layouts, MiniLayout shows only the payment method section. There is no header or order summary section. MiniLayout can either be displayed in a stand-alone popup window or framed on your site in an iFrame. For more information on the iFrame integration, see “[Integrating iFrame](#)” on page 48. The size of the MiniLayout is fixed at 490 x 565 pixels, with extra space to allow for error messages.

In MiniLayout you can customise the subheader text color, the border color, the Pay button color and the Pay button text color.

**NOTE:** For MiniLayout, when the payment page is viewed from a mobile browser, PayPal will not display a mobile-optimized flow. The reason is that if PayPal automatically displayed a mobile optimized embedded template within a merchant web page that may not be mobile optimized, this can create unexpected and undesirable results. To display a mobile optimized flow, pass either `mobile` or `mobile-iframe` in the `template HTML` variable at transaction time.

**FIGURE 3.11 Customisation - MiniLayout**

The screenshot shows the PayPal payment page customisation interface for the MiniLayout. At the top right, there are buttons for "Preview", "Save and Publish", and "Cancel". Below this, a section titled "Choose a layout and colour:" displays four layout options: "Layout A", "Layout B", "Layout C", and "MiniLayout". The "MiniLayout" option is selected and highlighted with a yellow border. Below the layout selection, a blue banner contains the following text: "Unlike the other layouts, MiniLayout shows credit and debit card fields only. MiniLayout can either be framed on your site or be a stand-alone popup. Its size is fixed at 490 x 565 pixels, with extra space to allow for error messaging. If you choose MiniLayout, then Layouts A,B and C will not apply." The main preview area shows a dashed border around the payment page content. The content includes a "Pay with my PayPal account" section with the PayPal logo and the text "The faster, safer way to pay." and a "PAY WITH PayPal" button. Below this is a "Pay with a Card" section with a "Credit Card Number" input field, a "Sample only" warning, and a "Pay Now" button. At the bottom left, there is a "Previous Version" button, and at the bottom right, there are buttons for "Preview", "Save and Publish", and "Cancel".



## Layout Template Customisation Options

Consider the following when you customise your template:

- **Header** (applicable to Layouts A, B, and C) - By default, the business name from your profile is shown in the header. You can change the following:
  - Header height and color
  - Font type, size, and color
  - Swap between displaying the business name or the business logo image
  - Position of the business name or the logo
  - In Layouts B and C you can also change the header background color.
- **Page Background** (applicable to Layouts B and C) - You can change the following:
  - Background color
  - Background image URL
- **Payment Method Section** (applicable to Layouts B, C and MiniLayout) - You can change the following:
  - Section border color
  - Subheader text color
  - Pay Button color and button text color
- **Order Summary Section** (applicable to Layout B only) - You can change the following:
  - Section background color
  - Background image URL

---

## The Mobile Optimized Payment Flow

The PayPal payment page is optimized for mobile browsers. If you are using layout templates A, B or C, when a buyer views the payment page from a supported mobile browser, PayPal automatically displays a mobile-optimized payment flow instead of the layout template.

**NOTE:** The mobile-optimized payment pages cannot be customized and will look the same for layouts A, B and C.

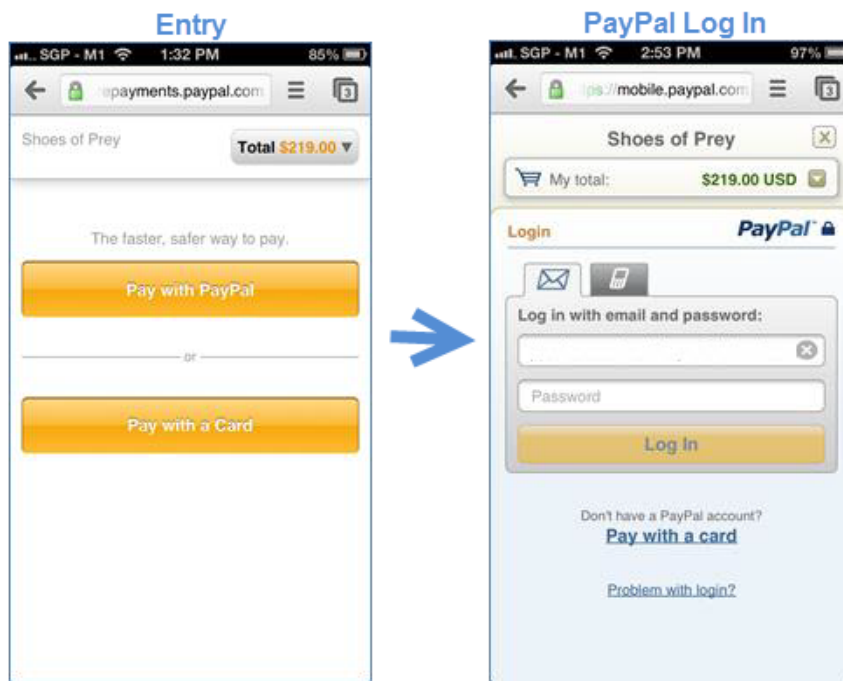
For template D, which is also known as MiniLayout or the iFrame integration, when the payment page is viewed from a mobile browser, PayPal will not display a mobile-optimized flow. The reason is that if PayPal automatically displayed a mobile optimized embedded template within a merchant web page that may not be mobile optimized, this can create unexpected and undesirable results. To display a mobile optimized flow, pass either `mobile` or `mobile-iframe` in the `template HTML` variable at transaction time. For more information, see the `template HTML` variable in [“HTML Variables for Payment Page Look and Feel”](#) on page 43

**TABLE 3.1 The template HTML Variable**

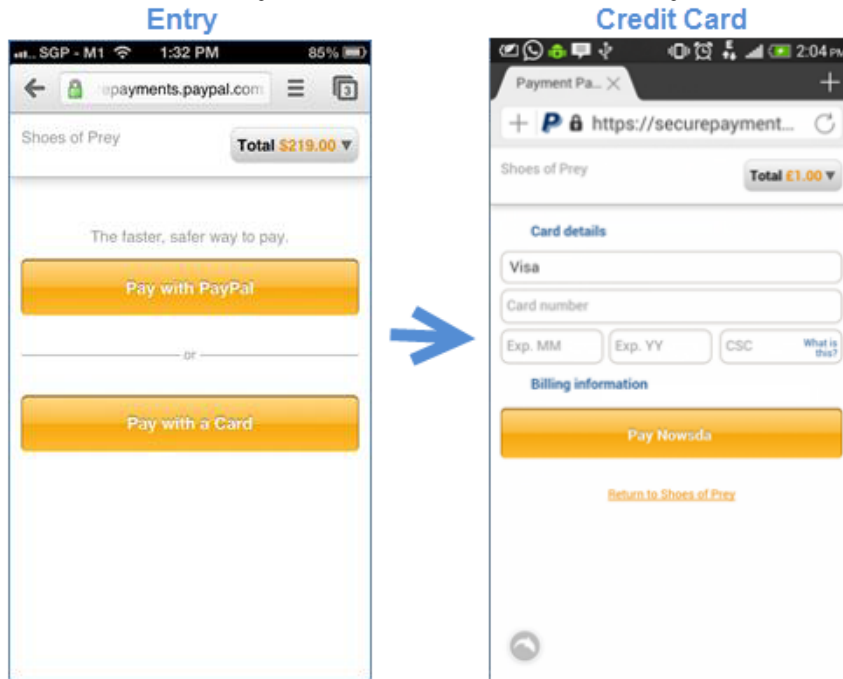
Value of template Variable	Behavior in a Web Browser	Behavior from a Mobile Device
templateA	Displays web layout.	Displays mobile optimized flow.
templateB	Displays web layout.	Displays mobile optimized flow.
templateC	Displays web layout.	Displays mobile optimized flow.
templateD	Displays iFrame web layout.	Displays iFrame web layout.
mobile	Displays default web layout.	Displays mobile optimized flow.
mobile-iframe	Displays default web layout.	Displays mobile iFrame layout.

Figure 3.12, “Mobile Payment Flow for a PayPal Payment” and Figure 3.13, “Mobile Payment Flow for a Credit Card Payment” show examples of the mobile optimized payment flow.

**FIGURE 3.12 Mobile Payment Flow for a PayPal Payment**



**FIGURE 3.13 Mobile Payment Flow for a Credit Card Payment**



## HTML Variables for Payment Page Look and Feel

The table below lists the HTML variables that you can use to customise the look and feel of your payment page. The HTML variables that you pass at transaction time will override your payment page settings in your PayPal account profile. For additional HTML variables, refer to: [HTML Variables for Payment Page Settings](#).

**NOTE:** The values you pass must not contain any of these special characters (){}<>\";

**TABLE 3.2 HTML Variables for Look and Feel of Payment Page**

Variable	Description
bodyBgColor	Color of the surrounding background of the payment page.
bodyBgImg	Image of the surrounding background of the payment page. The file extension can be .gif, .jpg, .jpeg, or .png format.
footerTextColor	Color of the footer text.
headerBgColor	Color of the header background.
headerHeight	Height of the header banner. It can be from 50 to 140 pixels. The width cannot be changed. It is always 940 pixels.
logoFont	Font type of the logo text.

**TABLE 3.2 HTML Variables for Look and Feel of Payment Page**

Variable	Description
logoFontColor	Color of the logo text.
logoFontSize	Font size of the logo text.
logoImage	Image displayed in the logo. The acceptable file extension formats are .gif, .jpg, .jpeg, or .png. The width of the image cannot be more than 940 pixels.
logoImagePosition	Position of the image in the logo.
logoText	Business name displayed on your profile page. This field is editable and text specified here is displayed on the header if logoImage is not specified.
orderSummaryBgColor	Color of the Order Summary column on the right side of the payment page. You cannot change the color of the Order Summary box.
orderSummaryBgImage	Background image you can put in the Order Summary Column. The acceptable file extension formats are .gif, .jpg, .jpeg, or .png.
pageButtonBgColor	Background color of the <b>Pay Now</b> button.
pageButtonText	Color of the <b>Pay Now</b> button. You cannot change the text of the button.
pageTitleTextColor	Color of the text used in the title of the page. (Text that says “Choose a way to pay.”)
sectionBorder	Background of the section that displays “Pay with my PayPal account” or “Pay with a Card”.
showCustomerName	Display customer name (first name and last name). <ul style="list-style-type: none"> <li>• <b>Default Value:</b> true</li> <li>• <b>Allowable Value:</b> true or false, where true = show and false = hide.</li> </ul>
showBillingAddress	Display billing address information. <ul style="list-style-type: none"> <li>• <b>Default Value:</b> true</li> <li>• <b>Allowable Value:</b> true or false, where true = show and false = hide.</li> </ul>
showBillingPhone	Display billing phone number. <ul style="list-style-type: none"> <li>• <b>Default Value:</b> true</li> <li>• <b>Allowable Value:</b> true or false, where true = show and false = hide.</li> </ul>
showBillingEmail	Display email address for billing purposes. <ul style="list-style-type: none"> <li>• <b>Default Value:</b> false</li> <li>• <b>Allowable Value:</b> true or false, where true = show and false = hide.</li> </ul>
showHostedThankyouPage	Display PayPal’s confirmation page. <ul style="list-style-type: none"> <li>• <b>Default Value:</b> true</li> <li>• <b>Allowable Value:</b> true or false, where true = show and false = hide.</li> </ul>
showShippingAddress	Display shipping address. <ul style="list-style-type: none"> <li>• <b>Default Value:</b> false</li> <li>• <b>Allowable Value:</b> true or false, where true = show and false = hide.</li> </ul>
subheaderText	Color of the “Pay with my PayPal account” or “Pay with a Card” text.

**TABLE 3.2 HTML Variables for Look and Feel of Payment Page**

Variable	Description
template	<p>The layout template that will be used for your payment page. You can override the layout template in your account profile settings by passing one of the following values at transaction time:</p> <p><b>NOTE:</b> For Layout templates A, B and C, when a buyer views the payment page from a supported mobile browser, PayPal automatically displays a mobile-optimized payment flow instead of the layout template. The mobile-optimized payment pages cannot be customized and will look the same for layouts A, B and C.</p> <ul style="list-style-type: none"> <li>● <code>templateA</code> - Sets the payment page template to layout template A.</li> <li>● <code>templateB</code> - Sets the payment page template to layout template B.</li> <li>● <code>templateC</code> - Sets the payment page template to layout template C.</li> <li>● <code>templateD</code> - Sets the payment page template to the MiniLayout (iFrame integration) template. When the payment page is viewed from a mobile browser, PayPal will not display a mobile-optimized flow. The reason is that if PayPal automatically displayed a mobile optimized embedded template within a merchant web page that may not be mobile optimized, this can create unexpected and undesirable results. To display the mobile optimized payment flow, pass either <code>mobile</code> or <code>mobile-iframe</code> in the <code>template</code> HTML variable at transaction time.</li> </ul> <p><b>NOTE:</b> If using template A, B, or C, no action is required to display mobile-optimized payment pages; PayPal auto-detects if the buyer is on a mobile browser and automatically displays a mobile-optimized flow. However, for <code>templateD</code>, which is also known as MiniLayout or the iFrame integration, to display the mobile optimized payment flow, you must pass either <code>mobile</code> or <code>mobile-iframe</code> at transaction time.</p> <ul style="list-style-type: none"> <li>● <code>mobile</code> - Displays the mobile-optimized payment flow. Pass this value if you are using <code>templateD</code>, which is also known as MiniLayout or the iFrame integration, and you would like to display the mobile optimized flow without an iFrame.</li> <li>● <code>mobile-iframe</code> - Displays a mobile-optimized page with an iframe Pass this value if you are using <code>templateD</code>, which is also known as MiniLayout or the iFrame integration, and you would like to display the mobile optimized flow with an iFrame.</li> </ul>



# 4

## Integrating iFrame in Your Website

PayPal offers a compact payment form that can be integrated in an iFrame on your website. Since this form is integrated on your website, the buyer never leaves your website, thereby reducing potential drop-offs. You can also maintain your checkout look and feel in the master frame that surrounds the compact payment form. The credit card fields are part of the compact payment form so you do not have to collect this information separately. The form also supports 3-D Secure frames.

**IMPORTANT:** Due to security concerns involving iFrame, the following browsers are supported and secure to use - Internet Explorer 7.0, 8.0 and 9.0, Firefox 24, Chrome 30, Safari 4.x and 5.x. Transactions involving users of other browsers should not use the iFrame flow or abandon the transaction. Additionally, there is another risk beyond the iFrame flow - should the PayPal iFrame become the source of an attack, it would appear that the attack is originating from the merchant site; do not use the iFrame flow if you wish to avoid this additional risk.

**NOTE:** Due to spoof concerns, the form does not contain any PayPal branding.

If you would like an iFrame integration you must use the [MiniLayout](#) template. You can either select *MiniLayout* from the *Customisation* page of your PayPal account. Or you can pass the HTML variable `Template=TemplateD` at transaction time. The examples in this chapter use the latter HTML variable method to set the *MiniLayout* template.

For MiniLayout, when the payment page is viewed from a mobile browser, PayPal will NOT automatically display a mobile-optimized payment flow. The reason is that if PayPal automatically displayed a mobile optimized embedded template within a merchant web page that may not be mobile optimized, this can create unexpected and undesirable results. To display a mobile optimized flow, pass either `mobile` or `mobile-iframe` in the `template` HTML variable at transaction time.

The MiniLayout template (the compact payment form) contains the following fields:

- Credit card number
- Expiry date
- CVV2 number (if applicable, based on the card type)
- Any additional fields required for other card types, such as start date and issue number for Maestro or Switch.

This template also offers the following options:

- Remove the **Pay with PayPal** button. Although the form offers the option to pay using PayPal account by default, you can contact your account manager or customer support to turn this option off.
- Manually customize the color of the **Pay Now** button.

**IMPORTANT:** This compact payment form does not display the buyer's billing address, even if `showBillingAddress=true` is passed. However, for some merchants, it may be necessary to pass the billing address to successfully process the transactions.

---

## Integrating iFrame

Choose one of the following methods to integrate the compact payment form in your website:

- [Manual Integration](#)
- [API Integration](#)

**IMPORTANT:** For optimal performance, PayPal recommends that you load the iFrame asset before other assets such as images and JavaScripts. If there are too many assets running on your payment page when you load iFrame, the request for the iFrame may not be placed or might get delayed. This may result in the buyers seeing a blank iFrame.

### Manual Integration

To manually integrate the compact payment form in your website, perform the following steps:

1. Enter the iFrame tag at the location where you want the compact payment form to appear on your website. For example:

```
<iframe name="hss_iframe" width="570px" height="540px"></iframe>
```

The allowable size for the compact payment form is 570 pixels in width to 540 pixels in height.



2. Below is the iFrame code, add the hidden form that is populated with the appropriate Hosted Solution variables (including the total amount to be paid) and specify the variable Templated. For example,

```
<form style="display:none" target="hss_iframe" name="form_iframe"
method="post"
action="https://securepayments.paypal.com/webapps/HostedSoleSolutionApp/
webflow/sparta/hostedSoleSolutionProcess">
<input type="hidden" name="cmd" value="_hosted-payment">
<input type="hidden" name="subtotal" value="50">
<input type="hidden" name="business" value="HNZ3QZMCPBAAA">
<input type="hidden" name="paymentaction" value="sale">
<input type="hidden" name="template" value="templated">
<input type="hidden" name="return"
value="https://yourwebsite.com/receipt_page.html">
</form>
```

**NOTE:** If the iFrame transactions fail, pass the billing address. For more a table of HTML variables, see [HTML Variables for Payment Page Settings](#).

3. Ensure that the target name matches the iFrame name, as highlighted in the example below:

```
<iframe name="hss_iframe" width="570px" height="540px"></iframe>

<form style="display:none" target="hss_iframe" name="form_iframe"
method="post"
action="https://securepayments.paypal.com/webapps/HostedSoleSolutionApp/
webflow/sparta/hostedSoleSolutionProcess">
```

4. Submit the form using JavaScript. For example:

```
<script type="text/javascript">
    document.form_iframe.submit();
</script>
```

### Example of Manual Integration

The complete example as per the above steps is as follows:

```
<iframe name="hss_iframe" width="570px" height="540px"></iframe>
<form style="display:none" target="hss_iframe" name="form_iframe"
method="post"
action="https://securepayments.paypal.com/webapps/HostedSoleSolutionApp/web
flow/sparta/hostedSoleSolutionProcess">
<input type="hidden" name="cmd" value="_hosted-payment">
<input type="hidden" name="subtotal" value="50">
<input type="hidden" name="business" value="HNZ3QZMCPBAAA">
<input type="hidden" name="paymentaction" value="sale">
<input type="hidden" name="template" value="templated">
<input type="hidden" name="return"
value="https://yourwebsite.com/receipt_page.html">
</form>
```

```
<script type="text/javascript">
    document.form_iframe.submit();
</script>
```

## API Integration

To integrate the compact payment form in your website using the API, refer to [“Using the Button Manager API with Hosted Solution Checkout”](#) on page 54.

**NOTE:** Use `template=templated` for this type of integration.

There are two options in the response to initiate the Hosted Solution payment flow:

- [Using URL Returned in the Response](#)
- [Using Form POST](#)

### Using URL Returned in the Response

In the URL identified in the response as EMAILLINK, add “src” for iFrame as per the example below to redirect the buyer and initiate the payment flow.

```
<iframe src="https://securepayments.paypal.com/...?hosted_button_id=HSSS-
.." width="570px" height="540px"></iframe>
```

The allowable size of the compact payment form is 570 pixels in width to 540 pixels in height.

**IMPORTANT:** This option is not supported by Safari browsers. Use the Form POST option described below.

### Using Form POST

Identify the WEBSITECODE in the response and use the code to create a **Pay Now** button on your review page. When your buyer clicks the button, they are redirected to the PayPal hosted payment page. Like the URL, the button is usable for approximately two hour or until the payment is successful.

1. Enter the iFrame tag at the location where you want the compact payment form to appear on your website. For example:

```
<iframe name="hss_iframe" width="570px" height="540px"></iframe>
```

The allowable size for the compact payment form is 570 pixels in width to 540 pixels in height.

2. Insert the following in the iFrame tag:

```
WEBSITECODE=<form
action="https://securepayments.paypal.com/webapps/HostedSoleSolutionApp/
webflow/sparta/hostedSoleSolutionProcess" method="post">
<input type="hidden" name="hosted_button_id" value="HSSS-
GDrPDzuW-ADwkFDMjQmpUK1gTDdR.tv5alaGS6l.XWVVB1MTMQEnGNoLakufQb89zTjff6">
<input type="image" src="https://www.paypal.com/i/btn/btn_paynow_LG.gif"
border="0" name="submit" alt="PayPal - The safer, easier way to pay
online.">

</form>
```

3. Submit the form using JavaScript. For example:

```
<script type="text/javascript">
    document.form_iframe.submit();
</script>
```

#### **Example of API (Form POST) Integration**

The complete example as per the above steps is as follows:

```
<iframe name="hss_iframe" width="570px" height="540px"></iframe>
```

```
WEBSITECODE=<form  
action="https://securepayments.paypal.com/webapps/HostedSoleSolutionApp/web  
flow/sparta/hostedSoleSolutionProcess" method="post">  
<input type="hidden" name="hosted_button_id" value="HSSS-  
GDrPDzuW-ADwkFDMjQmpUKlgTDdR.tv5alaGS6l.XWVVB1MTMQEnGNoLakufQb89zTjf6">  
<input type="image" src="https://www.paypal.com/i/btn/btn_paynow_LG.gif"  
border="0" name="submit" alt="PayPal - The safer, easier way to pay  
online.">  
  
</form>  
<script type="text/javascript">  
    document.form_iframe.submit();  
</script>
```

# 5

## Integrating Your Website Using API

Using the Button Manager API, you can programmatically create the checkout button that initiates the Hosted Solution checkout flow on your website. You create the checkout button dynamically when the buyer attempts to checkout on your website. When the buyer clicks on your checkout button, you call the `BMCreateButton` API operation to create a checkout button and display it on your web page. When the buyer clicks on this checkout button, he or she is redirected to the PayPal payment page where he or she can complete the payment. You can use 3-D Secure functionality on the PayPal payment page.

HTML variables control the presentation of the PayPal payment pages, the information contained on the pages, and pages to which your buyer can be returned to when leaving the payment pages. For a list of HTML variables, refer to “[HTML Variables for Payment Page Settings](#)” on page 19.

For complete information on the Button Manager API, see the [Button Manager API Reference](#).

**NOTE:** Using the Button Manager API, you can programmatically create the checkout button, but not manage, edit, or delete it.

---

### Button Hosting

For Hosted Solution, using `BUTTONTYPE=PAYMENT`, you can create the following kinds of checkout buttons:

- **Token buttons** (`BUTTONCODE=TOKEN`) are not stored on PayPal. They are dynamic and initiate the Hosted Solution checkout flow. The parameters associated with this kind of button are secure. They have a lifetime of approximately two hours, if not used.
- **Encrypted buttons** (`BUTTONCODE=ENCRYPTED`) are not stored on PayPal. The parameters associated with this kind of button are encrypted. You must update the web pages that use an encrypted button each time the button or the associated information changes.
- **Clear text buttons** (`BUTTONCODE=CLEARTEXT`) are not stored on PayPal. The parameters associated with this kind of button are not encrypted. They can be used dynamically because you can change the value of a parameter anytime. However, if you use them, recognize the risk that sensitive information can be altered or stolen.

**NOTE:** Hosted buttons (`BUTTONCODE=HOSTED`) are not supported for Hosted Solution and will return an error if used.

For more information about Button Manager API usage, refer to “[BMCreateButton API Operation](#)” on page 59.

## Using the Button Manager API with Hosted Solution Checkout

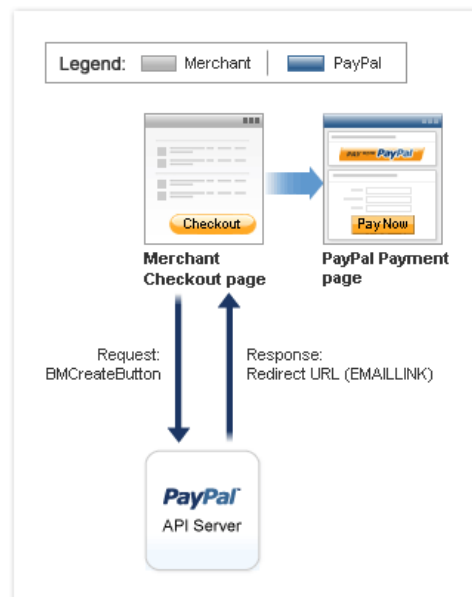
To create a checkout button on your website, you call the `BMCreateButton` API operation. When the buyer clicks on the checkout button, PayPal initiates the Hosted Solution checkout flow.

You must decode the response from the `BMCreateButton` API. For information about URL encoding, refer to the [Name-Value Pair API Developer Guide](#).

There are two options in the response to initiate the Hosted Solution payment flow:

- [Using URL Returned in the Response \(Recommended\)](#)
- [Using Form POST](#)

### Using URL Returned in the Response (Recommended)



Using the URL identified in the response as `EMAILLINK`, you can redirect the buyer and initiate the payment flow.

#### Example of TOKEN

```
EMAILLINK=https://securepayments.paypal.com/webapps/HostedSoleSolutionApp/webflow/sparta/hostedSoleSolutionProcess?hosted_button_id=HSSS-GDrPDzuW-ADwkFDMjQmpUK1gTDdR.tv5alaGS6l.XWVVB1MTMQEnGNoLakufQb89zTjf6&HOSTEDBUTTONID=HSSS-GDrPDzuW-ADwkFDMjQmpUK1gTDdR.tv5alaGS6l.XWVVB1MTMQEnGNoLakufQb89zTjf6&TIMESTAMP=2010-09-15T00:30:35Z&CORRELATIONID=2fc9a340a2356&ACK=Success&VERSION=65.0&BUILD=1500269
```

### Example of ENCRYPTED

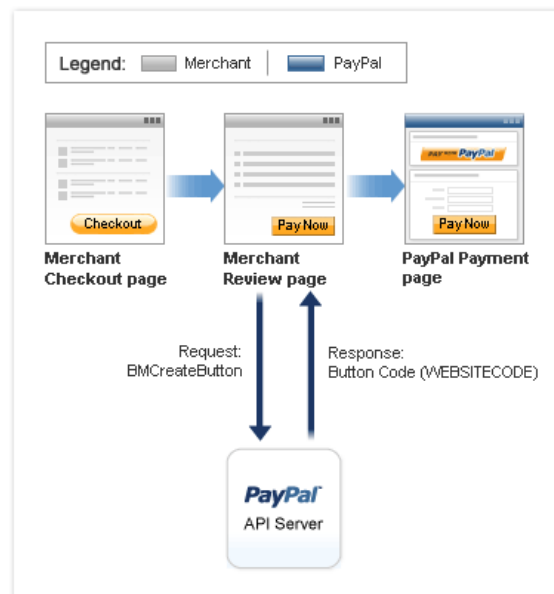
```
EMAILLINK=https://securepayments.paypal.com/webapps/HostedSoleSolutionApp/webflow/sparta/hostedSoleSolutionProcess?cmd=_hosted-payment&business=idc%2dautomation%2duk%2dpro%2dt1%40paypal%2ecom&tax=2&shipping=3&business=K5HHZSMWMCN58&subtotal=11&handling=4&TIMESTAMP=2010-09-15T00:39:06Z&CORRELATIONID=23d12ce1161f2&ACK=Success&VERSION=65.0&BUILD=1500269
```

### Example of CLEARTEXT

```
EMAILLINK=https://securepayments.paypal.com/webapps/HostedSoleSolutionApp/webflow/sparta/hostedSoleSolutionProcess?cmd=_hosted-payment&business=idc%2dautomation%2duk%2dpro%2dt1%40paypal%2ecom&tax=2&shipping=3&business=K5HHZSMWMCN58&subtotal=11&handling=4&TIMESTAMP=2010-09-15T00:40:32Z&CORRELATIONID=64553e7c7c84&ACK=Success&VERSION=65.0&BUILD=1500269
```

The button variables control the presentation in the flow and the information that is provided to the buyer initially. Because the URL is associated with a Hosted Solution token, the URL is usable for approximately two hours after it is created or until the payment is successful.

## Using Form POST



Identify the WEBSITECODE in the response and use the code to create a **Pay Now** button on your review page. When your buyer clicks the button, they are redirected to the PayPal hosted payment page. Like the URL, the button is usable for approximately two hours or until the payment is successful.

#### Example for TOKEN

```
WEBSITECODE=<form
action="https://securepayments.paypal.com/webapps/HostedSoleSolutionApp/web
flow/sparta/hostedSoleSolutionProcess" method="post">
<input type="hidden" name="hosted_button_id" value="HSSS-GDrPDzuW-
ADwkFDMjQmpUK1gTDdR.tv5alaGS6l.XWVVB1MTMQEnGNoLakufQb89zTjf6">
<input type="image"
src="https://www.paypal.com/en_US/i/btn/btn_auto_billing_LG.gif" border="0"
name="submit" alt="PayPal - The safer, easier way to pay online.">

</form>
```

#### Example for ENCRYPTED

```
WEBSITECODE=<form
action="https://securepayments.paypal.com/webapps/HostedSoleSolutionApp/web
flow/sparta/hostedSoleSolutionProcess" method="post">
<input type="hidden" name="encrypted" value="BEGIN PKCS7.....END PKCS7">
<input type="image"
src="https://www.paypal.com/en_US/i/btn/btn_auto_billing_LG.gif" border="0"
name="submit" alt="PayPal - The safer, easier way to pay online.">

</form>
```

#### Example of CLEARTEXT

```
WEBSITECODE=<form
action="https://securepayments.paypal.com/webapps/HostedSoleSolutionApp/web
flow/sparta/hostedSoleSolutionProcess" method="post">
<input type="hidden" name="cmd" value="_hosted-payment">
<input type="hidden" name="business" value="test1@paypal.com">
<input type="hidden" name="tax" value="2">
<input type="hidden" name="shipping" value="3">
<input type="hidden" name="business" value="K5HHZSMWMCN58">
<input type="hidden" name="subtotal" value="11">
<input type="hidden" name="paymentaction" value="sale">
<input type="hidden" name="handling" value="4">
<input type="image"
src="https://www.paypal.com/en_US/i/btn/btn_auto_billing_LG.gif" border="0"
name="submit" alt="PayPal - The safer, easier way to pay online.">

</form>
```



**NOTE:** The PayPal payment page displays a button identified as **Pay Now** to complete the checkout flow. The **Pay Now** button on the PayPal page is different than the **Pay Now** button created by the `BMCreateButton` API operation on the review page. You may need to change the URL for the latter in `BUTTONIMAGEURL` to avoid confusion. If a URL is not specified in `BUTTONIMAGEURL`, then the default **Pay Now** is used for the button.

## Encrypting Buttons Using Public and Private Key

Using Encrypted Website Payments helps secure payment buttons that you generate or write manually. Encrypted Website Payments protects the HTML button code that contains pricing information by encrypting it. HTML button code that you protect by using Encrypted Website Payments cannot be altered by malicious third parties to create fraudulent payments. For detailed information, refer to [Chapter 8, “Protecting Buttons by Using Encrypted Website Payments”](#) on page 71.

## Example of Initiating Hosted SolutionCheckout

The example shows the NVP parameters using `BUTTONCODE=TOKEN` for creating a URL to initiate the Hosted Solution checkout flow.

```

...
BUTTONCODE=TOKEN
BUTTONTYPE=PAYMENT
BUTTONIMAGEURL=https://www.paypal.com/en_US/i/btn/btn_billing.gif
L_BUTTONVAR0=subtotal=11
L_BUTTONVAR1=tax=2
L_BUTTONVAR2=shipping=3
L_BUTTONVAR3=handling=4
L_BUTTONVAR4=first_name=Bob
L_BUTTONVAR5=last_name=Jones
L_BUTTONVAR6=address1=Gardens
L_BUTTONVAR7=address2=99343
L_BUTTONVAR8=city=Paris
L_BUTTONVAR9=state=Alsace
L_BUTTONVAR10=zip=75002
L_BUTTONVAR11=country=FR
L_BUTTONVAR12=billing_first_name=BobBilling
L_BUTTONVAR13=billing_last_name=JonesBilling
L_BUTTONVAR14=billing_address1=5088 - 061 Craven Hill Gardens
L_BUTTONVAR15=billing_address2=Apt# 199343
L_BUTTONVAR16=billing_city=Wolverhampton
L_BUTTONVAR17=billing_state=West Midlands
L_BUTTONVAR18=billing_zip=W12 4LQ
L_BUTTONVAR19=billing_country=GB
L_BUTTONVAR20=night_phone_a=408
L_BUTTONVAR21=night_phone_b=398
L_BUTTONVAR22=night_phone_c=3065

```

## Integrating Your Website Using API

### Using the Button Manager API with Hosted Solution Checkout

```
L_BUTTONVAR23=notify_url=www.yourcompany.com
L_BUTTONVAR24=custom=custom1
L_BUTTONVAR25=cancel_return=http://www.cancel_return.com
L_BUTTONVAR26=paymentaction=sale
L_BUTTONVAR27=currency_code=GBP
L_BUTTONVAR28=invoice=123456789
L_BUTTONVAR29=lc=GB
L_BUTTONVAR30=showBillingAddress=false
L_BUTTONVAR31=showShippingAddress=false
L_BUTTONVAR32=showBillingEmail=true
L_BUTTONVAR33=showBillingPhone=true
L_BUTTONVAR34=showCustomerName=true
L_BUTTONVAR35=showCardInfo=true
L_BUTTONVAR36=showHostedThankyouPage=true
L_BUTTONVAR37=bn=GBD
L_BUTTONVAR38=cbt=Merchant ABCD
L_BUTTONVAR39=address_override=false
L_BUTTONVAR40=cpp_header_image=Red
L_BUTTONVAR41=logoText=YourCompanyLogo
L_BUTTONVAR42=logoImage=http://yourcompanyimages.com/logo.gif
L_BUTTONVAR43=logoImagePosition=center
L_BUTTONVAR44=logoFont=Arial Bold
L_BUTTONVAR45=logoFontSize=24px
L_BUTTONVAR46=logoFontColor=#f0ff0f
L_BUTTONVAR47=bodyBgImg=sdf
L_BUTTONVAR48=bodyBgColor=#AEAEAE
L_BUTTONVAR49=headerHeight=70px
L_BUTTONVAR50=headerBgColor=#4B6BA1
L_BUTTONVAR51=PageTitleTextColor=Blue
L_BUTTONVAR52=PageCollapseBgColor=Blue
L_BUTTONVAR53=PageCollapseTextColor=Yellow
L_BUTTONVAR54=PageButtonBgColor=Blue
L_BUTTONVAR55=PageButtonBgColor=Blue
L_BUTTONVAR56=orderSummaryBgColor=#EDF2F7
L_BUTTONVAR57=orderSummaryBgImage=http://teamworks/scr_bg_ordersummary.jpg
L_BUTTONVAR58=footerTextColor=#333333
L_BUTTONVAR59=footerTextlinkColor=#00f00f
L_BUTTONVAR60=template=templateC
L_BUTTONVAR61=return=http://www.yourcompany.com
```

## BMCreateButton API Operation

Use the BMCreateButton API operation to create Hosted Solution checkout button.

- [BMCreateButton Request](#)
- [BMCreateButton Response](#)
- [BMCreateButton Errors](#)

### BMCreateButton Request

The request fields specify the characteristics of your button, which include associated menu items related to the button. You can specify up to 5 menu items, each of which can include up to 10 possible selections.

#### BMCreateButton Request Fields

**NOTE:** The values you pass must not contain any of these special characters `(){}<>\";`

Field	Description
METHOD	<i>(Required)</i> BMCreateButton
BUTTONCODE	<i>(Optional)</i> The kind of button code to create. It is one of the following values: <ul style="list-style-type: none"> <li>• TOKEN - A secure button, not stored on PayPal, used only to initiate the Hosted Solution checkout flow; default for <b>Pay Now</b> button. Since version 65.2</li> <li>• ENCRYPTED - An encrypted button, not stored on PayPal</li> <li>• CLEARTEXT - An unencrypted button, not stored on PayPal</li> </ul>
BUTTONTYPE	<i>(Required)</i> The kind of button you want to create. PAYMENT - <b>Pay Now</b> button; since version 65.2
L_BUTTONVAR <i>n</i>	<i>(Optional)</i> HTML standard button variables

## BMCreateButton Response

The response contains an ID if the button is hosted on PayPal, and code for HTML in a website and for a link in email.

### BMCreateButton Response Fields

Field	Description
WEBSITECODE	HTML code for web pages
EMAILLINK	Code for URL for the Hosted Solution checkout flow
HOSTEDBUTTONID	ID of a Hosted Solution token

## BMCreateButton Errors

Refer to the [PayPal API error codes](#) page to lookup an error code number or an error message.

# 6

## Testing Your Integration in Sandbox

The PayPal Sandbox is a self-contained environment within which you can prototype and test PayPal features. The PayPal Sandbox is an almost identical copy of the live PayPal website. Its purpose is to give developers a shielded environment for testing and integration purposes, and to help avoid problems that might occur while testing PayPal integration solutions on the live site. Before moving any PayPal-based application into production, you should test the application in the Sandbox to ensure that it functions as you intend and within the guidelines and standards set forth by the PayPal Developer agreement.

For complete details on using the PayPal Sandbox, refer to the [Sandbox User Guide](#).

---

### Sandbox Account Credentials

#### Create a PayPal Sandbox Business account for the country you want to test:

- Log in to the PayPal developer site: <https://developer.paypal.com/>. You can log in with your existing PayPal account credentials or sign-up for a new account.
- Navigate to *Applications > Sandbox accounts* and click the *Create Account* button.
- Choose the country for which you want to test your integration using the *Country* dropdown.
- Set *Bank Verified Account* to *Yes*.
- Complete the rest of the form and click *Create Account*.

**NOTE:** You can use any name for the account, and there is no need to tick the *Login in with PayPal* box.

#### Verify Your PayPal Sandbox Business account:

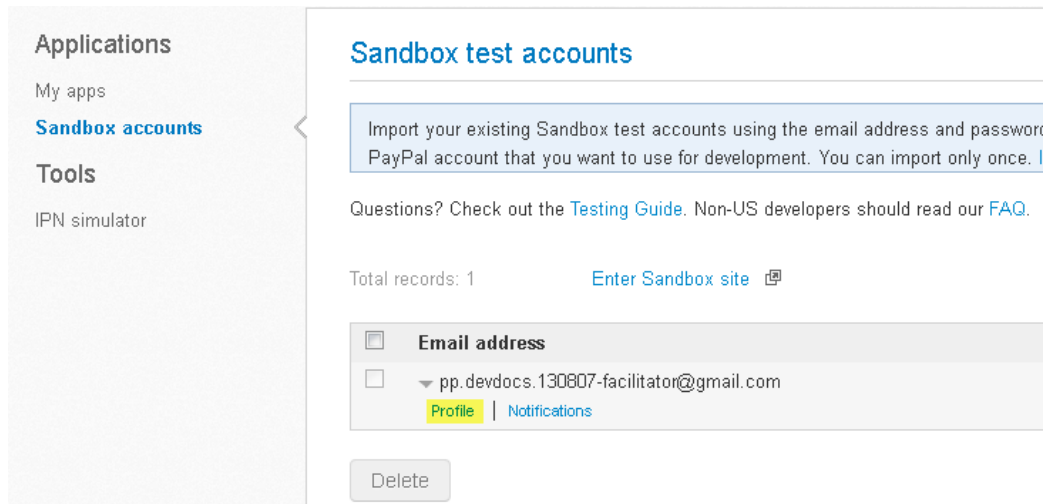
- Log in to the Sandbox test site (<https://www.sandbox.paypal.com/>) using the email address and password from your recently created PayPal Sandbox Business account.
- Click the *Unverified* link on the main *My Account Overview* page.
- Click *Add Bank Account* on the *Get Verified and Lift Sending Limits* page.
- Fill out all the fields with fictitious information.

**NOTE:** *Sort Code* and *Account Number* must be unique numbers.

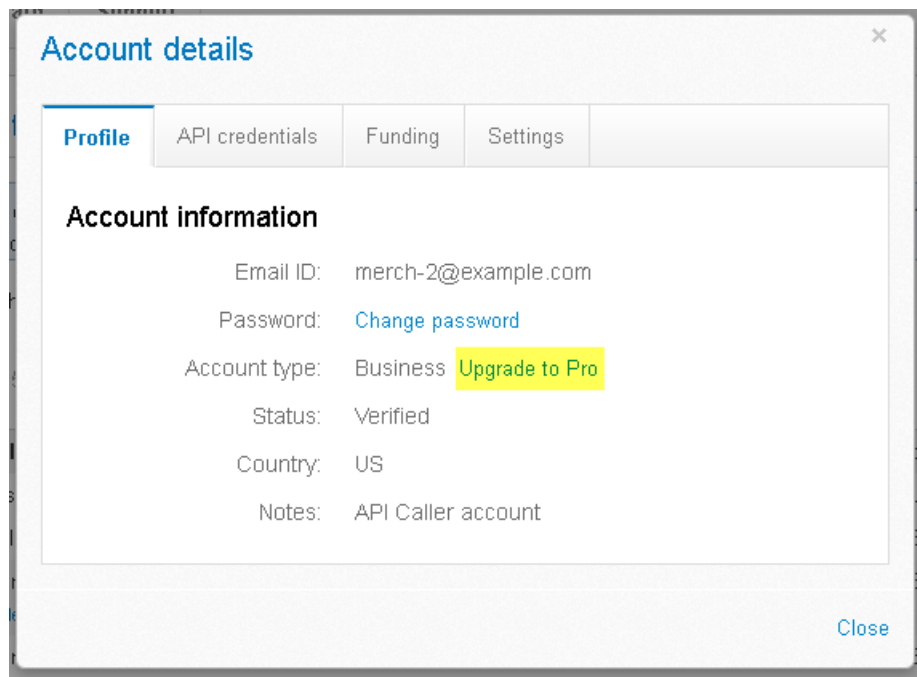
- Click *Continue*, then *Add Bank Account* to add the test bank account.
- Navigate to the *Set-up Bank Funding* page and click *Continue*.
- Click *Submit* to finish the verification process.

### Upgrade to a Pro account:

Click on the arrow next to your Sandbox business account email address, and then click on the *Profile* link that appears below the email address (highlighted below).



This opens the *Sandbox account details* window. From the *Profile* tab of this window, select *Upgrade to Pro*. Then click the *Enable* button.



#### **Setup Personal Sandbox Accounts:**

From the developer site *Applications > Sandbox accounts* page you can create multiple *business* (merchant) and *personal* (buyer) accounts, which you can use in Sandbox test transactions. See the [Sandbox User Guide](#) for more information.

You are ready to test your Hosted Solution integration on the Sandbox test site.

---

## Testing Your Integration and Settings

The following sections contain information for testing your integration and modifying the look and feel of your payment page in the Sandbox environment.

- [Testing Your Integration](#)
- [Testing Your Settings](#)

### Testing Your Integration

To test your integration in the Sandbox environment, follow the steps specified in “[Simple Hosted Solution Integration](#)” on page 17. For testing purposes, you must make the following changes in the Form POST:

1. Change the URL to point to the Sandbox environment.

From

:

```
<form
action="https://securepayments.paypal.com/webapps/HostedSoleSolutionApp/
webflow/sparta/hostedSoleSolutionProcess" method="post">
<input type="hidden" name="cmd" value="_hosted-payment">
```

to:

```
<form
action="https://securepayments.sandbox.paypal.com/webapps/HostedSoleSolu
tionApp/webflow/sparta/hostedSoleSolutionProcess" method="post">
<input type="hidden" name="cmd" value="_hosted-payment">
```

2. Change the business value to the Secure Merchant ID value that is specified at the top of the Profile page of the Sandbox Test Site.

Accordingly, the Form POST for testing purposes will be:

```
<form
action="https://securepayments.sandbox.paypal.com/webapps/HostedSoleSolu
tionApp/webflow/sparta/hostedSoleSolutionProcess" method="post">
<input type="hidden" name="cmd" value="_hosted-payment">
<input type="hidden" name="subtotal" value="50">
<input type="hidden" name="business" value="HNZ3QZMCPBAAA">
<input type="hidden" name="paymentaction" value="sale">
<input type="hidden" name="return"
value="https://yourwebsite.com/receipt_page.html">
<input type="submit" name="METHOD" value="Pay Now">
</form>
```

**NOTE:** For 3-D Secure, when prompted for credit card information on the payment page, enter 01/11 or 01/current year +1 for the expiry date.



## Testing Your Settings

To change the look and feel of your payment page, modify the settings of the Customisation and Settings pages in the Profile section of the Sandbox Test Site. For complete details, refer to [“Modifying Your PayPal Account Settings”](#) on page 24.



## Testing Your Integration in Sandbox

*Testing Your Integration and Settings*

# 7

## Order Processing

This chapter walks you through the end of end order processing experience. It includes information about verifying the status and authenticity of the order before fulfilling it.

---

### Verifying Transaction Status and Authenticity

When the buyer successfully completes a transaction, they are redirected either to the PayPal confirmation page or to a website you specified in the `return` variable or on the Settings page in the Profile section (as outlined in “[Simple Hosted Solution Integration](#)” on page 17). When the browser is redirected to the website you specified, a Transaction ID is appended to it.

**NOTE:** To ensure that the Transaction ID is appended to the return URL, log in to your PayPal merchant account and select *Profile*. In the *Website Payments Standard and Express Checkout* section of the *Profile* page, select *Preferences* and verify that *Auto Return* is set to *On*.

#### Auto Return for Website Payments

Auto Return for Website Payments brings your buyers back to your website immediately after payment completion. Auto Return applies to PayPal Website Payments, including Buy Now, Donations, Subscriptions and Shopping Cart. [Learn More](#)

Auto Return:  On  
 Off

On the same settings page, also verify that *Payment Data Transfer* is set to *On*.

#### Payment Data Transfer (optional)

Payment Data Transfer allows you to receive notification of successful payments as they are made. The use of Payment Data Transfer depends on your [system configuration](#) and your Return URL. Please note that in order to use Payment Data Transfer, you **must** turn on Auto Return.

Payment Data Transfer:  On  
 Off

When you receive the redirect (URL with Transaction ID), you must verify that the order was completed successfully on PayPal before sending the items to the buyer. You can do so by checking the confirmation email sent to you by PayPal or by verifying the transaction history. You can also using one of the following methods:

## Validate Instant Payment Notification (IPN)

IPN enables you to receive messages about transaction payments and activity from PayPal through asynchronous, server-to-server communication. This allows you to integrate your online payments with your order fulfillment process.

Through IPN, you receive messages for the following:

- Payments and their status (pending, complete, or denied)
- Fraud Management Filter actions
- Recurring Payment activity
- Authorisations, chargebacks, disputes, reversals, and refunds.

After a transaction has been processed, PayPal sends an IPN to the notification URL specified in your transaction using the parameter `notify_url`, or in your PayPal Profile. You must verify that the Transaction ID, transaction amount, and other order specific parameters such as Invoice ID that are sent in the IPN match with the information you have in your order processing system. For more details, refer to the [Instant Payment Notification \(IPN\) integration guide](#).

## Execute a GetTransactionDetails API Call

Using `GetTransactionDetails` API, you can obtain information about a specific transaction.

If you are integrated with PayPal APIs, you can call `GetTransactionDetails` with the Transaction ID that was returned in the web redirect to validate the authenticity of the order.

For complete details, refer to [“GetTransactionDetails API” on page 77](#).

---

## Fulfilling Order

After you have verified the authenticity of the payment amount and status, you can fulfill the order by shipping the item to the buyer.

Optionally, you can also use the Transaction ID of transactions completed through Hosted Solution to perform refunds and captures using `RefundTransaction` and `DoCapture` APIs respectively. For complete details, refer to [“RefundTransaction API” on page 87](#) and [“DoCapture API” on page 88](#).



## Order Processing

*Fulfilling Order*

# 8

## Protecting Buttons by Using Encrypted Website Payments

Using Encrypted Website Payments helps secure payment buttons that you generate or write manually. Encrypted Website Payments protects the HTML button code that contains pricing information by encrypting it. HTML button code that you protect by using Encrypted Website Payments cannot be altered by malicious third parties to create fraudulent payments.

Encrypted Website Payments relies on standard public key encryption for protection. With public and private keys, you can dynamically generate HTML code for payment buttons and encrypt the payment details before displaying the buttons on your website. The below table illustrates the sequence of actions that occur with payment buttons protected by using Encrypted Website Payments.

**TABLE 8.1** *How Encrypted Website Payments Works*

Website Actions	Buyer Action	PayPal Action
Generate a public key for the website, upload it to PayPal, and download the PayPal public certificate to the website.  <b>NOTE:</b> Do this action only once, when you first integrate Hosted Solution with your website.		
Generate HTML code for a payment button.		
Encrypt the generated code by using the PayPal public key and then signing the encrypted code with the website's private key.		
Publish the signed, encrypted HTML code for the payment button to the website	Click the published PayPal payment button.	Check the authenticity of the data by using the website's public key, which was previously uploaded to PayPal.
		Decrypt the protected button code by using the PayPal private key.
		Redirect the payer's browser to the appropriate PayPal checkout experience, as specified in the HTML variables of the decrypted button code.

---

## Public Key Encryption Used by Encrypted Website Payments

Encrypted Website Payments uses public key encryption, or asymmetric cryptography, which provides security and convenience by allowing senders and receivers of encrypted communication to exchange public keys to unlock each others messages. The fundamental aspects of public key encryption are:

- **Public keys** – Public keys are created by receivers and are given to senders before they encrypt and send information. Public certificates comprise a public key and identity information, such as the originator of the key and an expiry date. Public certificates can be signed by certificate authorities, who guarantee that public certificates and their public keys belong to the named entities.

You and PayPal exchange each others' public certificates.

- **Private keys** – Private keys are created by receivers are kept to themselves.

You create a private key and keep it in your system. PayPal keeps its private key on its system.

- The **encryption process** – Senders use their private keys and receivers' public keys to encrypt information before sending it. Receivers use their private keys and senders' public keys to decrypt information after receiving it. This encryption process also uses digital signatures in public certificates to verify the sender of the information.

You use your private key and PayPal's public key to encrypt your HTML button code. PayPal uses it's private key and your public key to decrypt button code after people click your payment buttons.

---

## Setting Up Certificates Before Using Encrypted Website Payments

Do the following before you use Encrypted Website Payments to protect your payment buttons:

- [Generating Your Private Key Using OpenSSL](#)
- [Generating Your Public Certificate Using OpenSSL](#)
- [Uploading Your Public Certificate to Your PayPal Account](#)
- [Downloading the PayPal Public Certificate from the PayPal Website](#)

PayPal uses only X.509 public certificates, not public keys. A public key can be used for decryption but contains no information identifying who provided the key. A public certificate includes a public key along with information about the key, such as when the key expires and who the key belongs to. PayPal accepts public certificates in OpenSSL PEM format from any established certificate authority, such as VeriSign.

You can generate your own private key and public certificate using open source software such as OpenSSL (<https://www.openssl.org>), which is detailed in the following section.



### Generating Your Private Key Using OpenSSL

Using the openssl program, enter the following command to generate your private key. The command generates a 1024-bit RSA private key that is stored in the file my-prvkey.pem:

```
openssl genrsa -out my-prvkey.pem 1024
```

### Generating Your Public Certificate Using OpenSSL

The public certificate must be in PEM format. To generate your certificate, enter the following openssl command, which generates a public certificate in the file my-pubcert.pem:

```
openssl req -new -key my-prvkey.pem -x509 -days 365 -out my-pubcert.pem
```

### Uploading Your Public Certificate to Your PayPal Account

To upload your public certificate to your PayPal account:

1. Log in to your PayPal account at <https://www.paypal.co.uk>
2. Click the **Profile** subtab.
3. In the **Hosted Payment Settings** column, click **Website Payment Certificates**.  
The Website Payment Certificates page appears.
4. Scroll down the page to the **Your Public Certificates** section, and click the Add button.  
The **Add Certificate** page appears.
5. Click **Browse**, and select the public certificate that you want to upload to PayPal from your local computer.  
**NOTE:** The file you upload must be in PEM format.
6. Click **Add**.  
After your public certificate is uploaded successfully, it appears in the Your Public Certificates section of the Website Payment Certificates page.
7. Store the certificate ID that PayPal assigned to your public certificate in a secure place. You need the certificate ID that PayPal assigned to encrypt your payment buttons by using the Encrypted Website Payments software provided by PayPal.

## Downloading the PayPal Public Certificate from the PayPal Website

To download the PayPal public certificate:

1. Log in to your PayPal account at <https://www.paypal.co.uk>
2. Click the **Profile** subtab.
3. In the **Seller Preferences** column, click the **Encrypted Payment Settings** link.
4. Scroll down the page to the **PayPal Public Certificate** section.
5. Click **Download**, and save the file in a secure location on your local computer.

## Removing Your Public Certificate

**IMPORTANT:** If you remove your public certificate, its associated certificate ID is no longer valid for encrypting buttons, and any buttons that you generated or wrote manually for your website that use the ID will not function correctly.

To remove one or more of your public certificates:

1. Log in to your PayPal account at <https://www.paypal.co.uk>
2. Click the **Profile** subtab.
3. In the **Seller Preferences** column, click the **Encrypted Payment Settings** link.
4. Scroll down the page to the **PayPal Public Certificate** section.
5. Select the radio button next to the certificate you want to remove, and click **Remove**.

The **Remove Certificate** page appears.

6. Click **Remove** to confirm the removal of the public certificate that you selected.

## Using Encrypted Website Payments to Protect Your Payment Buttons

Encrypted Website Payments includes Java and Microsoft Windows software to protect the payment buttons that you generate or write manually. Download the software from the following location after logging in to PayPal: <https://www.paypal.com/us/cgi-bin/webscr?cmd=p/xcl/rec/ewp-code>

After you download and extract the software, copy your private key, public certificate, p12 file and the PayPal public certificate to the folder where the software is located.

1. Prepare an input file of Hosted Solution variables and values for each encrypted button that you want to generate. Each variable and value must be on a separate line, as in the following example.

**NOTE:** The `cert_id` variable identifies the public certificate you uploaded to the PayPal website.

```
cert_id=Z24MFU6DSHBXQ
cmd=_xclick
business=sales@company.com
item_number=1234
custom=sc-id-789
amount=500.00
currency_code=USD
tax=41.25
shipping=20.00
address_override=true
address1=123 Main St
city=Austin
state=TX
zip=94085
country=US
no_note=1
cancel_return=http://www.company.com/cancel.htm
```

2. Run the encryption software using the appropriate syntax, as shown below:

- **Java:** `PPEncrypt CertFile PrivKeyFile PPCertFile InputFile OutputFile [Sandbox]`
- **Microsoft Windows:** `java ButtonEncryption CertFile PKCS12File PPCertFile Password InputFile OutputFile [Sandbox]`

## Protecting Buttons by Using Encrypted Website Payments

### *Setting Up Certificates Before Using Encrypted Website Payments*

Where the arguments are:

- **CertFile**: The pathname to your own public certificate
- **PKCS12File**: The pathname to the PKCS12-format of your own public certificate
- **PPCertFile**: The pathname to a copy of the PayPal public certificate
- **Password**: The passphrase to the PKCS12-format of your own public certificate
- **InputFile**: The pathname to file containing the non-encrypted Website Payments HTML Form variables
- **OutputFile**: A file name for the encrypted output
- **[Sandbox]**: The optional word Sandbox that lets you test payment buttons in the PayPal Sandbox that you protected with Encrypted Website Payments

3. Copy the encrypted code to your website.

## Blocking Unprotected and Non-encrypted Website Payments

For extra security of your protected and encrypted buttons, update your PayPal account profile to block unprotected and non-encrypted payments.

To block payments from unprotected and non-encrypted Website Payments Standard buttons:

1. Log in to your PayPal account at <https://www.paypal.co.uk>
2. Click the **Profile** subtab.
3. In the **Seller Preferences** column, click the **Encrypted Payment Settings** link.
4. Scroll down to the **Encrypted Website Payments** section.
5. Next to the **Block Non-encrypted Website Payment** label, select the **On** radio button.
6. Scroll to the bottom of the page, and click **Save**.

# A

## Optional API Operations

Using the Transaction ID, a number of PayPal API operations are available. The most commonly used for Hosted Solution are:

- [GetTransactionDetails API](#)
- [RefundTransaction API](#)
- [DoCapture API](#)

---

### GetTransactionDetails API

Obtain information about a specific transaction.

- [GetTransactionDetails Request](#)
- [GetTransactionDetails Response](#)

### GetTransactionDetails Request

**TABLE A.1** *GetTransactionDetails Request Fields*

Field	Description
METHOD	Must be GetTransactionDetails.
TRANSACTIONID	(Required) Unique identifier of a transaction. <b>NOTE:</b> The details for some kinds of transactions cannot be retrieved with GetTransactionDetails. You cannot obtain details of bank transfer withdrawals, for example. <b>Character length and limitations</b> - 17 single-byte alphanumeric characters.

## GetTransactionDetails Response

**NOTE:** All fields defined in the formal structure of GetTransactionDetails Response are not necessarily returned. Data is returned in a response only if PayPal has recorded data that corresponds to the field.

- [Receiver Information Fields](#)
- [Payer Information Fields](#)
- [Payer Name Fields](#)
- [Address Fields](#)
- [Payment Information Fields](#)
- [Payment Item Information Fields](#)
- [Payment Item Fields](#)
- [Auction Fields](#)
- [Subscription Term Fields](#)

### Receiver Information Fields

**TABLE A.2** *Receive Information Fields*

Field	Description
RECEIVERMAIL	<p>Primary email address of the payment recipient (the seller). If you are the recipient of the payment and the payment is sent to your non-primary email address, the value of Receiver is still your primary email address.</p> <p><b>Character length and limitations</b> - 127 single-byte alphanumeric characters</p>
RECEIVERID	<p>Unique account ID of the payment recipient (the seller). This value is the same as the value of the recipient's referral ID.</p>

## Payer Information Fields

**TABLE A.3 Payer Information Fields**

Field	Description
EMAIL	Email address of payer. <b>Character length and limitations</b> - 127 single-byte characters
PAYERID	Unique PayPal customer account identification number. <b>Character length and limitations</b> - 13 single-byte alphanumeric characters.
PAYERSTATUS	Status of payer. Valid values are: <ul style="list-style-type: none"> <li>• verified</li> <li>• unverified</li> </ul> <b>Character length and limitations</b> - 10 single-byte alphabetic characters.
SHIPTOCOUNTRYCODE	Payer's country of residence in the form of ISO standard 3166 two-character country codes. <b>Character length and limitations</b> - Two single-byte characters
PAYERBUSINESS	Payer's business name. <b>Character length and limitations</b> - 127 single-byte characters

## Payer Name Fields

**TABLE A.4 Payer Name Fields**

Field	Description
SALUTATION	Payer's salutation. <b>Character length and limitations</b> - 20 single-byte characters
FIRSTNAME	Payer's first name. <b>Character length and limitations</b> - 25 single-byte alphanumeric characters.
MIDDLENAME	Payer's middle name. <b>Character length and limitations</b> - 25 single-byte alphanumeric characters.
LASTNAME	Payer's last name. <b>Character length and limitations</b> - 25 single-byte alphanumeric characters.

**TABLE A.4 Payer Name Fields**

Field	Description
SUFFIX	Payer's suffix. <b>Character length and limitations</b> - 12 single-byte alphanumeric characters.

**Address Fields****TABLE A.5 Address Fields**

Field	Description
ADDRESSOWNER	eBay company that maintains this address. <b>Valid values are:</b> <ul style="list-style-type: none"> <li>• eBay</li> <li>• PayPal</li> </ul>
ADDRESSSTATUS	Status of street address on file with PayPal. <b>Valid values are:</b> <ul style="list-style-type: none"> <li>• none</li> <li>• Confirmed</li> <li>• Unconfirmed</li> </ul>
SHIPTONAME	Person's name associated with this address <b>Character length and limitations</b> - 32 single-byte characters.
SHIPTOSTREET	First street address <b>Character length and limitations</b> - 100 single-byte characters.
SHIPTOSTREET2	Second street address <b>Character length and limitations</b> - 100 single-byte characters.
SHIPTOCITY	Name of the city <b>Character length and limitations</b> - 100 single-byte characters.
SHIPTOSTATE	State or province <b>Character length and limitations</b> - 40 single-byte characters.
SHIPTOZIP	US zip code or other country-specific postal code. <b>Character length and limitations</b> - 40 single-byte characters.
SHIPTOCOUNTRYCODE	Expanded name of country <b>Character length and limitations</b> - 20 single-byte characters.
SHIPTOPHONENUMBER	Country code. <b>Character length and limitations</b> - two single-byte characters.
SHIPTOPHONENUM	Country code. <b>Character length and limitations</b> - Two single-byte characters.



## Payment Information Fields

TABLE A.6 Payment Information Fields

Field	Description
TRANSACTIONID	Unique transaction ID of the payment. Character length and limitations: 17 single-byte characters
PARENTTRANSACTIONID	Parent or related transaction identification number. This field is populated for the following transaction types: <ul style="list-style-type: none"> <li>● <b>Reversal</b> - Capture of an authorised transaction.</li> <li>● <b>Reversal</b> - Reauthorisation of a transaction.</li> <li>● <b>Capture of an order</b> - The value of ParentTransactionID is the original OrderID.</li> <li>● <b>Authorisation of an order</b> - The value of ParentTransactionID is the original OrderID.</li> <li>● <b>Capture of an order authorisation.</b></li> <li>● <b>Void of an order</b> - The value of ParentTransactionID is the original OrderID.</li> </ul> <b>Character length and limitations</b> - 16 digits in xxxx-xxxx-xxxx-xxxx format
RECEIPTID	Receipt identification number <b>Character length and limitations</b> - 16 digits in xxxx-xxxx-xxxx-xxxx format
TRANSACTIONTYPE	The type of transaction Valid values: <ul style="list-style-type: none"> <li>● cart</li> <li>● express-checkout</li> </ul> <b>Character length and limitations</b> - 15 single-byte characters
PAYMENTTYPE	Indicates whether the payment is instant or delayed. <b>Character length and limitations</b> - Seven single-byte characters Valid values: <ul style="list-style-type: none"> <li>● none</li> <li>● echeck</li> <li>● instant</li> </ul>
ORDERTIME	Time/date stamp of payment. For example: 2006-08-15T17:23:15Z.
AMT	The final amount charged, including any shipping and taxes from your Merchant Profile. <b>Character length and limitations</b> - Does not exceed \$10,000 USD in any currency. No currency symbol. Regardless of currency, decimal separator is a period (.), and the optional thousands separator is a comma (,). Equivalent to nine characters maximum for USD.
CURRENCYCODE	A three-character currency code.

**TABLE A.6** *Payment Information Fields*

<b>Field</b>	<b>Description</b>
FEEAMT	PayPal fee amount charged for the transaction <b>Character length and limitations</b> - Does not exceed \$10,000 USD in any currency. No currency symbol. Regardless of currency, decimal separator is a period (.), and the optional thousands separator is a comma (,). Equivalent to nine characters maximum for USD.
SETTLEAMT	Amount deposited in your PayPal account after a currency conversion.
TAXAMT	Tax charged on the transaction. <b>Character length and limitations</b> - Does not exceed \$10,000 USD in any currency. No currency symbol. Regardless of currency, decimal separator is a period (.), and the optional thousands separator is a comma (,). Equivalent to nine characters maximum for USD.
EXCHANGERATE	Exchange rate if a currency conversion occurred. Relevant only if your are billing in their non-primary currency. If the customer chooses to pay with a currency other than the non-primary currency, the conversion occurs in the customer's account. <b>Character length and limitations</b> - a decimal that does not exceed 17 characters, including decimal point.

**TABLE A.6** *Payment Information Fields*

Field	Description
PAYMENTSTATUS	<p>Status of the payment.</p> <p>The status of the payment:</p> <ul style="list-style-type: none"> <li>● <b>None</b> - No status</li> <li>● <b>Canceled-Reversal</b> - A reversal has been canceled; for example, when you win a dispute and the funds for the reversal have been returned to you.</li> <li>● <b>Completed</b> - The payment has been completed, and the funds have been added successfully to your account balance.</li> <li>● <b>Denied</b> - You denied the payment. This happens only if the payment was previously pending because of possible reasons described for the PendingReason element.</li> <li>● <b>Expired</b> - the authorisation period for this payment has been reached.</li> <li>● <b>Failed</b> - The payment has failed. This happens only if the payment was made from your customer's bank account.</li> <li>● <b>In-Progress</b> - The transaction has not terminated, e.g. an authorisation may be awaiting completion.</li> <li>● <b>Partially-Refunded</b> - The payment has been partially refunded.</li> <li>● <b>Pending</b> - The payment is pending. See the PendingReason field for more information.</li> <li>● <b>Refunded</b> - You refunded the payment.</li> <li>● <b>Reversed</b> - A payment was reversed due to a chargeback or other type of reversal. The funds have been removed from your account balance and returned to the buyer. The reason for the reversal is specified in the ReasonCode element.</li> <li>● <b>Processed</b> - A payment has been accepted.</li> <li>● <b>Voided</b> - An authorisation for this transaction has been voided.</li> </ul>

**TABLE A.6** Payment Information Fields

Field	Description
PENDINGREASON	<p><b>NOTE:</b> PendingReason is returned in the response only if PaymentStatus is Pending.</p> <p>The reason the payment is pending:</p> <ul style="list-style-type: none"> <li>• <b>none</b> - No pending reason.</li> <li>• <b>address</b> - The payment is pending because your customer did not include a confirmed shipping address and your Payment Receiving Preferences is set such that you want to manually accept or deny each of these payments. To change your preference, go to the Preferences section of your Profile.</li> <li>• <b>authorisation</b> - The payment is pending because it has been authorised but not settled. You must capture the funds first.</li> <li>• <b>delayed disbursement</b> - Your transaction has been approved and is pending funding from the bank. This typically takes less than 48 hours.</li> <li>• <b>echeck</b> - The payment is pending because it was made by an eCheck that has not yet cleared.</li> <li>• <b>intl</b> - The payment is pending because you hold a non-U.S. account and do not have a withdrawal mechanism. You must manually accept or deny this payment from your Account Overview.</li> <li>• <b>multi-currency</b> - You do not have a balance in the currency sent, and you do not have your Payment Receiving Preferences set to automatically convert and accept this payment. You must manually accept or deny this payment.</li> <li>• <b>order</b> - The payment is pending because it is part of an order that has been authorised but not settled.</li> <li>• <b>paymentreview</b> - The payment is pending while it is being reviewed by PayPal for risk.</li> <li>• <b>unilateral</b> - The payment is pending because it was made to an email address that is not yet registered or confirmed.</li> <li>• <b>verify</b> - The payment is pending because you are not yet verified. You must verify your account before you can accept this payment.</li> <li>• <b>other</b> - The payment is pending for a reason other than those listed above. For more information, contact PayPal customer service.</li> </ul>
REASONCODE	<p>The reason for a reversal if TransactionType is reversal:</p> <ul style="list-style-type: none"> <li>• <b>none</b> - No reason code</li> <li>• <b>chargeback</b> - A reversal has occurred on this transaction due to a chargeback by your customer.</li> <li>• <b>guarantee</b> - A reversal has occurred on this transaction due to your customer triggering a money-back guarantee.</li> <li>• <b>buyer-complaint</b> - A reversal has occurred on this transaction due to a complaint about the transaction from your customer.</li> <li>• <b>refund</b> - A reversal has occurred on this transaction because you have given the customer a refund.</li> <li>• <b>other</b> - A reversal has occurred on this transaction due to a reason not listed above.</li> </ul>

**TABLE A.6** *Payment Information Fields*

Field	Description
PROTECTIONELIGIBILITY	<p>Since version 64.4, the kind of seller protection in force for the transaction, which is one of the following values:</p> <ul style="list-style-type: none"> <li>• <b>Eligible</b> – Seller is protected by PayPal's Seller Protection Policy for Unauthorised Payments and Item Not Received</li> <li>• <b>ItemNotReceivedEligible</b> – Seller is protected by PayPal's Seller Protection Policy for Item Not Received</li> <li>• <b>UnauthorizedPaymentEligible</b> – Seller is protected by PayPal's Seller Protection Policy for Unauthorized Payment</li> <li>• <b>Ineligible</b> – Seller is not protected under the Seller Protection Policy</li> </ul>

### Payment Item Information Fields

**TABLE A.7** *Payment Item Information Fields*

Field	Description
INVNUM	<p>Invoice number you set in the original transaction.</p> <p><b>Character length and limitations</b> - 127 single-byte alphanumeric characters</p>
CUSTOM	<p>Custom field you set in the original transaction.</p> <p><b>Character length and limitations</b> - 127 single-byte alphanumeric characters</p>
NOTE	<p>Memo entered by your customer in PayPal Website Payments note field.</p> <p><b>Character length and limitations</b> - 255 single-byte alphanumeric characters</p>
SALESTAX	<p>Amount of tax charged on payment.</p>

## Payment Item Fields

**TABLE A.8** *Payment Item Fields*

Field	Description
L_DESCn	Description of the nth item. These parameters must be ordered sequentially beginning with 0 (for example L_DESC0, L_DESC1).
L_NUMBERn	Item number set by you. If this was a shopping cart transaction, PayPal appends the number of the item to the HTML item_number variable. For example, item_number1, item_number2, and so forth. <b>Character length and limitations</b> - 127 single-byte alphanumeric characters. These parameters must be ordered sequentially beginning with 0 (for example L_NUMBER0, L_NUMBER1).
L_QTYn	Quantity set by you or entered by the customer. <b>Character length and limitations</b> - no limit
L_AMTn	Cost of item. These parameters must be ordered sequentially beginning with 0 (for example L_AMT0, L_AMT1).
L_OPTIONSNAMEn	PayPal option names for an item in the shopping cart; each name corresponds to an option value. There can be multiple option names per item. The option names are ordered sequentially beginning with 0 (for example, L_OPTIONSNAMES0, L_OPTIONSNAME1).
L_OPTIONSVALUEn	PayPal option values corresponding to option names of an item in the shopping cart. The option names are ordered sequentially beginning with 0 (for example, L_OPTIONSVALUE0, L_OPTIONSVALUE1).

## Auction Fields

**TABLE A.9** *Auction Fields*

Field	Description
BUYERID	Customer's auction ID
CLOSINGDATE	Auction's close date
MULTIITEM	Counter used for multi-item auction payments

## Subscription Term Fields

**TABLE A.10 Subscription Terms Fields**

Field	Description
AMT	The amount subscriber is to be charged in one payment. Character length and limitations: no limit
PERIOD	The period of time that the subscriber will be charged. Character length and limitations: no limit

## RefundTransaction API

Issue a refund to the PayPal account holder associated with a transaction.

- [RefundTransaction Request](#)
- [RefundTransaction Response](#)

## RefundTransaction Request

**TABLE A.11 RefundTransaction Request Fields**

Field	Description
METHOD	Must be RefundTransaction.
TRANSACTIONID	(Required) Unique identifier of a transaction. <b>Character length and limitations</b> - 17 single-byte alphanumeric characters.
REFUNDTYPE	(Required) Type of refund you are making: <ul style="list-style-type: none"> <li>• Other</li> <li>• Full</li> <li>• Partial</li> </ul>
AMT	Refund amount. Amount is required if RefundType is Partial. <b>NOTE:</b> If RefundType is Full, do not set the Amount.
NOTE	(Optional) Custom memo about the refund. <b>Character length and limitations</b> - 255 single-byte alphanumeric characters.

## RefundTransaction Response

**TABLE A. 12 RefundTransaction Response Fields**

Field	Description
REFUNDTRANSACTIONID	Unique transaction ID of the refund. <b>Character length and limitations</b> - 17 single-byte alphanumeric characters.
FEEREFUNDAMT	Transaction fee refunded to original recipient of payment.
GROSSREFUNDAMT	Amount of money refunded to original payer.
NETREFUNDAMT	Amount subtracted from PayPal balance of original recipient of payment to make this refund.

## DoCapture API

Capture an authorized payment.

- [DoCapture Request](#)
- [DoCapture Response](#)

## DoCapture Request

**TABLE A. 13 DoCapture Request Fields**

Field	Description
METHOD	(Required) Must be DoCapture.
AUTHORIZATIONID	(Required) The authorisation identification number of the payment you want to capture. This is the transaction id returned from DoExpressCheckoutPayment or DoDirectPayment. <b>Character length and limitations</b> - 19 single-byte characters maximum.
AMT	(Required) Amount to capture. <b>Limitations</b> - Value is a positive number which cannot exceed \$10,000 USD in any currency. No currency symbol. Must have two decimal places, decimal separator must be a period (.), and the optional thousands separator must be a comma (,).
CURRENCYCODE	(Optional) A three-character currency code. Default: USD.



**TABLE A.13 DoCapture Request Fields**

Field	Description
COMPLETETYPE	<p>(Required) The value Complete indicates that this the last capture you intend to make.</p> <p>The value NotComplete indicates that you intend to make additional captures.</p> <p><b>NOTE:</b> If Complete, any remaining amount of the original authorised transaction is automatically voided and all remaining open authorisations are voided.</p> <p><b>Character length and limitations</b> - 12 single-byte alphanumeric characters.</p>
INVNUM	<p>(Optional) Your invoice number or other identification number that is displayed to the merchant and customer in his transaction history.</p> <p><b>NOTE:</b> This value on DoCapture will overwrite a value previously set on DoAuthorisation.</p> <p><b>NOTE:</b> The value is recorded only if the authorisation you are capturing is an order authorisation, not a basic authorisation.</p> <p><b>Character length and limitations</b> - 127 single-byte alphanumeric characters</p>
NOTE	<p>(Optional) An informational note about this settlement that is displayed to the payer in email and in his transaction history.</p> <p><b>Character length and limitations</b> - 255 single-byte characters.</p>

**TABLE A.13 DoCapture Request Fields**

Field	Description
SOFTDESCRIPTOR	<p>(Optional) The soft descriptor is a per transaction description of the payment that is passed to the consumer's credit card statement.</p> <p>If a value for the soft descriptor field is provided, the full descriptor displayed on the customer's statement has the following format:          &lt;PP *   PAYPAL*&gt;&lt;Merchant descriptor as set in the Payment Receiving Preferences&gt;&lt;1space&gt;&lt;soft descriptor&gt;</p> <p>The soft descriptor can contain only the following characters.</p> <ul style="list-style-type: none"> <li>• Alphanumeric characters</li> <li>• - (dash)</li> <li>• * (asterisk)</li> <li>• . (period)</li> <li>• {space}</li> </ul> <p>If you use any other characters (such as “,”), an error code is returned. The soft descriptor does not include the phone number, which can be toggled between the merchant's customer service number and PayPal's customer service number.</p> <p>The maximum length of the total soft descriptor is 22 characters. Of this, either 4 or 8 characters are used by the PayPal prefix shown in the data format. Thus, the maximum length of the soft descriptor passed in the API request is:</p> $22 - \text{len}(\langle \text{PP} *   \text{PAYPAL} * \rangle) - \text{len}(\langle \text{Descriptor set in Payment Receiving Preferences} \rangle + 1)$ <p>For example, assume the following conditions:</p> <ul style="list-style-type: none"> <li>• The PayPal prefix toggle is set to PAYPAL* in PayPal's admin tools.</li> <li>• The merchant descriptor set in the Payment Receiving Preferences is set to EBAY.</li> <li>• The soft descriptor is passed in as JanesFlowerGifts LLC.</li> </ul> <p>The resulting descriptor string on the credit card would be:          PAYPAL*EBAY JanesFlow</p>

## DoCapture Response

- [DoCapture Response Fields](#)
- [PayerInfo Type Fields](#)
- [Ship To Address Fields](#)
- [Payer Name Fields](#)

**NOTE:** If you use version 56.0 or later of the DoCapture API, only the authorisation ID, transaction ID, transaction type, paymentdate, gross amount and payment status are guaranteed to be returned. If you need the values of other fields and they are not returned, you can obtain their values later by calling `GetTransactionDetails` or by using the reporting mechanism.

### DoCapture Response Fields

**TABLE A. 14 DoCapture Response Fields**

Field	Description
AUTHORIZATIONID	The authorisation identification number you specified in the request. <b>Character length and limitations</b> - 19 single-byte characters maximum.

### PayerInfo Type Fields

**TABLE A. 15 PayerInfo Type Fields**

Field	Description
EMAIL	Email address of payer. <b>Character length and limitations</b> - 127 single-byte characters.
PAYERID	Unique PayPal customer account identification number. <b>Character length and limitations</b> - 13 single-byte alphanumeric characters.
PAYERSTATUS	Status of payer. Valid values are: <ul style="list-style-type: none"> <li>• verified</li> <li>• unverified</li> </ul> <b>Character length and limitations</b> - 10 single-byte alphabetic characters.
COUNTRYCODE	Payer's country of residence in the form of ISO standard 3166 two-character country codes. <b>Character length and limitations</b> - Two single-byte characters.

**TABLE A.15 PayerInfo Type Fields**

Field	Description
BUSINESS	Payer's business name. <b>Character length and limitations</b> - 127 single-byte characters.

**Ship To Address Fields****TABLE A.16 Ship To Address Fields**

Field	Description
ADDRESSSTATUS	Status of street address on file with PayPal. Valid values are: <ul style="list-style-type: none"> <li>• none</li> <li>• Confirmed</li> <li>• Unconfirmed</li> </ul>
SHIPTONAME	Person's name associated with this address. <b>Character length and limitations</b> - 32 single-byte characters.
SHIPTOSTREET	First street address. <b>Character length and limitations</b> - 100 single-byte characters.
SHIPTOSTREET2	Second street address. <b>Character length and limitations</b> - 100 single-byte characters.
SHIPTOCITY	Name of city. <b>Character length and limitations</b> - 40 single-byte characters.
SHIPTOSTATE	State or province. <b>Character length and limitations</b> - 40 single-byte characters.
SHIPTOZIP	Required for U.S. addresses only. U.S. ZIP code or other country-specific postal code. <b>Character length and limitations</b> - 20 single-byte characters.
SHIPTOCOUNTRYCODE	Country code. <b>Character length and limitations</b> - Two single-byte characters.

## Payer Name Fields

**TABLE A.17 Payer Name Fields**

<b>Field</b>	<b>Description</b>
SALUTATION	Payer's salutation. <b>Character length and limitations</b> - 20 single-byte characters.
FIRSTNAME	Payer's first name. <b>Character length and limitations</b> - 25 single-byte characters.
MIDDLENAME	Payer's middle name. <b>Character length and limitations</b> - 25 single-byte characters.
LASTNAME	Payer's last name <b>Character length and limitations</b> - 25 single-byte characters.
SUFFIX	Payer's suffix <b>Character length and limitations</b> - 12 single-byte characters.



## Optional API Operations

*DoCapture API*

# B

## Moving from Website Payments Standard to Hosted Solution

If you are moving from Website Payment Standard to Hosted Solution, you must make the following changes:

1. In the FORM tag, change the cmd value in the action attribute

from:

```
<form action="https://www.paypal.com/cgi-bin/webscr" method="post">  
<input type="hidden" name="cmd" value="_xclick">
```

to:

```
<form  
action="https://securepayments.paypal.com/webapps/HostedSoleSolutionApp/  
webflow/sparta/hostedSoleSolutionProcess?cmd=_hosted-payment "  
method="post"><input type="hidden" name="cmd" value="_hosted-payment">
```

2. Change HTML variable amount to subtotal.

**NOTE:** Website Payment Standard has separate values for amount and quantity, whereas Hosted Solution uses subtotal only. Ensure that the subtotal includes the amount you want to charge the buyer, taking into account any applicable discount and the quantity of items.

3. If you have already customised your checkout flow, such as color and background, you will need to redo those settings for Hosted Solution. For more information about customising the look and feel of your payment page, refer to [Chapter 3, “Customising Your PayPal Payment Page”](#) on page 23.

### Sample Code Comparison

Below is a comparison of Website Payment Standard code and Hosted Solution code.

**NOTE:** In the samples below, note that for Website Payment Standard, amount and quantity are specified as 10 and 2 respectively. For Hosted Solution, the subtotal is 20, which is the product of the above-mentioned amount and quantity. This is highlighted in bold below.

#### Sample Website Payments Standard Code

```
<form
action="https://securepayments.paypal.com/webapps/HostedSoleSolutionApp/web
flow/sparta/hostedSoleSolutionProcess" method="post">
<input type="hidden" name="cmd" value="_xclick">
<input type="hidden" name="business" value="seller@designerfotos.com">
<input type="hidden" name="amount" value="10">
<input type="hidden" name="quantity" value="2">
<input type="hidden" name="tax" value="1">
<input type="hidden" name="currency_code" value="USD">
<input type="hidden" name="invoice" value="MEM32507725">
<!-- Enable override of payer's stored PayPal address. -->
<input type="hidden" name="address_override" value="1">
<!-- Set prepopulation variables to override stored address. -->
<input type="hidden" name="first_name" value="John">
<input type="hidden" name="last_name" value="Doe">
<input type="hidden" name="address1" value="345 Lark Ave">
<input type="hidden" name="city" value="San Jose">
<input type="hidden" name="state" value="CA">
<input type="hidden" name="zip" value="95121">
<input type="hidden" name="country" value="US">
<input type="hidden" name="bn" value="CC_Partner_WPS">
<input type="hidden" name="notify_url" value="https://www.paypal.com/IPN/">
<input type="image" name="submit" border="0"
src="https://www.paypal.com/img.gif ">
</form>
```

#### Sample Hosted Solution Code

```
<form
action="https://securepayments.paypal.com/webapps/HostedSoleSolutionApp/web
flow/sparta/hostedSoleSolutionProcess?cmd=_hosted-payment"
method="post"><input type="hidden" name="cmd" value="_hosted-payment">
<input type="hidden" name="business" value="HNZ3QZMCPBAAA">
<input type="hidden" name="subtotal" value="20">
<input type="hidden" name="paymentaction" value="sale">
<input type="hidden" name="currency_code" value="USD">
<input type="hidden" name="invoice" value="MEM32507725">
<input type="hidden" name="template" value="TemplateB">
<!-- Enable override of payer's stored PayPal address. -->
<input type="hidden" name="address_override" value="true">
<input type="hidden" name="showShippingAddress" value="false">
<!-- Set prepopulation variables to override stored address. -->
```



```
<input type="hidden" name="first_name" value="John">
<input type="hidden" name="last_name" value="Doe">
<input type="hidden" name="address1" value="345 Lark Ave">
<input type="hidden" name="city" value="San Jose">
<input type="hidden" name="state" value="CA">
<input type="hidden" name="zip" value="95121">
<input type="hidden" name="country" value="US">
<input type="hidden" name="billing_first_name" value="John">
<input type="hidden" name=" billing_last_name" value="Doe">
<input type="hidden" name=" billing_address1" value="345 Lark Ave">
<input type="hidden" name=" billing_city" value="San Jose">
<input type="hidden" name=" billing_state" value="CA">
<input type="hidden" name=" billing_zip" value="95121">
<input type="hidden" name=" billing_country" value="US">
<input type="hidden" name="bn" value="CC_Partner_H3S">
<input type="hidden" name="notify_url" value="https://www.paypal.com/IPN/">
<input type="image" name="submit" border="0"
src="https://www.paypal.com/img.gif ">
</form>
```





## Error Messages

Refer to the [PayPal API error codes](#) page to lookup an error code number or an error message.





# Currency Codes

The table below lists all the currencies supported by PayPal.

**TABLE D.1** *Currency Codes*

<b>Currency Code</b>	<b>Country Name</b>
AUD	Australian Dollar
CAD	Canadian Dollar
CHF	Swiss Franc
CZK	Czech Koruna
DKK	Danish Krone
EUR	Euro
GBP	British Pound Sterling
HKD	Hong Kong Dollar
HUF	Hungarian Forint
JPY	Japanese Yen
NOK	Norwegian Krone
NZD	New Zealand Dollar
PLN	Polish Zloty
SEK	Swedish Krona
SGD	Singapore Dollar
USD	U.S. Dollar



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