PayPal™

Name-Value Pair API Reference for Germany

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Currently only available in English.

A usage Professional en Allemagne uniquement
Disponible en Anglais uniquement pour l'instant.

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PayPal Name-Value Pair API Developer Guide and Reference

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Contents

Preface

This Document

The *PayPal Name-Value Pair API Developer Guide and Reference* describes the PayPal Name-Value Pair API.

Intended Audience

The *PayPal Name-Value Pair API Developer Guide and Reference* is written for web developers who are implementing solutions using the Name-Value Pair API.

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Revision History

Revision history for *PayPal Name-Value Pair API Developer Guide and Reference.*

***TABLE P.1** Revision History*

Date	Description
April 2007	Revised document to represent specifics for Germany.
February 2007	Bug fixes including updating Line Item Details for Express Checkout APIs, dding `SHIPTOCOUNTRYCODE`, and adding Switch/Solo codes for AVS and CVV2.
December 2006	Updates for bug fixes.
October 2006	First public release.

1 Overview

This chapter describes the PayPal Name-Value Pair (NVP) API at a high level and contains the following sections:

- Introducing the PayPal NVP API
- Basic Steps
- Taking Your Application Live
- Technical Details

Introducing the PayPal NVP API

The PayPal NVP API is a simple programmatic interface that allows you, the merchant, to access PayPal's business functionality to:

- Accept PayPal in checkout on your website using Express Checkout.
- Pay one or more recipients using Mass Payment.
- Issue full refunds or multiple partial refunds.
- Search transactions using a start date or other criteria.
- View details of a specific transaction.

The PayPal NVP API makes it easy to add PayPal to your web application. You construct an NVP string and post it to the PayPal server using HTTPS. PayPal posts back a reponse in NVP format.

Integrating with the PayPal API

You can develop with the PayPal NVP API using two different approaches:

Integrate Directly

You can integrate directly with the PayPal NVP API using the programming language of your choice. This is the most straightforward and flexible approach. You can download web samples that show how to integrate directly using PHP, Classic ASP, and ColdFusion.

For more information, see Appendix C, "NVP API Web Samples."

Integrate Using an SDK

You can integrate with the NVP API using a software development kit (SDK). SDKs are provided for Java and ASP.NET. The SDKs provide simple functions for integrating with the NVP API.

For details about the PayPal NVP SDK, see Appendix D, "The Java SDK" or Appendix E, "The ASP.NET SDK."

Samples

To help you get started with the PayPal NVP API, samples are provided at https://www.paypal.com/IntegrationCenter/ic_nvp.html. Using the samples, you can send API calls to the PayPal Sandbox test environment.

Basic Steps

This section describes the basic steps for programming with the PayPal NVP API.

During application development, your application communicates with the PayPal Sandbox test environment. The following section, "Taking Your Application Live" on page 11, describes how to move your application to the live PayPal environment.

NOTE: The simplest way to get started is to download and try out the sample applications as described in "Integrating with the PayPal API" on page 9.

Create a Web Application

Your NVP API implementation usually runs in a web application. You can write your own application or use one of the samples as a starting point.

Get API Credentials

To access the PayPal API, you need API credentials, either an API signature or API certificate, that identify you.

Use the following sample API signature and password in your sample programs that run in the PayPal Sandbox test environment.

NOTE: If you are using the samples, this signature is already in the code.

TABLE 1.1 Details of the Sample API Signature

API username	`sdk-three_api1.sdk.com`
API password	`QFZCWN5HZM8VBG7Q`
API signature	`A-IzJhZZjhg29XQ2qnhapuwxIDzyAZQ92FRP5dqBzVesOkzbdUONzmOU`

Create and Post the Request

Create an NVP request string and post it to PayPal sandbox server. Add code to your web application to do the following tasks:

1. URL-encode the name and value parameters in the request to ensure correct transmission of all characters. This is described in "URL-Encoding" on page 13.

2. Construct the NVP API request string as described in "Request Format" on page 14. The NVP format is described in "NVP Format" on page 12.

3. Post the NVP request to the PayPal Sandbox as described in "Posting Using HTTPS" on page 16.

Interpret the Response

PayPal processes your request and posts back a reponse in NVP format. Add code to your web application to do the following tasks:

1. Receive the HTTP post response, and extract the NVP string.

2. URL-decode the parameter values as described in "URL-Encoding" on page 13.

3. Take appropriate action for successful and failed reponses.

Taking Your Application Live

After you have finished coding and testing your application, deploy your application to the live PayPal server using your PayPal business account and API credentials for that account.

Set Up a PayPal Business Account

When you are ready to deploy your application to the live PayPal server, create a PayPal business account on www.paypal.com.

Set Up API Credentials

To use the APIs, you need a set of credentials to identify yourself to PayPal. Create an API signature for your business account.

For instructions on setting up API credentials for the business account, go to https://www.paypal.com/IntegrationCenter/ic_certificate.html.

IMPORTANT: If you are using API signature, you must protect the API signature values in your implementation. Consider storing these values in a secure location other than your web server document root and setting the file permissions so that only the system user that executes your ecommerce application can access it.

The sample code does not store these values securely. *The sample code should never be used in production.*

NOTE: While API signature is recommended, you can also use API certificate.

Modify Your Code

In your application, change the following items from the PayPal Sandbox values to the live PayPal server values:

- The server address in the URL. (See "Posting Using HTTPS" on page 16.)
- API credentials you set up in "Set Up API Credentials" on page 11.

Technical Details

This section describes details of the technologies used by the PayPal NVP API.

Request-Response Model

When you use the PayPal NVP API, you post an NVP request to PayPal, and PayPal posts back an NVP response.

URL Format

The request and response are in URL-encoded format, which is defined by the Worldwide Web Consortium (W3C). URL is defined as part of the URI specification. Find out more about URI at http://www.w3.org/Addressing/.

NVP Format

NVP is a way of specifying names and values in a string. NVP is the informal name for the query in the URI specification. The NVP string is appended to the URL.

An NVP string conforms to the following guidelines:

- The name is separated from the value by an equal sign (=). For example:

  `FIRSTNAME=Robert`

- Name-value pairs are separated by an ampersand (&). For example:

  `FIRSTNAME=Robert&MIDDLENAME=Herbert&LASTNAME=Moore`

- The NVP string is URL-encoded.

URL-Encoding

The request and response are URL-encoded. URL-encoding ensures that you can transmit special characters, characters that are not allowed in a URL, and characters that have special meaning in a URL, such as the equal sign and ampersand. For example, the following NVP string:

```
NAME=Robert Moore&COMPANY=R. H. Moore & Associates
```

is URL-coded as follows:

```
NAME=Robert+Moore&COMPANY=R%2E+H%2E+Moore+%26+Associates
```

Use the following methods to URL-encode or URL-decode your NVP strings:

TABLE 1.2 URL-Encoding Methods

Language		Method
ASP.NET	Encode	`System.Web.HttpUtility.UrlEncode(buffer, Encoding.Default)`
	Decode	`System.Web.HttpUtility.UrlDecode(buffer, Encoding.Default)`
Classic ASP	Encode	`Server.URLEncode`
	Decode	No built-in function. Several implementation examples are available on the Internet.
Java	Encode	`java.net.URLEncoder.encode`
	Decode	`java.net.URLDecoder.decode`
PHP	Encode	`urlencode()`
	Decode	`urldecode()`
ColdFusion	Encode	`URLEncodedFormatstring [, charset ]`
	Decode	`URLDecodeurlEncodedString[, charset])`

Request Format

Each NVP request consists of required and optional parameters and their values. Parameter names are not case sensitive. The examples in this document use UPPERCASE for parameter names and divide the parameters into required security parameters and body parameters.

TABLE 1.3 General Format of a Request

Required Security Parameters	`USER=apiUsername&PWD=apiPassword&SIGNATURE=apiSignature` `&SUBJECT=optionalThirdPartyEmailAddress&VERSION=2.3` The following parameters are always required: `USER` `PWD` `VERSION=2.3` **NOTE:** The examples show the required security parameters like this: `[requiredSecurityParameters]`
Body Parameters	`&METHOD=methodName&otherRequiredAndOptionalParameters`

In practice, you need to concatenate all parameters and values into a single URL-encoded string. After the `METHOD` parameter, you can specify the parameters in any order.

Required Security Parameters

The required security parameters are described below. These are your PayPal API credentials.

TABLE 1.4 Required Security Parameters: API Credentials

Parameter		Value
USER	Required	Your PayPal API Username.
PWD	Required	Your PayPal API Password.
VERSION=2.3	Required	Version number of the NVP API service.
SIGNATURE	Optional	Your PayPal API signature string. If you use an API certificate, do not include this parameter.
SUBJECT	Optional	Email address of a PayPal account that has granted you permission to make this call. Set this parameter only if you are calling an API on a different user's behalf.

IMPORTANT: You must protect the values for USER, PWD, and SIGNATURE in your implementation. Consider storing these values in a secure location other than your web server document root and setting the file permissions so that only the system user that executes your ecommerce application can access it.

The sample code does not store these values securely. The sample code should never be used in production.

You may see sample code where these values are stored in an HTML form. The following is an example of what you should NOT do in production:

```
<form method=post
action=https://api-3t.sandbox.paypal.com/nvp>
<!-- UNPROTECTED VALUES. DO NOT USE IN PRODUCTION! -->
<input type=hidden name=USER value=xxxxxx.paypal.com>
<input type=hidden name=PWD value=abcdefg>
<input type=hidden name=SIGNATURE value=xxxxxxxxxxxxxxx>
...
</form>
```

API Parameters

The request body must contain the name of the API method in the METHOD parameter. In addition, each method has required and optional parameters:

```
METHOD=methodName&requiredAndOptionalParameters
```

All API methods and their parameters are detailed in Appendix A, "NVP API Method and Field Reference." Examples of use are in Chapter 2, "Accepting PayPal in Express Checkout," and Chapter 3, "Back-Office Administration."

Response Format

A response from the PayPal servers is a URL-encoded name-value pair string, just like the request, except it has the following general format.

TABLE 1.5 General Format of a Successful Response

Success Response Fields	`ACK=Success&TIMESTAMP=date/timeOfResponse` `&CORRELATIONID=debuggingToken&VERSION=2.300000` `&BUILD=buildNumber`	The examples show the successful response header fields like this: `[successResponseFields]`
API Response Fields	`&NAME1=value1&NAME2=value2&NAME3=value3&...`	

Each response includes the ACK field. If the ACK field's value is Success or SuccessWithWarning, you should process the API response fields. In a successful response, you can ignore all fields up to and including the BUILD field. The important fields begin after the BUILD field.

The possible successful response fields for each method are detailed in Appendix A, "NVP API Method and Field Reference." What you do with the fields depends on the particular API method you are calling, such as filling-in a FORM for your user, updating your database, and so on.

Error Responses

If the ACK value is Error or Warning, API response fields are not returned. An error response has the following general format.

TABLE 1.6 Format of an Error Response

Response Fields on Error	`ACK=Error&TIMESTAMP=date/timeOfResponse&`
	`CORRELATIONID=debuggingToken&VERSION=2.300000&`
	`BUILD=buildNumber&L_ERRORCODE0=errorCode&`
	`L_SHORTMESSAGE0=shortMessage`
	`L_LONGMESSAGE0=longMessage`
	`&L_SEVERITYCODE0=severityCode`
		Multiple errors can be returned. Each set of errors has a different numeric suffix, starting with 0 and incremented by one for each error.

For possible causes of errors and how to correct them, see the explanation of the specific error code, short message, and long message in Appendix B, "Error Message Reference."

ACK Parameter Values

The following table lists values for the ACK parameter.

TABLE 1.7 ACK Parameter Values

Type of Response	Value
Successful response	`Success`
	`SuccessWithWarning`
Error response	`Error`
	`Warning`

Posting Using HTTPS

Your web application posts the URL-encoded NVP string over an HTTPS connection to one of the PayPal API servers. PayPal provides a live server and a Sandbox server that allows you to process transactions in a test environment.

API Servers for API Signature Security

If you use an API signature, post the request to one of these servers:

Sandbox: `https://api-3t.sandbox.paypal.com/nvp`

Live: `https://api-3t.paypal.com/nvp`

API Servers for API Certificate Security

If you use an API certificate, post the request to one of these servers:

Sandbox: `https://api.sandbox.paypal.com/nvp`

Live: `https://api.paypal.com/nvp`

2 Accepting PayPal in Express Checkout

By choosing Express Checkout, the customer can save time by skipping several checkout steps using the billing and shipping information stored on PayPal.

This section describes how to use Express Checkout to accept payments using PayPal and contains the following topics:

Basic Checkout with PayPal

NOTE: See the *Integrationshandbuch Express-Kaufabwicklung* for details on Express Checkout including page flow, integration points, button placement, and page design.

Express Checkout with PayPal requires the following steps:

1. Starting the Checkout Using SetExpressCheckout
2. Redirecting the Customer's Browser to PayPal Login Page
3. Getting Payer Details Using GetExpressCheckoutDetails
4. Making a Sale Using DoExpressCheckoutPayment

In `SetExpressCheckout` response, you obtain a `TOKEN` that uniquely identifies this three-step transaction. You pass this `TOKEN` in the request to `GetExpressCheckoutDetails` and `DoExpressCheckoutPayment`. Both `GetExpressCheckoutDetails` and `DoExpressCheckoutPayment` return this TOKEN in the response.

This example shows basic checkout using the minimum number of parameters.

1. Starting the Checkout Using SetExpressCheckout

The `SetExpressCheckout` request method notifies PayPal that you are using Express Checkout to obtain payment from your customer.

You must always include the following parameters in `SetExpressCheckout` request:

- `AMT`
- `RETURNURL`
- `CANCELURL`

You are also advised to include the following parameters to ensure a smooth flow in case the funding methods giropay or electronic funds transfer are being used:

- `GIROPAYSUCCESSURL`
- `GIROPAYFAILURL`
- `BANKTXNPENDINGURL`

EXAMPLE 2.1 *Starting the Checkout*

Request	*[requiredSecurityParameters]*&**METHOD=SetExpressCheckout**&AMT=10.00& RETURNURL=https://www.anycompany.com/orderprocessing/orderreview.html& CANCELURL=https://www.anycompany.com/orderprocessing/shippinginfo.html

Response	*[successResponseFields]*&TOKEN=EC-3DJ78083ES565113B

NOTE: Because we do not specify a value for `PAYMENTACTION`, this parameter defaults to `Sale`.

Save `TOKEN` for use on the remaining Express Checkout calls.

2. Redirecting the Customer's Browser to PayPal Login Page

After you receive a successful response from SetExpressCheckout, add the `TOKEN` from `SetExpressCheckout` response as a name/value pair to the following URL, and redirect your customer's browser to it:

```
https://www.paypal.com/cgi-bin/webscr?cmd=_express-checkout&
token=value_from_SetExpressCheckoutResponse
```

For redirecting the customer's browser to the PayPal login page, PayPal recommends that you use the HTTPS response 302 "Object Moved" with the URL above as the value of the `Location` header in the HTTPS response. Ensure that you use an SSL-enabled server to prevent browser warnings about a mix of secure and insecure graphics.

3. Getting Payer Details Using GetExpressCheckoutDetails

The `GetExpressCheckoutDetails` method returns information about the customer, including name and address stored on PayPal.

You must always include the following parameters in `GetExpressCheckoutDetails`:

- `TOKEN`: use the value from `SetExpressCheckout` response

The response contains this `TOKEN` and customer details.

EXAMPLE 2.2 Getting Payer Details

Request	*[requiredSecurityParameters]*&**METHOD=GetExpressCheckoutDetails**& TOKEN=EC-3DJ78083ES565113B

Response	*[successResponseFields]*&TOKEN=EC-3DJ78083ES565113B&EMAIL=abcdef@anyemail.com& PAYERID=95HR9CM6D56Q2&PAYERSTATUS=verified&FIRSTNAME=John&LASTNAME=Smith& COUNTRYCODE=US&SHIPTONAME=John Smith&SHIPTOSTREET=144+Main+St.& SHIPTOCITY=San+Jose&SHIPTOSTATE=CA&SHIPTOCOUNTRYCODE=US& SHIPTOZIP=99221&ADDRESSID=PayPal& ADDRESSSTATUS=Confirmed

Make sure `TOKEN` matches the value in `SetExpressCheckout` response.

Save `PAYERID` for use on the next call.

4. Making a Sale Using DoExpressCheckoutPayment

Request to obtain payment with PayPal Express Checkout using `DoExpressCheckoutPayment` request.

By default, you make a final sale with `DoExpressCheckoutPayment` request.

You must always include the following parameters in `DoExpressCheckoutPayment` request:

- `TOKEN`: use the value from `GetExpressCheckoutDetails` response
- `PAYERID`: use the value from `GetExpressCheckoutDetails` response
- `PAYMENTACTION`: set to `Sale`. This is the default value in `SetExpressCheckout`.
- `AMT`: use the same value as in `SetExpressCheckout` request

EXAMPLE 2.3 Making a Sale

Request	*[requiredSecurityParameters]*&**METHOD=DoExpressCheckoutPayment**& TOKEN=EC-0E881823PA052770A&AMT=10.00& PAYERID=95HR9CM6D56Q2&**PAYMENTACTION=Sale**

Response	*[successResponseFields&*TOKEN=EC-0E881823PA052770A& TRANSACTIONID=8SC56973LM923823H&TRANSACTIONTYPE=expresscheckout& **PAYMENTTYPE=instant**&ORDERTIME=2006-08-22T20:16:05Z&AMT=10.00& CURRENCYCODE=USD&FEEAMT=0.59&TAXAMT=0.00&**PAYMENTSTATUS=Completed**& PENDINGREASON=None&REASONCODE=None

Support giropay and electronic funds transfer

Initiate the Flow with SetExpressCheckout

To support giropay payments, you pass the following three URLs as part of the SetExpressCheckout request. These URLs tell PayPal where to redirect the customer based on the success or failure of each type of payment transaction.

TABLE 2.1   SetExpressCheckout fields for giropay

NVP	SOAP	Description	Required?
GIROPAYSUCCESSURL	giropaySuccessURL	The URL on the merchant site to redirect to after a successful giropay payment.	No
GIROPAYCANCELURL	giropayCancelURL	The URL on the merchant site to redirect to after a giropay or bank transfer payment is cancelled or fails.	No
BANKTXNPENDINGURL	BanktxnPendingURL	The URL on the merchant site to transfer to after a bank transfer payment.	No

Redirecting the Customer to PayPal

After selecting a funding source on PayPal, the customer is redirected back to your website, as in the regular Express Checkout flow. There is one additional field, REDIRECTREQUIRED, returned in the response from both GetExpressCheckoutDetails and DoExpressCheckoutPayment.

If the value of this field is true, you redirect the customer from your Order Review page to https://www.paypal.com/webscr?cmd=_complete-express-checkout&token=TOKEN . Append the token that you received in SetExpressCheckout. PayPal then redirects the customer from this redirect page to the necessary page for the selected funding source.

Completing the Transaction

Corresponding the three fields passed to `SetExpressCheckout` (see Table 2.1, "SetExpressCheckout fields for giropay"), you must add the following three additional pages to your website:

TABLE 2.2   Additional pages required for giropay integration

Page	Description
Order Completion	The page to redirect the customer to after a successful giropay payment.
Order Cancellation	The page to redirect the customer to after a giropay or bank-transfer payment is cancelled or fails
Order Pending	The page to redirect the customer to after a bank-transfer payment.

Controlling the Shipping Address Using SetExpressCheckout

You can make changes to the behavior of the shipping address with the `REQCONFIRMSHIPPING`, `NOSHIPPING`, and `ADDROVERRIDE` parameters in `SetExpressCheckout` request.

NOTE: The shipping address is specified in the `SHIPTOxxx` parameters.

Suppressing Display of Shipping Address on PayPal

To suppress the display of the customer's shipping address on the PayPal web pages, set `NOSHIPPING` to `1` in `SetExpressCheckout` request. You might want to do this if you are selling a product or service that does not require shipping.

EXAMPLE 2.1 Suppressing the Shipping Address

Request	*[requiredSecurityParameters]*&**METHOD=SetExpressCheckout**&AMT=10.00& RETURNURL=https://www.anycompany.com/orderprocessing/orderreview.html& CANCELURL=https://www.anycompany.com/orderprocessing/shippinginfo.html &**NOSHIPPING=1**
Response	*[successResponseFields]*&TOKEN=EC-17C76533PL706494P

GetExpressCheckoutDetails does not return the shipping address.

EXAMPLE* 2.2 *GetExpressCheckoutDetails

Request	*[requiredSecurityParameters]*&**METHOD=GetExpressCheckoutDetails**& TOKEN=EC-17C76533PL706494P

Response	*[successResponseFields]*&TOKEN=EC- 17C76533PL706494P&EMAIL=abcdef@anycompany.com&PAYERID=95HR9CM6D56Q2& PAYERSTATUS=verified&FIRSTNAME=John&LASTNAME=Smith&COUNTRYCODE=US& ADDRESSID=PayPal&ADDRESSSTATUS=None

Overriding the Shipping Address Stored on PayPal

To override the shipping address stored on PayPal, call SetExpressCheckout to set ADDROVERRIDE to 1 and set the shipping address fields (see Table A.3, "Ship to Address (Optional)").

The customer cannot edit the address if it has been overridden.

EXAMPLE* 2.3 *Overriding the Shipping Address

Request	*[requiredSecurityParameters]*&**METHOD=SetExpressCheckout**&AMT=10.00& RETURNURL=https://www.anycompany.com/orderprocessing/orderreview.html& CANCELURL=https://www.anycompany.com/orderprocessing/shippinginfo.html &**SHIPTONAME=Peter+Smith**&**SHIPTOSTREET=144+Main+St.**&**SHIPTOCITY=SAN+JOSE** &**SHIPTOSTATE=CA**&**SHIPTOCOUNTRYCODE=US**&**SHIPTOZIP=99911**& **ADDROVERRIDE=1**

Response	*[successResponseFields]*&TOKEN=EC-17C76533PL706494P

GetExpressCheckoutDetails returns the overridden shipping address.

EXAMPLE* 2.4 *GetExpressCheckoutDetails

Request	*[requiredSecurityParameters]*&**METHOD=GetExpressCheckoutDetails**&TOKEN=EC- 17C76533PL706494P

Response	*[successResponseFields]*&TOKEN=EC-17C76533PL706494P& PAYER=abcdef@anycompany.com&PAYERID=95HR9CM6D56Q2&PAYERSTATUS=verified& FIRSTNAME=John&LASTNAME=Smith& COUNTRYCODE=US&**SHIPTONAME=Peter+Smith**&**SHIPTOSTREET=144+Main+St.**& **SHIPTOCITY=SAN+JOSE**&**SHIPTOSTATE=CA**&**SHIPTOCOUNTRYCODE=US**&**SHIPTOZIP=95112**& ADDRESSID=PayPal&**ADDRESSSTATUS=Unconfirmed**

Changing the Language on the PayPal Login Page Using SetExpressCheckout

To change the language displayed on the PayPal login page, set `LOCALECODE` to one of the allowable values in `SetExpressCheckout`. For `LOCALECODE` values, see Table A.2, "SetExpressCheckout Request Parameters". The following example sets `LOCALECODE` to French.

EXAMPLE 2.5 Changing the PayPal Login Page Language to French

Request	*[requiredSecurityParameters]*&**METHOD=SetExpressCheckout**&AMT=10.00& CURRENCYCODE=EUR& RETURNURL=https://www.anycompany.com/orderprocessing/orderreview.html& CANCELURL=https://www.anycompany.com/orderprocessing/shippinginfo.html &**LOCALECODE=fr_FR**
Response	*[successResponseFields]*&TOKEN=EC-17C76533PL706494P

Changing the Logo on the PayPal Pages Using SetExpressCheckout

You can modify the logo and other color settings on the PayPal pages in two ways:

- Specifying a predefined Custom Payment Page Style
- Setting logo and color settings individually

Specifying a Custom Payment Page Style

You can set the Custom Payment Page Style for the PayPal pages by setting the `PAGESTYLE` parameter in `SetExpressCheckout`. Set `PAGESTYLE` to one of the Page Style Names you defined in your Custom Payment Pages on https://www.paypal.com.

The following example sets `PAGESTYLE` to `DesignerFotos-Yellow` in the `SetExpressCheckout` method

EXAMPLE 2.6 Specifying a Custom Payment Page Style

Request	*[requiredSecurityParameters]*&**METHOD=SetExpressCheckout**&AMT=10.00& RETURNURL=https://www.anycompany.com/orderprocessing/orderreview.html& CANCELURL=https://www.anycompany.com/orderprocessing/shippinginfo.html& **PAGESTYLE=DesignerFotos-Yellow**
Response	*[successResponseFields]*&TOKEN=EC-17C76533PL706494P

Specifying Logo and Color Settings Individually

You can modify the PayPal web pages to look like your own web pages by setting the following parameters in `SetExpressCheckout`:

- `HDRIMG`: specify an image to appear at the top left of the payment page

- `HDRBORDERCOLOR`: set the border color around the header of the payment page

- `HDRBACKCOLOR`: set the background color for the background of the header of the payment page

- `PAYFLOWCOLOR`: set the background color for the payment page

EXAMPLE 2.7 Specifying Logo and Color Settings Individually

Request	*[requiredSecurityParameters]*&**METHOD=SetExpressCheckout**&AMT=10.00& RETURNURL=https://www.anycompany.com/orderprocessing/orderreview.html& CANCELURL=https://www.anycompany.com/orderprocessing/shippinginfo.html& **HDRIMG=https://www.anycompany.com/images/HeaderImage.gif**& **HDRBORDERCOLOR=3366FF**&**HDRBACKCOLOR=D3EFF5**&**PAYFLOWCOLOR=F8F5F5**

Response	*[successResponseFields]*&TOKEN=EC-17C76533PL706494P

Form-Filling Your Payment Review Page Using GetExpressCheckoutDetails

Use the payer name and shipping address returned by `GetExpressCheckoutDetails` response to fill in form fields on your payment review page which you display after the customer returns from PayPal.

EXAMPLE 2.8 Form-Filling Your Payment Review Page

Request	*[requiredSecurityParameters]*&**METHOD=GetExpressCheckoutDetails**& TOKEN=EC-3DJ78083ES565113B

Response	*[successResponseFields]*&TOKEN=EC-3DJ78083ES565113B&EMAIL=abcdef@anyemail.com& PAYERID=95HR9CM6D56Q2&PAYERSTATUS=verified&FIRSTNAME=John&LASTNAME=Smith& COUNTRYCODE=US&SHIPTONAME=John Smith&SHIPTOSTREET=144+Main+St.& SHIPTOCITY=San+Jose&SHIPTOSTATE=CA&SHIPTOCOUNTRYCODE=US&SHIPTOZIP=99221& ADDRESSID=PayPal&ADDRESSSTATUS=Confirmed

Get the payer name from the following parameters in `GetExpressCheckoutDetails` response:

- `SALUTATION`
- `FIRSTNAME`
- `MIDDLENAME`
- `LASTNAME`
- `SUFFIX`

Get the shipping address from the following parameters in `GetExpressCheckoutDetails` response:

- `SHIPTONAME`
- `SHIPTOSTREET`
- `SHIPTOSTREET2`
- `SHIPTOCITY`
- `SHIPTOSTATE`
- `SHIPTOCOUNTRYCODE`
- `SHIPTOPHONENUM`
- `SHIPTOZIP`

Making a Sale Using DoExpressCheckoutPayment

Use `DoExpressCheckoutPayment` to make a final sale.

For more information, see "Basic Checkout with PayPal" on page 17.

Changing the URL for IPN Using DoExpressCheckoutPayment

You can change the URL for receiving Instant Payment Notification (IPN) about this transaction by setting the `NOTIFYURL` parameter in `DoExpressCheckoutPayment`.

N O T E : If you do not specify this value in the request, the notification URL from your Merchant Profile is used, if one exists.

For more information about IPN, see the *Order Management Integration Guide*.

EXAMPLE 2.9 Changing the URL for IPN

Request	*[requiredSecurityParameters]*&**METHOD=DoExpressCheckoutPayment**& TOKEN=EC-8AX1275942659774U&PAYERID=95HR9CM6D56Q2&AMT=10.00& PAYMENTACTION=Sale&**NOTIFYURL=https://www.anycompany.com/process-ipn/**

Response	*[successResponseFields]*&TOKEN=EC-8AX1275942659774U& TRANSACTIONID=1MA55216691247718&TRANSACTIONTYPE=expresscheckout& PAYMENTTYPE=instant&ORDERTIME=2006-08-22T22:39:13Z&AMT=10.00& CURRENCYCODE=USD&FEEAMT=0.59&TAXAMT=0.00&PAYMENTSTATUS=Completed& PENDINGREASON=None&REASONCODE=None

Including Line Item Details Using DoExpressCheckoutPayment

You can include line item details by setting the following parameters in
DoExpressCheckoutPayment:

- L_NAME*n*: item name or description
- L_NUMBER*n*: line item number
- L_QTY*n*: item quantity
- L_TAXAMT*n*: sales tax for the item
- L_AMT*n*: cost of item

You can detail as many items as you want. Beginning with 0, append an index number to the
field name and increment that index number by one for each item.

The following example sets line item details for two items. These details are recorded on
PayPal.

EXAMPLE 2.10 Including Line Item Details

Request	*[requiredSecurityParameters]*&**METHOD=DoExpressCheckoutPayment**& TOKEN=EC-4XH62109C8044521N&PAYERID=95HR9CM6D56Q2&PAYMENTACTION=Sale&**AMT=6.24&** **ITEMAMT=5.75&TAXAMT=0.49&L_NUMBER0=1&L_NAME0=A+Tale+of+Two+Cities&L_AMT0=2.50&** **L_QTY0=1&L_TAXAMT0=0.21&L_NAME1=Oliver+Twist&L_NUMBER1=2&L_AMT1=3.25&L_QTY1=1&** **L_TAXAMT1=0.28**

Response	*[successResponseFields]*&TOKEN=EC-4XH62109C8044521N& TRANSACTIONID=77U91743M2649930P&TRANSACTIONTYPE=expresscheckout& PAYMENTTYPE=instant&ORDERTIME=2006-08-22T22:49:50Z&**AMT=6.24**& CURRENCYCODE=USD&FEEAMT=0.48&TAXAMT=0.28&PAYMENTSTATUS=Completed& PENDINGREASON=None&REASONCODE=None

If you specify L_AMT*n*, you must specify the ITEMAMT parameter. The values for L_AMT*n* and
L_QTY*n* should add up to the ITEMAMT.

If you specify L_TAXAMT*n*, you must specify the TAXAMT parameter. The values for
L_TAXAMT*n* and L_QTY*n* should add up to TAXAMT.

Here are examples of ITEMAMT and TAXAMT:

```
ITEMAMT = (L_AMT0 * L_QTY0) + (L_AMT1 + L_QTY1) + L_AMT2
TAXAMT = (L_TAXAMT0 * L_QTY0) + (L_TAXAMT1 * L_QTY1) + L_TAXAMT2
```

NOTE: If the line item details do not add up to ITEMAMT or TAXAMT, the line item details are discarded, and the transaction is processed using the values of ITEMAMT or TAXAMT. The ACK value in the response is set to SuccessWithWarning.

Including Subtotals Using DoExpressCheckoutPayment

If you want the PayPal user to see subtotals of item cost, shipping charges, handling charges, and sales tax, include the following parameters in DoExpressCheckoutPayment:

- ITEMAMT

- SHIPPINGAMT

- HANDLINGAMT

- TAXAMT

NOTE: Be sure that the summed values of ITEMAMT, SHIPPINGAMT, HANDLINGAMT, and TAXAMT equal the value of AMT. You cannot include a zero amount for any of these fields, and you must set all of them.

*EXAMPLE **2.11** Including Subtotals*

Request	*[requiredSecurityParameters]*&**METHOD=DoExpressCheckoutPayment** TOKEN=EC-0EU150885J108392M&PAYERID=95HR9CM6D56Q2&PAYMENTACTION=Sale&AMT=6.24& **AMT=192.22&ITEMAMT=176.02&SHIPPINGAMT=14.34&HANDLINGAMT=1.10&TAXAMT=0.76**

Response	*[successResponseFields]*&TOKEN=EC- 0EU150885J108392M&TRANSACTIONID=29W817045L6797418&TRANSACTIONTYPE=expresscheck out&PAYMENTTYPE=instant&ORDERTIME=2006-08- 23T16:20:22Z&**AMT=192.22**&CURRENCYCODE=USD&FEEAMT=5.87&**TAXAMT=0.76**&PAYMENTSTATUS =Completed&PENDINGREASON=None&REASONCODE=None

Updating Order Details Using DoExpressCheckoutPayment

You may need to update order details on PayPal if the customer makes a change to the order after returning to your order review page. If the change causes new values for one or more of the following parameters, you need to update the order details on PayPal using DoExpressCheckoutPayment:

- `DESC`: item description

- `CUSTOM`: field for your own use

- `INVNUM`: your invoice or tracking number

These three parameters may have been set in `SetExpressCheckout`.

***EXAMPLE* 2.12 Updating Order Details**

Request	*[requiredSecurityParameters]*&**METHOD=DoExpressCheckoutPayment**& TOKEN=EC- 5JA9268562132991T&PAYERID=95HR9CM6D56Q2&PAYMENTACTION=Sale&AMT=10.00& **DESC=Order+for+5+books**&**CUSTOM=Thank+you+for+your+business!**&**INVNUM=ABC1234567**

Response	*[successResponseFields]*&TOKEN=EC- 5JA9268562132991T&TRANSACTIONID=9JJ517146A732773R&TRANSACTIONTYPE=expresscheck out&PAYMENTTYPE=instant&ORDERTIME=2006-08- 23T16:14:54Z&AMT=10.00&CURRENCYCODE=USD&FEEAMT=0.59&TAXAMT=0.00&PAYMENTSTATUS= Completed&PENDINGREASON=None&REASONCODE=None

Updating the Shipping Address Using DoExpressCheckoutPayment

You may need to update the shipping address on PayPal if the customer updates the shipping address after returning to your order review page. If this happens, you need to update the shipping address for this transaction on PayPal.

You can update the shipping address by setting the following parameters in `DoExpressCheckoutPayment`:

- `SHIPTONAME`

- `SHIPTOSTREET`

- `SHIPTOSTREET2`

- `SHIPTOCITY`

- `SHIPTOSTATE`

- `SHIPTOCOUNTRYCODE`

- `SHIPTOPHONENUM`

- `SHIPTOZIP`

EXAMPLE 2.13 Updating the Shipping Address

Request	*[requiredSecurityParameters]*&**METHOD=DoExpressCheckoutPayment**& METHOD=DoExpressCheckoutPayment&TOKEN=EC-47C20533CU265432F& PAYERID=95HR9CM6D56Q2&PAYMENTACTION=Sale&AMT=10.00& **SHIPTONAME=Michael+Brown**&**SHIPTOSTREET=22+First+Street**&**SHIPTOCITY=Chicago**& **SHIPTOCOUNTRYCODE=US**&**SHIPTOSTATE=IL**&**SHIPTOZIP=60605**
Response	*[successResponseFields]*&TOKEN=EC-47C20533CU265432F& TRANSACTIONID=59L39584YA765250B&TRANSACTIONTYPE=expresscheckout& PAYMENTTYPE=instant&ORDERTIME=2006-08-23T16:08:12Z&AMT=10.00& CURRENCYCODE=USD&FEEAMT=0.59&TAXAMT=0.00&PAYMENTSTATUS=Completed& PENDINGREASON=None&REASONCODE=None

3 Back-Office Administration

This section gives you examples of the following functions:

-
-
-

Refunding Using RefundTransaction

With `RefundTransaction`, you can refund the full amount or a partial amount of a transaction. Specify the original transaction ID and the refund type: `Full` or `Partial`.

Full Refund

IMPORTANT: If you refund the full amount, do not set the AMT field.

EXAMPLE 3.1 Refunding the Full Amount of a Transaction

Request	*[requiredSecurityParameters]*&**METHOD=RefundTransaction**&TRANSACTIONID=01945456967386 7 &**REFUNDTYPE=Full**
Response	*[successResponseFields]*&REFUNDTRANSACTIONID=4RP55200GJ177180N &FEEREFUNDAMT=4.01&GROSSREFUNDAMT=127.87&NETREFUNDAMT=123.86

Partial Refunds

To refund a partial amount, set `REFUNDTYPE` to `Partial` and set the `AMT`.

EXAMPLE 3.2 Refunding A Partial Amount

Request	*[requiredSecurityParameters]*&METHOD=RefundTransaction &TRANSACTIONID=9CX07910UV614511L**&REFUNDTYPE=Partial&AMT=12.95**
Response	*[successResponseFields]*&REFUNDTRANSACTIONID=1H0011898K637700R &FEEREFUNDAMT=0.38&GROSSREFUNDAMT=12.95&NETREFUNDAMT=12.57

Including a Note with the Refund

Whether the refund is full or partial, you can also include a note about the refund.

EXAMPLE 3.3 Including a Note with the Refund

Request	*[requiredSecurityParameters]*&METHOD=RefundTransaction&TRANSACTIONID=01945456967386 7 &REFUNDTYPE=Partial&AMT=12.95&**NOTE=Customer+changed+mind.**

Response	*[successResponseFields]*&REFUNDTRANSACTIONID=1H0011898K637700R &FEEREFUNDAMT=0.38&GROSSREFUNDAMT=12.95&NETREFUNDAMT=12.57

Searching for Transactions Using TransactionSearch

To find all transactions that occurred on a particular date, use TransactionSearch and set the STARTDATE field to the date you desire. The date must be in UTC/GMT format.

EXAMPLE 3.4 Searching for Transactions by STARTDATE

Request	*[requiredSecurityParameters]*&METHOD=TransactionSearch &**STARTDATE=2006-08-15T17:00:00Z**

Respons	*[successResponseFields]*&**L_TIMESTAMP0**=2006-08-18T05:58:41Z& L_TIMEZONE0=GMT&L_TYPE0=Authorization&L_NAME0=John+Doe& L_TRANSACTIONID0=3XK029742B016373C&L_STATUS0=Pending&L_AMT0=1.00& **L_TIMESTAMP1**=2006-08-18T05:56:20Z&L_TIMEZONE1=GMT&L_TYPE1=Payment& L_NAME1=John+Doe&L_TRANSACTIONID1=4BV19600WF261673U&L_STATUS1=Completed &L_AMT1=1.00&L_FEEAMT1=-0.33&L_NETAMT1=0.67& **L_TIMESTAMP2**=2006-08-18T05:53:22Z&L_TIMEZONE2=GMT&L_TYPE2=Payment &L_NAME2=John+Doe&L_TRANSACTIONID2=6XB50622KC566325C&L_STATUS2=Completed &L_AMT2=1.00&L_FEEAMT2=-0.33&L_NETAMT2=0.67& **L_TIMESTAMP3**=2006-08-18T05:38:04Z&L_TIMEZONE3=GMT &L_TYPE3=Payment&L_NAME3=John+Doe&L_TRANSACTIONID3=80774637LP956560E& L_STATUS3=Completed&L_AMT3=1.00&L_FEEAMT3-0.33&L_NETAMT3=0.67& **L_TIMESTAMP4**=2006-08-17T03:02:44Z&L_TIMEZONE4=GMT&L_TYPE4=Payment& L_NAME4=Pettibone+Smythe-Jones&L_TRANSACTIONID4=8G40321568512733L& L_STATUS4=Completed&L_AMT4=104.00&L_FEEAMT4=-3.32&L_NETAMT4=100.68

TransactionSearch returns a multi-valued array of all transactions that match the search criteria. Each transaction begins with its date: L_TIMESTAMP*n*, where *n* starts with 0 and increments by one for each transaction.

Viewing Details of a Single Transaction Using GetTransactionDetails

To view all details about a single transaction, use `GetTransactionDetails`.

***EXAMPLE 3.5** Viewing A Transaction's Details*

Request	*[requiredSecurityParameters]*`&METHOD=GetTransactionDetails` `&`**`TRANSACTIONID=3B288546P5019992D`**

Response	*[successResponseFields]*`&RECEIVERBUSINESS=Jims+Hardware`
	`&RECEIVEREMAIL=jim@hardwareplace.com&RECEIVERID=WNSJNN89XVWFA`
	`&PAYERID=B3KS3VFYNG9SN&PAYERSTATUS=unverified&FIRSTNAME=James&`
	`LASTNAME=Biguy&COUNTRYCODE=US&SHIPTOSTATE=&ADDRESSID=PayPal&ADDRESSSTATUS=None`
	`&TRANSACTIONID=3B288546P5019992D&RECEIPTID=3596-6202-14612615`
	`&TRANSACTIONTYPE=webaccept&PAYMENTTYPE=instant&`
	`ORDERTIME=2006-08-15T17:00:00Z&AMT=127.87&CURRENCYCODE=USD&FEEAMT=4.01`
	`&TAXAMT=0.00&PENDINGREASON=None&REASONCODE=None&SALESTAX=0.00&L_QTY0=1`

A NVP API Method and Field Reference

General Characteristics of Requests and Parameters

Parameters

The request parameter string follows the query component syntax defined in [Uniform Resource Identifier (URI): Generic Syntax](#). Parameter names and their values can be upper- or lowercase. We show parameter names in uppercase for clarity. All values must be URL-encoded.

Multi-Value Fields

Fields that accept multiple values have names like this:

L_*FIELDNAMEn*

where L_ is literal, *FIELDNAME* is the name of the parameter, and *n* is an index number, starting at 0 and incremented by one for each value of the field. Index numbers must be sequential.

For example, if an order contains multiple items, you can add an item cost for each item using the L_*AMTn* parameter:

L_AMT0=4.95&**L_AMT1**=6.72&**L_AMT2**=7.95

PayPal-Supported Transactional Currencies

The following currencies are supported by PayPal for use in transactions.

TABLE A.1   PayPal-Supported Currencies and Currency Codes for Transactions

ISO-4217 Code	Currency
AUD	Australian Dollar
CAD	Canadian Dollar
CHF	Swiss Franc
CZK	Czech Koruna
DKK	Danish Krone
EUR	Euro
GBP	Pound Sterling

TABLE A.1 **PayPal-Supported Currencies and Currency Codes for Transactions**

ISO-4217 Code	Currency
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

Express Checkout

SetExpressCheckout Request

TABLE A.2 **SetExpressCheckout Request Parameters**

Parameter	Description	Required
METHOD	Name of the API: `SetExpressCheckout`	Yes
RETURNURL	URL to which the customer's browser is returned after choosing to pay with PayPal. **NOTE:** PayPal recommends that the value be the final review page on which the customer confirms the order and payment. Character length and limitations: no limit.	Yes
CANCELURL	URL to which the customer is returned if he does not approve the use of PayPal to pay you. **NOTE:** PayPal recommends that the value be the original page on which the customer chose to pay with PayPal. Character length and limitations: no limit	Yes
GIROPAYSUCCESSURL	URL of your website where the user gets redirected once he successfully completed a transaction with giropay. This page should be the order confirmation page.	No (recommended)

TABLE A.2 ***SetExpressCheckout Request Parameters*** *(Continued)*

Parameter	Description	Required
GIROPAYCANCELURL	URL of your website where the user gets redirected when a giropay or electronic funds transfer transaction fails.	No (recommended)
BANKTXNPENDINGURL	URL of your website where the user gets redirected when he has initiated an electronic funds transfer.	No (recommended)
AMT	The total cost of the order to the customer. If shipping cost and tax charges are known, include them in this value; if not, this value should be the current sub-total of the order. **NOTE:** Limitations: Must not 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 (,).	Yes
CURRENCYCODE	A three-character currency code for one of the currencies listed in <u>PayPal-Supported Transactional Currencies</u>. Default: USD.	No
MAXAMT	The expected maximum total amount of the complete order, including shipping cost and tax charges. **NOTE:** Limitations: Must not 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 (,).	No
PAYMENTACTION	How you want to obtain payment: ● Sale indicates that this is a final sale for which you are requesting payment. Character length and limit: Up to 13 single-byte alphabetic characters Allowable Values: ● Authorization ● Order ● Sale Default: The transaction resulting from DoExpressCheckoutPayment request will be a final sale..	No
EMAIL	Email address of the buyer as entered during checkout. PayPal uses this value to pre-fill the PayPal membership sign-up portion of the PayPal login page. Character length and limit: 127 single-byte alphanumeric characters	No
DESC	Description of items the customer is purchasing. Character length and limitations: 127 single-byte alphanumeric characters	No

TABLE A.2 ***SetExpressCheckout Request Parameters*** *(Continued)*

Parameter	Description	Required
CUSTOM	A free-form field for your own use, such as a tracking number or other value you want PayPal to return on `GetExpressCheckoutDetails` response and `DoExpressCheckoutPayment` response. Character length and limitations: 256 single-byte alphanumeric characters	No
INVNUM	Your own unique invoice or tracking number. PayPal returns this value to you on `DoExpressCheckoutPayment` response. Character length and limitations: 127 single-byte alphanumeric characters	No
REQCONFIRMSHIPPING	The value 1 indicates that you require that the customer's shipping address on file with PayPal be a confirmed address. **NOTE:** Setting this field overrides the setting you have specified in your Merchant Account Profile. Character length and limitations: One single-byte numeric character. Allowable values: 0, 1 Default: 0	No
NOSHIPPING	The value 1 indicates that on the PayPal pages, no shipping address fields should be displayed whatsoever. Character length and limitations: Four single-byte numeric character. Allowable values: 0, 1 Default: 0	No
ADDROVERRIDE	The value 1 indicates that the PayPal pages should display the shipping address set by you in this `SetExpressCheckout` request, not the shipping address on file with PayPal for this customer. **NOTE:** Displaying the PayPal street address on file does not allow the customer to edit that address. Allowable values: 0, 1 Default: 0	No
TOKEN	A timestamped token by which you identify to PayPal that you are processing this payment with Express Checkout. **NOTE:** The token expires after three hours. If you set the token in the `SetExpressCheckout` request, the value of the token in the response is identical to the value in the request. Character length and limitations: 20 single-byte characters Allowable values: See the description of TOKEN in Table A.4, "SetExpressCheckout Response Fields."	No

TABLE A.2 ***SetExpressCheckout Request Parameters*** *(Continued)*

Parameter	Description	Required
LOCALECODE	Locale of pages displayed by PayPal during Express Checkout. Character length and limitations: Any two-character country code. The following two-character country codes are supported by PayPal: ● AU ● DE ● FR ● IT ● GB ● ES ● US Any other value will default to US. **NOTE:** For the list of country codes, see Appendix F, "Country Codes."	No
PAGESTYLE	Sets the Custom Payment Page Style for payment pages associated with this button/link. This value corresponds to the HTML variable page_style for customizing payment pages. The value is the same as the Page Style Name you chose when adding or editing the page style from the Profile subtab of the My Account tab of your PayPal account. Character length and limitations: 30 single-byte alphabetic characters.	No
HDRIMG	A URL for the image you want to appear at the top left of the payment page. The image has a maximum size of 750 pixels wide by 90 pixels high. PayPal recommends that you provide an image that is stored on a secure (https) server. Character length and limitations: 127	No
HDRBORDERCOLOR	Sets the border color around the header of the payment page. The border is a 2-pixel perimeter around the header space, which is 750 pixels wide by 90 pixels high. Character length and limitations: Six character HTML hexadecimal color code in ASCII	No
HDRBACKCOLOR	Sets the background color for the header of the payment page. Character length and limitation: Six character HTML hexadecimal color code in ASCII	No
PAYFLOWCOLOR	Sets the background color for the payment page. Character length and limitation: Six character HTML hexadecimal color code in ASCII	No

TABLE A.2 **SetExpressCheckout Request Parameters** *(Continued)*

Parameter	Description	Required
Shipping Address	Optional shipping address. The parameters for the optional Ship to Address are described in Table A.3, "Ship to Address (Optional)." **IMPORTANT:** Ship to Address is optional, but if you include it, certain fields are required.	No

TABLE A.3 **Ship to Address (Optional)**

Parameter	Description	Required
SHIPTONAME	Person's name associated with this shipping address. Character length and limitations: 32 single-byte characters	Yes
SHIPTOSTREET	First street address. Character length and limitations: 100 single-byte characters	Yes
SHIPTOCITY	Name of city. Character length and limitations: 40 single-byte characters	Yes
SHIPTOSTATE	State or province. Character length and limitations: 40 single-byte characters	Yes
SHIPTOCOUNTRYCODE	Country code. Character limit: Two single-byte characters. For the list of country codes, see Appendix F, "Country Codes."	Yes
SHIPTOZIP	U.S. Zip code or other country-specific postal code. Character length and limitations: 20 single-byte characters	Yes
SHIPTOSTREET2	Second street address. Character length and limitations: 100 single-byte characters	No
PHONENUM	Phone number. Character length and limit: 20 single-byte characters	No

SetExpressCheckout Response

TABLE A.4 *SetExpressCheckout Response Fields*

Parameter	Description
TOKEN	A timestamped token by which you identify to PayPal that you are processing this payment with Express Checkout. **NOTE:** The token expires after three hours. If you set the token in the SetExpressCheckout request, the value of the token in the response is identical to the value in the request. Character length and limitations: 20 single-byte characters

Redirecting the Customer's Browser to PayPal Login Page

After you receive a successful response from SetExpressCheckout, add the TOKEN from SetExpressCheckout response as a name/value pair to the following URL, and redirect your customer's browser to it:

```
https://www.paypal.com/cgi-bin/webscr?cmd=_express-checkout&
token=value_from_SetExpressCheckoutResponse
```

For redirecting the customer's browser to the PayPal login page, PayPal recommends that you use the HTTPS response 302 "Object Moved" with the URL above as the value of the Location header in the HTTPS response. Ensure that you use an SSL-enabled server to prevent browser warnings about a mix of secure and insecure graphics.

GetExpressCheckoutDetails Request

TABLE A.5 *GetExpressCheckoutDetails Parameters*

Parameter	Description	Required?
METHOD	Name of the API: GetExpressCheckoutDetails	Yes
TOKEN	A timestamped token, the value of which was returned by SetExpressCheckout response. Character length and limitations: 20 single-byte characters Allowable values: An unexpired token	Yes

GetExpressCheckoutDetails Response

TABLE A.6 *GetExpressCheckoutDetails Response Fields*

Field	Description
TOKEN	The timestamped token value that was returned by `SetExpressCheckout` response and passed on `GetExpressCheckoutDetails` request. Character length and limitations: 20 single-byte characters Possible values: See the description of TOKEN in Table A.4, "SetExpressCheckout Response Fields."
EMAIL	Email address of payer. Character length and limitations: 127 single-byte characters
PAYERID	Unique PayPal customer account identification number. Character length and limitations:13 single-byte alphanumeric characters.
PAYERSTATUS	Status of payer. Character length and limitations: 10 single-byte alphabetic characters. Possible values: `verified`, `unverified`
SALUTATION	Payer's salutation. Character length and limitations: 20 single-byte characters
FIRSTNAME	Payer's first name. Character length and limitations: 25 single-byte characters
MIDDLENAME	Payer's middle name. Character length and limitations: 25 single-byte characters
LASTNAME	Payer's last name. Character length and limitations: 25 single-byte characters
SUFFIX	Payer's suffix. Character length and limitations: 12 single-byte characters
COUNTRYCODE	Payer's country of residence in the form of ISO standard 3166 two-character country codes. Character length and limitations: Two single-byte characters For the list of country codes, see Appendix F, "Country Codes."
BUSINESS	Payer's business name. Character length and limitations: 127 single-byte characters
SHIPTONAME	Person's name associated with this address. Character length and limitations: 32 single-byte characters
SHIPTOSTREET	First street address. Character length and limitations: 100 single-byte characters

TABLE A.6 *GetExpressCheckoutDetails Response Fields (Continued)*

Field	Description
SHIPTOSTREET2	Second street address. Character length and limitations: 100 single-byte characters
SHIPTOCITY	Name of city. Character length and limitations: 40 single-byte characters
SHIPTOSTATE	State or province Character length and limitations: 40 single-byte characters
SHIPTOCOUNTRYCODE	Country code. Character limit: Two single-byte characters. For the list of country codes, see Appendix F, "Country Codes."
SHIPTOZIP	U.S. Zip code or other country-specific postal code. Character length and limitations: 20 single-byte characters
ADDRESSSTATUS	Status of street address on file with PayPal
CUSTOM	A free-form field for your own use, as set by you in the Custom element of SetExpressCheckout request. Character length and limitations: 256 single-byte alphanumeric characters
INVNUM	Your own invoice or tracking number, as set by you in the element of the same name in SetExpressCheckout request . Character length and limitations: 127 single-byte alphanumeric characters
PHONENUM	Payer's contact telephone number. **NOTE:** PayPal returns a contact telephone number only if your Merchant account profile settings require that the buyer enter one. Character length and limitations: Field mask is XXX-XXX-XXXX (for US numbers) or +XXX XXXXXXXX (for international numbers)
REDIRECTREQUIRED	If the value equals "True," you must redirect the user after the DoExpressCheckout call. The value here indicates that you should inform your user on the Review Order page that he will be redirected to PayPal to complete the transaction.

DoExpressCheckoutPayment Request

Request to obtain payment with PayPal Express Checkout.

IMPORTANT: PayPal requires that a merchant using Express Checkout display to the customer the same amount that the merchant sends to PayPal in the AMT parameter with the DoExpressCheckoutPayment request API.

TABLE A.7   DoExpressCheckoutPayment Parameters

Parameter	Description	Required?
METHOD	Name of the API: `DoExpressCheckoutPayment`	Yes
TOKEN	The timestamped token value that was returned by `SetExpressCheckout` response and passed on `GetExpressCheckoutDetails` request. Character length and limitations: 20 single-byte characters	Yes
PAYMENTACTION	How you want to obtain payment: ● `Sale` indicates that this is a final sale for which you are requesting payment. Character length and limit: Up to 13 single-byte alphabetic characters Allowable Values: ● `Authorization` ● `Order` ● `Sale` Default: The transaction resulting from `DoExpressCheckoutPayment` request will be a final sale..	Yes
PAYERID	Unique PayPal customer account identification number as returned by `GetExpressCheckoutDetails` response. Character length and limitations: 13 single-byte alphanumeric characters.	Yes
AMT	Total of order, including shipping, handling, and tax. **NOTE:** Limitations: Must not 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 (,).	Yes
DESC	Description of items the customer is purchasing. Character length and limitations: 127 single-byte alphanumeric characters	No
CUSTOM	A free-form field for your own use. Character length and limitations: 256 single-byte alphanumeric characters	No
INVNUM	Your own invoice or tracking number. Character length and limitations: 127 single-byte alphanumeric characters	No
BUTTONSOURCE	An identification code for use by third-party applications to identify transactions. Character length and limitations: 32 single-byte alphanumeric characters	No

T*ABLE *A.7 **DoExpressCheckoutPayment Parameters** *(Continued)*

Parameter	Description	Required?
NOTIFYURL	Your URL for receiving Instant Payment Notification (IPN) about this transaction. **N O T E :** If you do not specify this value in the request, the notification URL from your Merchant Profile is used, if one exists. Character length and limitations: 2,048 single-byte alphanumeric characters	No
ITEMAMT	Sum of cost of all items in this order. Limitations: Must not 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 (,). **N O T E :** ITEMAMT is required if you specify a value for L_AMT*n*.	No
SHIPPINGAMT	Total shipping costs for this order. **N O T E :** Character length and limitations: Must not exceed $10,000 USD in any currency. No currency symbol. Regardless of currency, decimal separator must be a period (.), and the optional thousands separator must be a comma (,). Equivalent to nine characters maximum for USD.	No
HANDLINGAMT	Total handling costs for this order. **N O T E :** Character length and limitations: Must not exceed $10,000 USD in any currency. No currency symbol. Regardless of currency, decimal separator must be a period (.), and the optional thousands separator must be a comma (,). Equivalent to nine characters maximum for USD.	No
TAXAMT	Sum of tax for all items in this order. **N O T E :** Character length and limitations: Must not exceed $10,000 USD in any currency. No currency symbol. Regardless of currency, decimal separator must be a period (.), and the optional thousands separator must be a comma (,). Equivalent to nine characters maximum for USD. **N O T E :** TAXAMT is required if you specify a value for L_TAXAMT*n*.	No
CURRENCYCODE	A three-character currency code for one of the currencies listed in [PayPal-Supported Transactional Currencies](#). Default: USD.	No
L_NAMEn	Item name. Character length and limitations: 127 single-byte characters These parameters should be ordered sequentially beginning with 0, for example, L_NAME0, L_NAME1, and so forth.	No

TABLE A.7 ***DoExpressCheckoutPayment Parameters*** *(Continued)*

Parameter	Description	Required?
L_NUMBERn	Item number. Character length and limitations: 127 single-byte characters These parameters should be ordered sequentially beginning with 0, for example, L_NUMBER0, L_NUMBER1, and so forth.	No
L_QTYn	Item quantity. Character length and limitations: Any positive integer These parameters should be ordered sequentially beginning with 0, for example, L_QTY0, L_QTY1, and so forth.	No
L_TAXAMTn	Item sales tax. Character length and limitations: Must not exceed $10,000 USD in any currency. No currency symbol. Regardless of currency, decimal separator must be a period (.), and the optional thousands separator must be a comma (,). Equivalent to nine characters maximum for USD. These parameters should be ordered sequentially beginning with 0, for example, L_TAXAMT0, L_TAXAMT1, and so forth.	No
L_AMTn	Cost of item Character length and limitations: Must not exceed $10,000 USD in any currency. No currency symbol. Regardless of currency, decimal separator must be a period (.), and the optional thousands separator must be a comma (,). Equivalent to nine characters maximum for USD. These parameters should be ordered sequentially beginning with 0, for example, L_AMT0, L_AMT1, and so forth.	No
Shipping Address	Optional shipping address. The parameters for the optional Ship to Address are described in Table A.8, "Optional Ship to Address." **IMPORTANT:** Ship to Address is optional, but if you include it, certain fields are required.	No

TABLE A.8 *Optional Ship to Address*

Parameter	Description	Required?
SHIPTONAME	Person's name associated with this address. Character length and limitations: 32 single-byte characters	Yes
SHIPTOSTREET	First street address. Character length and limitations: 100 single-byte characters	Yes
SHIPTOCITY	Name of city. Character length and limitations: 40 single-byte characters	Yes

TABLE A.8 *Optional Ship to Address* (Continued)

Parameter	Description	Required?
SHIPTOSTATE	State or province. Character length and limitations: 40 single-byte characters	Yes
SHIPTOCOUNTRYCODE	Country code. Character limit: Two single-byte characters For the list of country codes, see Appendix F, "Country Codes."	Yes
SHIPTOZIP	U.S. ZIP code or other country-specific postal code. Character length and limitations: 20 single-byte characters	Yes
SHIPTOSTREET2	Second street address. Character length and limitations: 100 single-byte characters	No
SHIPTOPHONENUM	Phone number. Character length and limit: 20 single-byte characters	No

DoExpressCheckoutPayment Response

TABLE A.9 *DoExpressCheckout Payment Response Fields*

Field	Description
TOKEN	The timestamped token value that was returned by SetExpressCheckout response and passed on GetExpressCheckoutDetails request. Character length and limitations:20 single-byte characters Allowable values: See the description of TOKEN in Table A.4, "SetExpressCheckout Response Fields."
TRANSACTIONID	Unique transaction ID of the payment. **NOTE:** If the PaymentAction of the request was Authorization or Order, this value is your AuthorizationID for use with the Authorization & Capture APIs. Character length and limitations:19 single-byte characters Possible values: Transaction specific
TRANSACTIONTYPE	The type of transaction Character length and limitations:15 single-byte characters Possible values: ● cart ● express-checkout

TABLE A.9 ***DoExpressCheckout Payment Response Fields*** *(Continued)*

Field	Description
PAYMENTTYPE	Indicates whether the payment is instant or delayed. Character length and limitations: Seven single-byte characters Possible values: ● none ● echeck ● instant
ORDERTIME	Time/date stamp of payment Possible values: Transaction specific
AMT	The final amount charged, including any shipping and taxes from your Merchant Profile. Character length and limitations: 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. Possible Values: Transaction specific
CURRENCYCODE	A three-character currency code for one of the currencies listed in <u>PayPay-Supported Transactional Currencies</u>. Default: USD.
FEEAMT	PayPal fee amount charged for the transaction Character length and limitations: 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. Possible values: Transaction specific
SETTLEAMT	Amount deposited in your PayPal account after a currency conversion. Possible values: Transaction specific
TAXAMT	Tax charged on the transaction. Character length and limitations: 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. Possible values: Transaction specific
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. Character length and limitations: a decimal that does not exceed 17 characters, including decimal point Possible values: Transaction specific

TABLE A.9 *DoExpressCheckout Payment Response Fields* *(Continued)*

Field	Description
PAYMENTSTATUS	Status of the payment: `Completed`: The payment has been completed, and the funds have been added successfully to your account balance. `Pending`: The payment is pending. See the `PendingReason` element for more information.
PENDINGREASON	The reason the payment is pending: ● `none`: No pending reason ● `address`: 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`. ● `echeck`: The payment is pending because it was made by an eCheck that has not yet cleared. ● `intl`: 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`. ● `multi-currency`: 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. ● `verify`: The payment is pending because you are not yet verified. You must verify your account before you can accept this payment. ● `other`: The payment is pending for a reason other than those listed above. For more information, contact PayPal customer service.
REASONCODE	The reason for a reversal if `TransactionType` is `reversal`: ● `none`: No reason code ● `chargeback`: A reversal has occurred on this transaction due to a chargeback by your customer. ● `guarantee`: A reversal has occurred on this transaction due to your customer triggering a money-back guarantee. ● `buyer-complaint`: A reversal has occurred on this transaction due to a complaint about the transaction from your customer. ● `refund`: A reversal has occurred on this transaction because you have given the customer a refund. ● `other`: A reversal has occurred on this transaction due to a reason not listed above.
REDIRECTREQUIRED	If the value equals "True" you have to redirect the user to PayPal. PayPal will direct the user according to the selected payment methods (e.g. to giropay). When redirecting the user to Paypal you need to append the Token-value to the following redirect URL https://www.paypal.com/webscr?cmd=_complete-express-checkout&token=*TOKEN*. *TOKEN* needs to equal the Token-value that you received in the `SetExpressCheckoutResponse`.

RefundTransaction

TABLE A.10 RefundTransaction Request Parameters

Parameter	Description	Required?
METHOD	Name of API call: RefundTransaction	Yes
TRANSACTIONID	Unique identifier of a transaction Character length and limitations: 17 single-byte alphanumeric characters	Yes
REFUNDTYPE	Type of refund you are making ● Other ● Full ● Partial	Yes
AMT	Refund amount. Amount is required if RefundType is Partial. **NOTE:** If RefundType is Full, do not set Amount unless your merchant account has been enabled to issue refunds greater than the amount in referenced transactions.	No
NOTE	Custom memo about the refund. Character length and limitations: 255 single-byte alphanumeric characters	No

TABLE A.11 DoRefund Response Fields

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

TransactionSearch

With TransactionSearch you must always set the StartDate field. Some other behavior:

● Setting TransactionID overrides all other fields (even the required StartDate field).

● The effect of setting other elements is additive or can alter the search criteria.

TransactionSearch returns up to 100 matches. Partial matches are displayed. For example, setting the TransactionSearchRequest FirstName to "Jess" returns results such as "Jessica" and "Jesse".

The most important returned element is TransactionID, which you can pass to GetTransactionDetails in order to retrieve all available information about a specific transaction.

TABLE A.12 TransactionSearch Request Parameters

Parameter	Description	Required
METHOD	Name of API call: TransactionSearch	Yes
STARTDATE	The earliest transaction date at which to start the search. **NOTE:** No wildcards are allowed. The value must be in UTC/GMT format.	Yes
ENDDATE	The latest transaction date to be included in the search	No
EMAIL	Search by the buyer's email address Character length and limitations: 127 single-byte alphanumeric characters	No
RECEIVER	Search by the receiver's email address. If the merchant account has only one email, this is the primary email. Can also be a non-primary email.	No
RECEIPTID	Search by the PayPal Account Optional receipt ID	No
TRANSACTIONID	Search by the transaction ID. **NOTE:** The returned results are from the merchant's transaction records. Character length and limitations: 19 single-byte characters maximum	No
INVNUM	Search by invoice identification key, as set by you for the original transaction. This field searches the records for items sold by the merchant, not the items purchased. **NOTE:** No wildcards are allowed. Character length and limitations: 127 single-byte characters maximum	No
ACCT	Search by credit card number, as set by you for the original transaction. This field searches the records for items sold by the merchant, not the items purchased. **NOTE:** No wildcards are allowed. Character length and limitations: Must be at least 11 and no more than 25 single-byte numeric characters maximum. Special punctuation, such as dashes or spaces, is ignored.	No
SALUTATION	Buyer's salutation Character length and limitations: 20 single-byte characters	No
FIRSTNAME	Buyer's first name Character length and limitations: 25 single-byte characters	No

TABLE A.12 *TransactionSearch Request Parameters* *(Continued)*

Parameter	Description	Required
MIDDLENAME	Buyer's middle name Character length and limitations: 25 single-byte characters	No
LASTNAME	Buyer's last name Character length and limitations: 2025 single-byte characters	No
SUFFIX	Payer's suffix Character length and limitations: 12 single-byte characters	No
AUCTIONITEMNUMBER	Search by auction item number of the purchased goods	No
TRANSACTIONCLASS	Search by classification of transaction. **NOTE:** Some kinds of possible classes of transactions are not searchable with `this field`. You cannot search for bank transfer withdrawals, for example. ● `All`: all transaction classifications ● `Sent`: only payments sent ● `Received`: only payments received ● `MassPay`: only mass payments ● `MoneyRequest`: only money requests ● `FundsAdded`: only funds added to balance ● `FundsWithdrawn`: only funds withdrawn from balance ● `Referral`: only transactions involving referrals ● `Fee`: only transactions involving fees ● `Subscription`: only transactions involving subscriptions ● `Dividend`: only transactions involving dividends ● `Billpay`: only transactions involving BillPay Transactions ● `Refund`: only transactions involving funds ● `CurrencyConversions`: only transactions involving currency conversions ● `BalanceTransfer`: only transactions involving balance transfers ● `Reversal`: only transactions involving BillPay reversals ● `Shipping`: only transactions involving UPS shipping fees ● `BalanceAffecting`: only transactions that affect the account balance ● `ECheck`: only transactions involving eCheck	No
AMT	Search by transaction amount	No

TABLE A.12 *TransactionSearch Request Parameters* (Continued)

Parameter	Description	Required
STATUS	Search by transaction status: ● `Pending`: The payment is pending. The specific reason the payment is pending is returned by the GetTransactionDetails API `PendingReason` field. ● `Processing`: The payment is being processed. ● `Success`: The payment has been completed and the funds have been added successfully to your account balance. ● `Denied`: You denied the payment. This happens only if the payment was previously pending. ● `Reversed`: 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.	No

TABLE A.13 *TransactionSearch Response Fields*

Field	Description
L_TIMESTAMPn	The date and time (in UTC/GMT format) the transaction occurred These parameters should be ordered sequentially beginning with 0, for example, `L_TIMESTAMP0`, `L_TIMESTAMP1`, and so forth.
L_TIMEZONEn	The time zone of the transaction These parameters should be ordered sequentially beginning with 0, for example, `L_TIMEZONE0`, `L_TIMEZONE1`, and so forth.
L_TYPEn	The type of the transaction These parameters should be ordered sequentially beginning with 0, for example, `L_TYPE0`, `L_TYPE1`, and so forth.
L_EMAILn	The email address of either the payer or the payment recipient (the "payee"). If the payment amount is positive, this field is the recipient of the funds. If the payment is negative, this field is the paying customer. These parameters should be ordered sequentially beginning with 0, for example, `L_EMAIL0`, `L_EMAIL1`, and so forth.
L_NAMEn	Display name of the payer These parameters should be ordered sequentially beginning with 0, for example, `L_NAME0`, `L_NAME1`, and so forth.
L_TRANSACTIONIDn	Seller's transaction ID These parameters should be ordered sequentially beginning with 0, for example, `L_TRANSACTIONID0`, `L_TRANSACTIONID1`, and so forth.
L_STATUSn	The status of the transaction. These parameters should be ordered sequentially beginning with 0, for example, `L_STATUS0`, `L_STATUS1`, and so forth.

TABLE A.13 *TransactionSearch Response Fields (Continued)*

Field	Description
`L_AMTn`	The total gross amount charged, including any profile shipping cost and taxes
	These parameters should be ordered sequentially beginning with 0, for example, `L_AMT0`, `L_AMT1`, and so forth.
`L_FEEAMTn`	The fee that PayPal charged for the transaction
	These parameters should be ordered sequentially beginning with 0, for example, `L_FEEAMT0`, `L_FEEAMT1`, and so forth.
`L_NETAMTn`	The net amount of the transaction
	These parameters should be ordered sequentially beginning with 0, for example, `L_NETAMT0`, `L_NETAMT1`, and so forth.

GetTransactionDetails

TABLE A.14 *GetTransactionDetails Request Parameters*

Parameter	Description	Required?
`METHOD`	Name of the API: `GetTransactionDetails`	Yes
`TRANSACTIONID`	Unique identifier of a transaction.	Yes
	NOTE: The details for some kinds of transactions cannot be retrieved with `GetTransactionDetails`. You cannot obtain details of bank transfer withdrawals, for example.	
	Character length and limitations: 17 single-byte alphanumeric characters	

TABLE A.15 *GetTransactionDetails Response Fields*

Parameter	Description
`RECEIVERBUSINESS`	Email address or account ID of the payment recipient (the seller). Equivalent to `Receiver` if payment is sent to primary account.
	Character length and limitations: 127 single-byte alphanumeric characters
`RECEIVEREMAIL`	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.
	Character length and limitations: 127 single-byte alphanumeric characters
`RECEIVERID`	Unique account ID of the payment recipient (the seller). This value is the same as the value of the recipient's referral ID.

TABLE A.15 *GetTransactionDetails Response Fields* (Continued)

Parameter	Description
EMAIL	Email address of payer Character length and limitations: 127 single-byte characters
PAYERID	Unique customer ID. Character length and limitations: 13 single-byte alphanumeric characters.
PAYERSTATUS	Status of payer's email address: Verified Unverified
FIRSTNAME	Payer's first name Character length and limitations: 25 single-byte characters
LASTNAME	Payer's last name Character length and limitations: 25 single-byte characters
MIDDLENAME	Payer's middle name Character length and limitations: 25 single-byte characters
PAYERBUSINESS	Payer's business name. Character length and limitations: 127 single-byte characters
SHIPTOCOUNTRYCODE	Payment sender's country of residence using standard two-character ISO 3166 country codes. Character length and limitations: Two single-byte characters For the list of country codes, see Appendix F, "Country Codes."
SALUTATION	Payer's salutation Character length and limitations: 20 single-byte characters
SUFFIX	Payer's suffix Character length and limitations: 12 single-byte characters
ADDRESSOWNER	eBay company that maintains this address
ADDRESSSTATUS	Status of the address on file with PayPal: None Confirmed Unconfirmed
SHIPTOCITY	Name of city. Character length and limitations: 120 single-byte alphanumeric characters
SHIPTONAME	Person's name associated with this address. Character length and limitations: 32 single-byte alphanumeric characters
SHIPTOPHONENUM	Phone number associated with this address
SHIPTOZIP	Postal code

TABLE A.15 *GetTransactionDetails Response Fields* (Continued)

Parameter	Description
SHIPTOSTATE	State or province. Character length and limitations: 120 single-byte alphanumeric characters
SHIPTOSTREET	First street address. Character length and limitations: 300 single-byte alphanumeric characters
SHIPTOSTREET2	Second street address. Character length and limitations: 300 single-byte alphanumeric characters
PARENTTRANSACTIONID	Original transaction to which this transaction is related. This field is populated for the following transaction types: ● Reversal ● Capture of an authorized transaction. ● Reauthorization of a transaction. ● Capture of an order. The value of `ParentTransactionID` is the original `OrderID`. ● Authorization of an order. The value of `ParentTransactionID` is the original `OrderID`. ● Capture of an order authorization. ● Void of an order. The value of `ParentTransactionID` is the original `OrderID`. Character length and limitations: 19 single-byte characters
TRANSACTIONID	PayPal transaction identification number Character length and limitations: 19 single-byte characters
RECEIPTID	Receipt ID Character length and limitations: 16 digits in xxxx-xxxx-xxxx-xxxx format
TRANSACTIONTYPE	The type of transaction `cart`: Transaction created by customer via the PayPal Shopping Cart feature. `send-money`: Transaction created by customer from the `Send Money` tab on the PayPal website. `web-accept`: Transaction created by customer via Buy Now, Donation, or Auction Smart Logos. `subscr-*`: Transaction created by customer via Subscription. `eot` means "end of subscription term." `merch-pmt`: preapproved payment. `mass-pay`: Transaction created via MassPay. `virtual-terminal`: Transaction created via merchant virtual terminal.
PAYMENTTYPE	Indicates whether the payment is instant or delayed. Character length and limitations: Seven single-byte characters
ORDERTIME	Date and time of payment
AMT	Full amount of the customer's payment, before transaction fee is subtracted

TABLE A.15 **GetTransactionDetails Response Fields** *(Continued)*

Parameter	Description
FEEAMT	Transaction fee associated with the payment
SETTLEAMT	Amount deposited into the account's primary balance after a currency conversion from automatic conversion through your `Payment Receiving Preferences` or manual conversion through manually accepting a payment. This amount is calculated after fees and taxes have been assessed.
TAXAMT	Amount of tax for transaction
EXCHANGERATE	Exchange rate for transaction
PAYMENTSTATUS	Status of the payment. The status of the payment: • `None`: No status • `Canceled-Reversal`: This means a reversal has been canceled. For example, you won a dispute with the customer, and the funds for the transaction that was reversed have been returned to you. • `Completed`: The payment has been completed, and the funds have been added successfully to your account balance. • `Denied`: You denied the payment. This happens only if the payment was previously pending because of possible reasons described for the PendingReason element. • `Expired`: the authorization period for this payment has been reached. • `Failed`: The payment has failed. This happens only if the payment was made from your customer's bank account. • `Pending`: The payment is pending. See the `PendingReason` field for more information. • `Refunded`: You refunded the payment. • `Reversed`: 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. • `Processed`: A payment has been accepted. • `Voided`: An authorization for this transaction has been voided.

***TABLE A.15** GetTransactionDetails Response Fields (Continued)*

Parameter	Description
PENDINGREASON	**NOTE:** PendingReason is returned in the response only if PaymentStatus is Pending. The reason the payment is pending: • none: No pending reason • address: 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. • echeck: The payment is pending because it was made by an eCheck that has not yet cleared. • intl: 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. • multi-currency: 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. • verify: The payment is pending because you are not yet verified. You must verify your account before you can accept this payment. • other: The payment is pending for a reason other than those listed above. For more information, contact PayPal Customer Service.
REASONCODE	The reason for a reversal if TransactionType is reversal: • none: No reason code • chargeback: A reversal has occurred on this transaction due to a chargeback by your customer. • guarantee: A reversal has occurred on this transaction due to your customer triggering a money-back guarantee. • buyer-complaint: A reversal has occurred on this transaction due to a complaint about the transaction from your customer. • refund: A reversal has occurred on this transaction because you have given the customer a refund. • other: A reversal has occurred on this transaction due to a reason not listed above.
INVNUM	Invoice number you set in the original transaction. Character length and limitations: 127 single-byte alphanumeric characters
CUSTOM	Custom field you set in the original transaction. Character length and limitations: 127 single-byte alphanumeric characters
NOTE	Memo entered by your customer in PayPal Website Payments note field. Character length and limitations: 255 single-byte alphanumeric characters
SALESTAX	Amount of tax charged on payment

TABLE A.15 **GetTransactionDetails Response Fields** *(Continued)*

Parameter	Description
L_DESCn	Item name set by you or entered by the customer. If this was a shopping cart transaction, PayPal appends the number of the item to the HTML item_name variable. For example, item_name1, item_name2, and so forth. Character length and limitations: 127 single-byte alphanumeric characters These parameters should be ordered sequentially beginning with 0, for example, L_DESC0, L_DESC1, and so forth.
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. Character length and limitations: 127 single-byte alphanumeric characters These parameters should be ordered sequentially beginning with 0, for example, L_NUMBER0, L_NUMBER1, and so forth.
L_QTYn	Quantity set by you or entered by the customer. Character length and limitations: no limit These parameters should be ordered sequentially beginning with 0, for example, L_QTY0, L_QTY1, and so forth.
L_AMTn	Cost of item These parameters should be ordered sequentially beginning with 0, for example, L_AMT0, L_AMT1, and so forth.
L_OPTIONSn	PayPal item options for shopping cart These parameters should be ordered sequentially beginning with 0, for example, L_OPTIONS0, L_OPTIONS1, and so forth.
SUBSCRIPTIONID	ID generated by PayPal for the subscriber. Character length and limitations: no limit
SUBSCRIPTIONDATE	Subscription start date
EFFECTIVEDATE	Date when the subscription modification will be effective
RETRYTIME	Date PayPal will retry a failed subscription payment.
USERNAME	Username generated by PayPal and given to subscriber to access the subscription. Character length and limitations: 64 alphanumeric single-byte characters
PASSWORD	Password generated by PayPal and given to subscriber to access the subscription. For security, the value of the password is hashed. Character length and limitations: 128 alphanumeric single-byte characters
RECURRENCES	The number of payment installments that will occur at the regular rate. Character length and limitations: no limit
REATTEMPT	Indicates whether reattempts should occur upon payment failures

TABLE A.15 GetTransactionDetails Response Fields (Continued)

Parameter	Description
RECURRING	Indicates whether regular rate recurs. 1 = Yes
PERIOD	The period of time that the subscriber will be charged. Character length and limitations: no limit
BUYERID	Customer's auction ID
CLOSINGDATE	Auction's close date
MULTIITEM	Counter used for multi-item auction payments

Mass Payment

TABLE A.16 MassPay Parameters

Parameter	Description	Required?
METHOD	Name of the API: MassPay	Yes
RECEIVERTYPE	Indicates how you identify the recipients of payments in all the individual mass payment items: either by EmailAddress (L_EMAIL*n* in the individual item) or by UserID (L_RECEIVERID_*n* in the individual item).	Yes
L_AMT*n*	Payment amount.	Yes
CURRENCYCODE	A three-character currency code for one of the currencies listed in PayPay-Supported Transactional Currencies. Default: USD.	Yes
L_EMAIL*n*	Email address of recipient. **NOTE:** You must specify either L_EMAILn or L_RECEIVERIDn, but you must not mix them. Use only one or the other, but not both, in a single request. Character length and limitations: 127 single-byte characters maximum. These parameters should be ordered sequentially beginning with 0, for example, L_EMAIL0, L_EMAIL1, and so forth.	Depends on RECEIVERTYPE
L_RECEIVERID*n*	Unique PayPal customer account number. This value corresponds to the value of PAYERID returned by GetTransactionDetails. These parameters should be ordered sequentially beginning with 0, for example, L_RECEIVERID0, L_RECEIVERID1, and so forth.	Depends on RECEIVERTYPE

***TABLE A.16** MassPay Parameters (Continued)*

Parameter	Description	Required?
L_UNIQUEID*n*	Transaction-specific identification number for tracking in an accounting system. Character length and limitations: 30 single-byte characters. No whitespace allowed. These parameters should be ordered sequentially beginning with 0, for example, L_UNIQUEID0, L_UNIQUEID1, and so forth.	No
L_NOTE*n*	Custom note for each recipient. Character length and limitations: 4,000 single-byte alphanumeric characters These parameters should be ordered sequentially beginning with 0, for example, L_NOTE0, L_NOTE1, and so forth.	No
EMAILSUBJECT	The subject line of the email that PayPal sends when the transaction is completed. The subject line is the same for all recipients. Character length and limitations: 255 single-byte alphanumeric characters	No

***TABLE A.17** MassPay Response Fields*

The fields in the response are the standard response header fields. See [successResponseHeader].

B Error Message Reference

This chapter contains error messages for the API.

Error Response Format

If the `ACK` value is `Error` or `Warning`, specific API response fields are not returned. An error response has the following general format

TABLE B.1   Format of an Error Response

Response Fields on Error	`ACK=Error&TIMESTAMP=date/timeOfResponse` `&CORRELATIONID=debuggingToken&VERSION=2.300000` `&BUILD=buildNumber&L_ERRORCODE0=errorCode&` `L_SHORTMESSAGE0=shortMessage` `&L_LONGMESSAGE0=longMessage&L_SEVERITYCODE0=severityCode`	Multiple errors can be returned. Each set of errors has a different numeric suffix, starting with 0 and incremented by one for each error.

Validation Errors

TABLE B.1 Validation Errors

Error Code	Short Message	Long Message
81000	Missing Parameter	Required Parameter Missing : Unable to identify parameter
81001	Invalid Parameter	A Parameter is Invalid : Unable to identify parameter
81002	Unspecified Method	Method Specified is not Supported
81003	Unspecified Method	No Method Specified
81004	Unspecified Method	No Request Received
81100	Missing Parameter	OrderTotal (Amt) : Required parameter missing
81101	Missing Parameter	MaxAmt : Required parameter missing
81102	Missing Parameter	ReturnURL: Required parameter missing
81103	Missing Parameter	NotifyURL : Required parameter missing
81104	Missing Parameter	CancelURL : Required parameter missing

TABLE B.1 Validation Errors

Error Code	Short Message	Long Message
81105	Missing Parameter	ShipToStreet : Required parameter missing
81106	Missing Parameter	ShipToStreet2 : Required parameter missing
81107	Missing Parameter	ShipToCity : Required parameter missing
81108	Missing Parameter	ShipToState : Required parameter missing
81109	Missing Parameter	ShipToZip : Required parameter missing
81110	Missing Parameter	Country : Required parameter missing
81111	Missing Parameter	ReqConfirmShipping : Required parameter missing
81112	Missing Parameter	NoShipping : Required parameter missing
81113	Missing Parameter	AddrOverride : Required parameter missing
81114	Missing Parameter	LocaleCode : Required parameter missing
81115	Missing Parameter	PaymentAction : Required parameter missing
81116	Missing Parameter	Email : Required parameter missing
81117	Missing Parameter	Token : Required parameter missing
81118	Missing Parameter	PayerID : Required parameter missing
81119	Missing Parameter	ItemAmt : Required parameter missing
81120	Missing Parameter	ShippingAmt : Required parameter missing
81121	Missing Parameter	HandlingTotal Amt : Required parameter missing
81122	Missing Parameter	TaxAmt : Required parameter missing
81123	Missing Parameter	IPAddress : Required parameter missing
81124	Missing Parameter	ShipToName : Required parameter missing
81125	Missing Parameter	L_Amt : Required parameter missing
81126	Missing Parameter	Amt : Required parameter missing
81127	Missing Parameter	L_TaxAmt : Required parameter missing
81128	Missing Parameter	AuthorizationID : Required parameter missing
81129	Missing Parameter	CompleteType : Required parameter missing
81130	Missing Parameter	CurrencyCode : Required parameter missing
81131	Missing Parameter	TransactionID : Required parameter missing
81132	Missing Parameter	TransactionEntity : Required parameter missing
81133	Missing Parameter	Acct : Required parameter missing
81134	Missing Parameter	ExpDate : Required parameter missing

***TABLE* B.1** *Validation Errors*

Error Code	Short Message	Long Message
81135	Missing Parameter	FirstName : Required parameter missing
81136	Missing Parameter	LastName : Required parameter missing
81137	Missing Parameter	Street : Required parameter missing
81138	Missing Parameter	Street2 : Required parameter missing
81139	Missing Parameter	City : Required parameter missing
81140	Missing Parameter	State : Required parameter missing
81141	Missing Parameter	Zip : Required parameter missing
81142	Missing Parameter	CountryCode : Required parameter missing
81143	Missing Parameter	RefundType : Required parameter missing
81144	Missing Parameter	StartDate : Required parameter missing
81145	Missing Parameter	EndDate : Required parameter missing
81146	Missing Parameter	MPID : Required parameter missing
81147	Missing Parameter	CreditCardType : Required parameter missing
81148	Missing Parameter	User : Required parameter missing
81149	Missing Parameter	Pwd : Required parameter missing
81150	Missing Parameter	Version : Required parameter missing
81200	Invalid Parameter	Amt : Invalid parameter
81201	Invalid Parameter	MaxAmt : Invalid parameter
81203	Invalid Parameter	NotifyURL : Invalid parameter
81205	Invalid Parameter	ShipToStreet : Invalid parameter
81206	Invalid Parameter	ShipToStreet2 : Invalid parameter
81207	Invalid Parameter	ShipToCity : Invalid parameter
81208	Invalid Parameter	ShipToState : Invalid parameter
81209	Invalid Parameter	ShipToZip : Invalid parameter
81210	Invalid Parameter	Country : Invalid parameter
81211	Invalid Parameter	ReqConfirmShipping : Invalid parameter
81212	Invalid Parameter	Noshipping : Invalid parameter
81213	Invalid Parameter	AddrOverride : Invalid parameter
81214	Invalid Parameter	LocaleCode : Invalid parameter
81215	Invalid Parameter	PaymentAction : Invalid parameter

TABLE B.1 Validation Errors

Error Code	Short Message	Long Message
81219	Invalid Parameter	ItemAmt : Invalid parameter
81220	Invalid Parameter	ShippingAmt : Invalid parameter
81221	Invalid Parameter	HandlingTotal Amt : Invalid parameter
81222	Invalid Parameter	TaxAmt : Invalid parameter
81223	Invalid Parameter	IPAddress : Invalid parameter
81224	Invalid Parameter	ShipToName : Invalid parameter
81225	Invalid Parameter	L_Amt : Invalid parameter
81226	Invalid Parameter	Amt : Invalid parameter
81227	Invalid Parameter	L_TaxAmt : Invalid parameter
81229	Invalid Parameter	CompleteType : Invalid parameter
81230	Invalid Parameter	CurrencyCode : Invalid parameter
81232	Invalid Parameter	TransactionEntity : Invalid parameter
81234	Invalid Parameter	ExpDate : Invalid parameter
81235	Invalid Parameter	FirstName : Invalid parameter
81236	Invalid Parameter	LastName : Invalid parameter
81237	Invalid Parameter	Street : Invalid parameter
81238	Invalid Parameter	Street2 : Invalid parameter
81239	Invalid Parameter	City : Invalid parameter
81243	Invalid Parameter	RefundType : Invalid parameter
81244	Invalid Parameter	StartDate : Invalid parameter
81245	Invalid Parameter	EndDate : Invalid parameter
81247	Invalid Parameter	CreditCardType : Invalid parameter
81248	Invalid Parameter	Username : Invalid parameter
81249	Invalid Parameter	Password : Invalid parameter
81250	Invalid Parameter	Version : Invalid parameter
81251	Internal Error	Internal Service Error

General API Errors

TABLE B.2 *General API Errors*

Error Code	Short Message	Long Message	Correcting This Error
10002	Authentication /Authorization Failed	Username/Password is incorrect	This error can be caused by an incorrect API username, an incorrect API password, or an invalid API signature. Make sure that all three of these values are correct. For your security, PayPal does not report exactly which of these three values might be in error.
10002	Authentication /Authorization Failed	You do not have permissions to make this API call	
10002	Authentication /Authorization Failed	Account is locked or inactive	
10002	Internal Error	Internal Error	
10002	Authentication /Authorization Failed	Internal Error	
10002	Authentication /Authorization Failed	Account is not verified	
10002	Authentication /Authorization Failed	This call is not defined in the database!	
10002	Authentication /Authorization Failed	Token is not valid	
10002	Restricted account	Account is restricted	Your PayPal merchant account has been restricted. Contact your PayPal account manager for resolution.

TABLE B.2 General API Errors

Error Code	Short Message	Long Message	Correcting This Error
10002	Authentication /Authorization Failed	Token is not valid	
10002	Authentication /Authorization Failed	API access is disabled for this account	
10002	Authentication /Authorization Failed	Client certificate is disabled	
10002	Restricted account	Account is restricted	

Express Checkout API Errors

TABLE B.3 SetExpressCheckout API Errors

Error Code	Short Message	Long Message	Correcting This Error...
10001	ButtonSource value truncated.	The transaction could not be loaded	
10001	Internal Error	Internal Error	
10004	Transaction refused because of an invalid argument. See additional error messages for details.	Transaction refused because of an invalid argument. See additional error messages for details.	
10004	Transaction refused because of an invalid argument. See additional error messages for details.	The transaction id is not valid	

TABLE B.3 SetExpressCheckout API Errors

Error Code	Short Message	Long Message	Correcting This Error...
10007	Permission denied	You do not have permissions to make this API call	
10102	PaymentAction of Order Temporarily Unavailable	PaymentAction of Order is temporarily unavailable. Please try later or use other PaymentAction.	
10103	Please use another Solution Type.	Your Solution Type is temporarily unavailable. If possible, please use another Solution Type.	
10402	Authorization only is not allowed for merchant.	This merchant account is not permitted to set PaymentAction to Authorization. Please contact Customer Service.	
10404	Transaction refused because of an invalid argument. See additional error messages for details.	ReturnURL is missing.	
10405	Transaction refused because of an invalid argument. See additional error messages for details.	CancelURL is missing.	
10407	Transaction refused because of an invalid argument. See additional error messages for details.	Invalid buyer email address (BuyerEmail).	
10409	You're not authorized to access this info.	Express Checkout token was issued for a merchant account other than yours.	

TABLE B.3 *SetExpressCheckout API Errors*

Error Code	Short Message	Long Message	Correcting This Error...
10410	Invalid token	Invalid token.	
10411	This Express Checkout session has expired.	This Express Checkout session has expired. Token value is no longer valid.	The token returned by `SetExpressCheckout response` expires after three hours. If you attempt to send the `DoExpressCheckoutPayment` after that time, you will receive error code 10411 in the `DoExpressCheckoutPayment response`. If you receive this error, you must return your customer to PayPal to approve the use of PayPal again. Display an error message to inform the customer that the transaction expired, and provide a button to return to PayPal. In this situation, you are effectively restarting the entire checkout process. (Do not reuse the expired token value on `SetExpressCheckout request`.) However, because you already know the final `OrderTotal`, be sure to update the value for that element if appropriate. You might also want to update the values for `ReturnURL` and `CancelURL`, if necessary.

TABLE B.3 *SetExpressCheckout API Errors*

Error Code	Short Message	Long Message	Correcting This Error...
10412	Duplicate invoice	Payment has already been made for this InvoiceID.	PayPal checks that `InvoiceID` values are unique for any particular merchant. If you send an `InvoiceID` value already associated with another transaction in the PayPal system, PayPal returns error code 10412. You might not be able to correct this error during an actual checkout. If you get this error, research why might occur and modify your implementation of Express Checkout to ensure that you generate unique invoice identification numbers.
10415	Transaction refused because of an invalid argument. See additional error messages for details.	A successful transaction has already been completed for this token.	PayPal allows a token only once for a successful transaction. Handling this error If you determine that your customers are clicking your "Place Order" button twice, PayPal recommends that you disable the button after your customer has clicked it.
10425	Express Checkout has been disabled for this merchant.	Express Checkout has been disabled for this merchant. Please contact Customer Service.	
10432	Transaction refused because of an invalid argument. See additional error messages for details.	Invoice ID value exceeds maximum allowable length.	

TABLE B.3 *SetExpressCheckout API Errors*

Error Code	Short Message	Long Message	Correcting This Error...
10433	Transaction refused because of an invalid argument. See additional error messages for details.	Value of OrderDescription element has been truncated.	
10434	Transaction refused because of an invalid argument. See additional error messages for details.	Value of Custom element has been truncated.	
10436	Transaction refused because of an invalid argument. See additional error messages for details.	PageStyle value exceeds maximum allowable length.	
10437	Transaction refused because of an invalid argument. See additional error messages for details.	cpp-header-image value exceeds maximum allowable length.	
10438	Transaction refused because of an invalid argument. See additional error messages for details.	cpp-header-image value exceeds maximum allowable length.	

TABLE B.3 *SetExpressCheckout API Errors*

Error Code	Short Message	Long Message	Correcting This Error...
10439	Transaction refused because of an invalid argument. See additional error messages for details.	cpp-header-image value exceeds maximum allowable length.	
10440	Transaction refused because of an invalid argument. See additional error messages for details.	cpp-header-image value exceeds maximum allowable length.	
10471	Transaction refused because of an invalid argument. See additional error messages for details.	ReturnURL: Invalid parameter	
10472	Transaction refused because of an invalid argument. See additional error messages for details.	CancelURL is invalid.	
10537	Risk Control Country Filter Failure	The transaction was refused because the country was prohibited as a result of your Country Monitor Risk Control Settings.	
10538	Risk Control Max Amount Failure	The transaction was refused because the maximum amount was excceeded as a result of your Maximum Amount Risk Control Settings.	

TABLE B.3 *SetExpressCheckout API Errors*

Error Code	Short Message	Long Message	Correcting This Error...
10539	Payment declined by your Risk Controls settings: PayPal Risk Model.	Payment declined by your Risk Controls settings: PayPal Risk Model.	
10725	Shipping Address Country Error	There was an error in the Shipping Address Country field	
10727	Shipping Address1 Empty	The field Shipping Address1 is required	
10728	Shipping Address City Empty	The field Shipping Address City is required	
10729	Shipping Address State Empty	The field Shipping Address State is required	
10730	Shipping Address Postal Code Empty	The field Shipping Address Postal Code is required	
10731	Shipping Address Country Empty	The field Shipping Address Country is required	
10736	Shipping Address Invalid City State Postal Code	A match of the Shipping Address City, State, and Postal Code failed.	

TABLE B.4 *GetExpressCheckoutDetails API Errors*

Error Code	Short Message	Long Message	Correcting This Error...
10001	Internal Error	Internal Error	
10001	Internal Error	Transaction failed due to internal error	

TABLE B.4 *GetExpressCheckoutDetails API Errors*

Error Code	Short Message	Long Message	Correcting This Error...
10001	ButtonSource value truncated.	The transaction could not be loaded	
10001	ButtonSource value truncated.	The transaction could not be loaded	
10004	Transaction refused because of an invalid argument. See additional error messages for details.	Transaction refused because of an invalid argument. See additional error messages for details.	
10004	Transaction refused because of an invalid argument. See additional error messages for details.	The transaction id is not valid	
10004	Invalid transaction type	You can not get the details for this type of transaction	
10004	Transaction refused because of an invalid argument. See additional error messages for details.	The transaction could not be loaded	
10004	Transaction refused because of an invalid argument. See additional error messages for details.	The transaction id is not valid	

TABLE B.4 *GetExpressCheckoutDetails API Errors*

Error Code	Short Message	Long Message	Correcting This Error...
10007	Permission denied	You do not have permissions to make this API call	
10007	Permission denied	You do not have permission to get the details of this transaction	
10007	Permission denied	You do not have permissions to make this API call	
10408	Express Checkout token is missing.	Express Checkout token is missing.	
10409	You're not authorized to access this info.	Express Checkout token was issued for a merchant account other than yours.	
10410	Invalid token	Invalid token.	
10411	This Express Checkout session has expired.	This Express Checkout session has expired. Token value is no longer valid.	

TABLE B.5 *DoExpressCheckoutPayment API Errors*

Error Code	Short Message	Long Message	Correcting This Error...
10001	Internal Error	Transaction failed due to internal error	
10001	Internal Error	Warning an internal error has occurred. The transaction id may not be correct	
10001	ButtonSource value truncated.	The transaction could not be loaded	
10001	Internal Error	Internal Error	

TABLE B.5 DoExpressCheckoutPayment API Errors

Error Code	Short Message	Long Message	Correcting This Error...
10004	Transaction refused because of an invalid argument. See additional error messages for details.	Transaction refused because of an invalid argument. See additional error messages for details.	
10004	Transaction refused because of an invalid argument. See additional error messages for details.	The transaction id is not valid	
10007	Permission denied	You do not have permissions to make this API call	
10406	Transaction refused because of an invalid argument. See additional error messages for details.	The PayerID value is invalid.	
10408	Express Checkout token is missing.	Express Checkout token is missing.	
10409	You're not authorized to access this info.	Express Checkout token was issued for a merchant account other than yours.	
10410	Invalid token	Invalid token.	
10411	This Express Checkout session has expired.	This Express Checkout session has expired. Token value is no longer valid.	
10412	Duplicate invoice	Payment has already been made for this InvoiceID.	

TABLE B.5 DoExpressCheckoutPayment API Errors

Error Code	Short Message	Long Message	Correcting This Error...
10413	Transaction refused because of an invalid argument. See additional error messages for details.	The totals of the cart item amounts do not match order amounts.	If you include any of the following element values with DoExpressCheckoutPayment, the sum of their values must equal the value of OrderTotal. • ItemTotal • ShippingTotal • HandlingTotal • TaxTotal If you get this error, research why it might have occurred and modify your implementation of Express Checkout to ensure proper addition of the values.
10414	Transaction refused because of an invalid argument. See additional error messages for details.	The amount exceeds the maximum amount for a single transaction.	
10415	Transaction refused because of an invalid argument. See additional error messages for details.	A successful transaction has already been completed for this token.	
10416	Transaction refused because of an invalid argument. See additional error messages for details.	You have exceeded the maximum number of payment attempts for this token.	You can send a maximum of 10 DoExpressCheckoutPayment API calls for any single token value, after which the token becomes invalid.

TABLE B.5 DoExpressCheckoutPayment API Errors

Error Code	Short Message	Long Message	Correcting This Error...
10417	Transaction cannot complete.	The transaction cannot complete successfully. Instruct the customer to use an alternative payment method.	It is possible that the payment method the customer chooses on PayPal might not succeed when you send `DoExpressCheckoutPayment`. The most likely cause is that the customer's credit card failed bank authorization. Another possible, though rare, cause is that the final `OrderTotal` is significantly higher than the original estimated `OrderTotal` you sent with `SetExpressCheckout` at Integration Point 1, and the final `OrderTotal` does not pass PayPal's risk model analysis. If the customer has no other PayPal funding source that is likely to succeed, `DoExpressCheckoutPayment response` returns error code 10417. Instruct the customer that PayPal is unable to process the payment and redisplay alternative payment methods with which the customer can pay.
10418	Transaction refused because of an invalid argument. See additional error messages for details.	The currencies of the shopping cart amounts must be the same.	
10419	Express Checkout PayerID is missing.	Express Checkout PayerID is missing.	
10420	Transaction refused because of an invalid argument. See additional error messages for details.	Express Checkout PaymentAction is missing.	

TABLE B.5 *DoExpressCheckoutPayment API Errors*

Error Code	Short Message	Long Message	Correcting This Error...
10421	This Express Checkout session belongs to a different customer.	This Express Checkout session belongs to a different customer. Token value mismatch.	When your customer logs into PayPal, the PayPal `PayerID` is associated with the Express Checkout token. This error is caused by mixing tokens for two different `PayerID`s. The `Token` and `PayerID` returned for any particular customer by `GetExpressCheckoutDetails` response must be the same ones you send with `DoExpressCheckoutPayment`. Verify that your programs are properly associating the `Token`s and `PayerID`s.
10422	Customer must choose new funding sources.	The customer must return to PayPal to select new funding sources.	It is possible that the payment method the customer chooses on PayPal might not succeed when you send `DoExpressCheckoutPayment` request. If the customer has a different PayPal funding source that is likely to succeed, `DoExpressCheckoutPayment` response returns error code 10422 so you can redirect the customer back to PayPal.
10423	Transaction refused because of an invalid argument. See additional error messages for details.	This transaction cannot be completed with PaymentAction of Authorization.	This error occurs if at Integration Point 1, you set `PaymentAction` to `Sale` with `SetExpressCheckout` request but at Integration Point 3, you set `PaymentAction` to `Authorization` with `DoExpressCheckoutPayment`. PayPal does not allow this switch from `Sale` to `Authorization` in a single checkout session. PayPal does allow the reverse, however. You can set `PaymentAction` to `Authorization` with `SetExpressCheckout` at Integration Point 1 and switch `PaymentAction` to `Sale` with `DoExpressCheckoutPayment` at Integration Point 3.
10424	Transaction refused because of an invalid argument. See additional error messages for details.	Shipping address is invalid.	If you receive this error message, PayPal recommends that you return your customer to PayPal to review and approve new valid funding sources. Although this error is rare, you should consider trapping the error to display a message to the customer describing what happened, along with a button or hyperlink to return to PayPal. For the rules of this calculation, see the chapter about best practices in the *PayPal Express Checkout Integration Guide*.

TABLE B.5 *DoExpressCheckoutPayment API Errors*

Error Code	Short Message	Long Message	Correcting This Error...
10431	Item amount is invalid.	Item amount is invalid.	
10432	Transaction refused because of an invalid argument. See additional error messages for details.	Invoice ID value exceeds maximum allowable length.	
10433	Transaction refused because of an invalid argument. See additional error messages for details.	Value of OrderDescription element has been truncated.	
10434	Transaction refused because of an invalid argument. See additional error messages for details.	Value of Custom element has been truncated.	
10435	Transaction refused because of an invalid argument. See additional error messages for details.	The customer has not yet confirmed payment for this Express Checkout session.	
10441	Transaction refused because of an invalid argument. See additional error messages for details.	The NotifyURL element value exceeds maximum allowable length.	

TABLE B.5 DoExpressCheckoutPayment API Errors

Error Code	Short Message	Long Message	Correcting This Error...
10442	ButtonSource value truncated.	The ButtonSource element value exceeds maximum allowable length.	
10443	Transaction refused because of an invalid argument. See additional error messages for details.	This transaction cannot be completed with PaymentAction of Order.	
10444	Transaction refused because of an invalid argument. See additional error messages for details.	The transaction currency specified must be the same as previously specified.	
10445	This transaction cannot be processed at this time. Please try again later.	This transaction cannot be processed at this time. Please try again later.	
10446	Unconfirmed email	A confirmed email is required to make this API call.	
10474	Invalid Data	This transaction cannot be processed. The country code in the shipping address must match the buyer's country of residence.	The buyer selects the country of residence when they sign up for their PayPal account. The country of residence is displayed after the dash in the title on the Account Overview page.
10537	Risk Control Country Filter Failure	The transaction was refused because the country was prohibited as a result of your Country Monitor Risk Control Settings.	
10538	Risk Control Max Amount Failure	The transaction was refused because the maximum amount was excceeded as a result of your Maximum Amount Risk Control Settings.	

TABLE B.5 *DoExpressCheckoutPayment API Errors*

Error Code	Short Message	Long Message	Correcting This Error...
10539	Payment declined by your Risk Controls settings: PayPal Risk Model.	Payment declined by your Risk Controls settings: PayPal Risk Model.	
10725	Shipping Address Country Error	There was an error in the Shipping Address Country field	
10727	Shipping Address1 Empty	The field Shipping Address1 is required	
10728	Shipping Address City Empty	The field Shipping Address City is required	
10729	Shipping Address State Empty	The field Shipping Address State is required	
10730	Shipping Address Postal Code Empty	The field Shipping Address Postal Code is required	
10731	Shipping Address Country Empty	The field Shipping Address Country is required	
10736	Shipping Address Invalid City State Postal Code	A match of the Shipping Address City, State, and Postal Code failed.	

RefundTransaction API Errors

TABLE B.6 *RefundTransaction API Errors*

Error Code	Short Message	Long Message	Correcting This Error...
10001	Internal Error	Internal Error	
10001	Internal Error	Warning an internal error has occurred. The transaction id may not be correct	
10001	ButtonSource value truncated.	The transaction could not be loaded	
10001	Internal Error	Internal Error	
10004	Transaction refused because of an invalid argument. See additional error messages for details.	The partial refund amount must be a positive amount	
10004	Transaction refused because of an invalid argument. See additional error messages for details.	You can not specify a partial amount with a full refund	
10004	Transaction refused because of an invalid argument. See additional error messages for details.	A transaction id is required	

TABLE B.6 RefundTransaction API Errors

Error Code	Short Message	Long Message	Correcting This Error...
10004	Transaction refused because of an invalid argument. See additional error messages for details.	The partial refund amount must be a positive amount	
10004	Transaction refused because of an invalid argument. See additional error messages for details.	You can not specify a partial amount with a full refund	
10004	Transaction refused because of an invalid argument. See additional error messages for details.	A transaction id is required	
10004	Transaction refused because of an invalid argument. See additional error messages for details.	Transaction class is not supported	
10004	Transaction refused because of an invalid argument. See additional error messages for details.	The transaction id is not valid	
10007	Permission denied	You do not have permission to refund this transaction	

***T*ABLE *B*.6** *RefundTransaction API Errors*

Error Code	Short Message	Long Message	Correcting This Error...
10007	Permission denied	You do not have permissions to make this API call	
10009	Transaction refused	You do not have a verified ACH	This error can be caused by insufficient funds in your PayPal balance to cover the amount of the refund and either your not having yet verified the bank account associated with your PayPal account or your not having any bank account associated with your PayPal account at all. Ensure that you have sufficient funds in your PayPal balance and that you have verified the associated bank account.
10009	Transaction refused	The partial refund amount must be less than or equal to the original transaction amount	
10009	Transaction refused	The partial refund amount must be less than or equal to the remaining amount	
10009	Transaction refused	The partial refund amount is not valid	
10009	Transaction refused	Because a complaint case exists on this transaction, only a refund of the full or full remaining amount of the transaction can be issued	
10009	Transaction refused	You are over the time limit to perform a refund on this transaction	
10009	Transaction refused	Can not do a full refund after a partial refund	
10009	Transaction refused	Account is locked or inactive	
10009	Transaction refused	The partial refund must be the same currency as the original transaction	
10009	Transaction refused	This transaction has already been fully refunded	

TABLE B.6 RefundTransaction API Errors

Error Code	Short Message	Long Message	Correcting This Error...
10009	Transaction refused	Account is restricted	
10009	Transaction refused	You can not refund this type of transaction	
10009	Transaction refused	You can not do a partial refund on this transaction	
10009	Transaction refused	The account for the counterparty is locked or inactive	
10009	Transaction refused	You can not refund this type of transaction	
10011	Invalid transaction id value	Transaction refused because of an invalid transaction id value	
11001	Transaction refused because of an invalid argument. See additional error messages for details.	Transaction class is not supported	

TransactionSearch API Errors

TABLE B.2   TransactionSearch API Errors

Error Code	Short Message	Long Message
10001	Internal Error	Internal Error
10001	ButtonSource value truncated.	The transaction could not be loaded
10003	Transaction refused because of an invalid argument. See additional error messages for details.	Start date is a required parameter

TABLE B.2 TransactionSearch API Errors

Error Code	Short Message	Long Message
10004	Transaction refused because of an invalid argument. See additional error messages for details.	Start date is invalid
10004	Transaction refused because of an invalid argument. See additional error messages for details.	End date is invalid
10004	Transaction refused because of an invalid argument. See additional error messages for details.	Currency is not supported
10004	Transaction refused because of an invalid argument. See additional error messages for details.	Transaction class is not supported
10004	Transaction refused because of an invalid argument. See additional error messages for details.	Receipt id is not valid
10004	Transaction refused because of an invalid argument. See additional error messages for details.	Payer email is invalid
10004	Transaction refused because of an invalid argument. See additional error messages for details.	Auction item id is not valid
10004	Transaction refused because of an invalid argument. See additional error messages for details.	Receiver email is invalid
10004	Transaction refused because of an invalid argument. See additional error messages for details.	You can not search for a transaction id and a receipt id
10004	Transaction refused because of an invalid argument. See additional error messages for details.	Receiver can only be specified for payments you've received

TABLE B.2 ***TransactionSearch API Errors***

Error Code	Short Message	Long Message
10004	Transaction refused because of an invalid argument. See additional error messages for details.	The transaction id is not valid
10007	Permission denied	You do not have permissions to search for this transaction
10007	Permission denied	You do not have permissions to make this API call
11002	Search warning	The number of results were truncated. Please change your search parameters if you wish to see all your results.

GetTransactionDetails API Errors

TABLE B.7 GetTransactionDetails API Errors

Error Code	Short Message	Long Message
10001	Internal Error	Internal Error

MassPay API Errors

TABLE B.8 MassPay API Errors

Error Code	Short Message	Long Message
10001	Invalid account number.	The transaction failed as a result of an invalid credit card number. Check the number or attempt with another card.
10001	Internal Error	Internal Error
10001	Internal Error	The transaction could not be loaded
10001	ButtonSource value truncated.	The transaction could not be loaded

TABLE B.8 MassPay API Errors

Error Code	Short Message	Long Message
10001	Transaction refused because of an invalid argument. See additional error messages for details.	The masspay receiver_type is not a recognizable type
10002	Account locked	The user account is locked
10004	Transaction refused because of an invalid argument. See additional error messages for details.	The number of input records is greater than maximum allowed
10004	Transaction refused because of an invalid argument. See additional error messages for details.	The number of input records is less than or equal to zero
10004	Transaction refused because of an invalid argument. See additional error messages for details.	The note string length exceeds the maximum limit of 4000 characters
10004	Transaction refused because of an invalid argument. See additional error messages for details.	The amount is missing

TABLE B.8 MassPay API Errors

Error Code	Short Message	Long Message
10004	Transaction refused because of an invalid argument. See additional error messages for details.	The currency is missing
10004	Transaction refused because of an invalid argument. See additional error messages for details.	Currency is not supported
10004	Transaction refused because of an invalid argument. See additional error messages for details.	The amount is not a valid number
10004	Transaction refused because of an invalid argument. See additional error messages for details.	The amount exceeds the max limit of a single mass pay item ~1
10004	Transaction refused because of an invalid argument. See additional error messages for details.	The amount is less than or equal to zero

TABLE B.8 MassPay API Errors

Error Code	Short Message	Long Message
10004	Transaction refused because of an invalid argument. See additional error messages for details.	The unique id string length exceeds the maximum limit of 30 characters
10004	Transaction refused because of an invalid argument. See additional error messages for details.	The unique id string contains a space as a character
10004	Transaction refused because of an invalid argument. See additional error messages for details.	The transaction id is not valid
10007	Permission denied	You do not have permissions to make this API call
10301	User not allowed	The user is not allowed to send money through Mass Pay
10303	Restricted account	Account is restricted
10304	Unconfirmed email	The user account has unconfirmed email
10305	Limit Exceeded	The user account needs to have its sending limit removed in order to make a mass payment.
10306	Limit Exceeded	The user's international account needs to have its sending limit removed in order to make a mass payment
10307	Receive only account	The user account is receive only and therefore cannot send payments out

TABLE B.8 MassPay API Errors

Error Code	Short Message	Long Message
10308	Masspay server configuration error	There is some configuration error
10309	Masspay server unavailable	The mass pay server is unavailable
10310	Unable to create payment	Unable to create payments for masspay
10311	Unable to submit payment	Unable to submit payments for masspay
10312	Masspay server error	The masspay server has reported errors
10313	Masspay Invalid Data	The masspay input file includes invalid data
10314	Masspay input parse error	The input to the masspay server is incorrect. Please make sure that you are using a correctly formatted input.
10317	Masspay Invalid Email	The masspay input file includes invalid Email
10320	Internal Error	Internal Error
10321	Insufficient funds	The account does not have sufficient funds to do this masspay
10327	Masspay Invalid UserID	The masspay input file includes invalid UserID

C NVP API Web Samples

This chapter describes the NVP API Web Samples which access the NVP API directly. This section includes the following topics:

Descriptions of the Samples

The web samples consist of the following:

The main page of the samples, index.html or Default.htm, contains links to each sample.

NOTE: We describe the code samples for all programming languages in this section. Language specific filenames are shown as *filename*.*ext*. For example, SetExpressCheckout.*ext* stands for SetExpressCheckout.java, SetExpressCheckout.php, and so forth.

Accepting PayPal in Express Checkout

This sample shows how to use Express Checkout to accept payments using PayPal. Access this sample from the following choices displayed on index.html or Default.htm:

ExpressCheckout - Sale	Do basic checkout with PayPal.
	In the `SetExpressCheckout` request, the `PAYMENTACTION` parameter is set to `Sale`.

The primary files for this sample are:

TABLE *C.1*   *Express Checkout Files*

File	Description
SetExpressCheckout.*ext*	This is the main web page for the Express Checkout sample. The page allows the user to enter amount and currency type. It also accept input variable `paymentType` which becomes the value of the `PAYMENTACTION` parameter. When the user clicks the **Submit** button, ReviewOrder.*ext* is called. Called by index.html or Default.htm. Calls ReviewOrder.*ext*.
ReviewOrder.*ext*	This file is called after the user clicks on a button during the checkout process to use PayPal's Express Checkout. The user logs in to their PayPal account. This file is called twice. On the first pass, the code executes the if statement: `if (! isset ($token))` The code collects transaction parameters from the form displayed by SetExpressCheckout.*ext* then constructs and sends a `SetExpressCheckout` request string to the PayPal server. The `paymentType` variable becomes the `PAYMENTACTION` parameter of the request string. The `RETURNURL` parameter is set to this file; this is how ReviewOrder.*ext* is called twice. On the second pass, the code executes the else statement. On the first pass, the buyer completed the authorization in their PayPal account; now the code gets the payer details by sending a `GetExpressCheckoutDetails` request to the PayPal server. Then the code calls GetExpressCheckoutDetails.*ext*. **N O T E :** Be sure to check the value of `PAYPAL_URL`. The buyer is sent to this URL to authorize payment with their PayPal account. For testing purposes, this should be set to the PayPal sandbox. Called by SetExpressCheckout.*ext*. Calls GetExpressCheckoutDetails.*ext*, CallerService.*ext*, and Display.*ext*.
GetExpressCheckoutDetails.*ext*	This functionality is called after the buyer returns from PayPal and has authorized the payment. Displays the payer details returned by the `GetExpressCheckoutDetails` response and calls DoExpressCheckoutPayment.*ext* to complete the payment authorization. Called by ReviewOrder.*ext*. Calls DoExpressCheckoutPayment.*ext* and CallerService.*ext*.

TABLE C.1 **Express Checkout Files** *(Continued)*

File	Description
DoExpressCheckoutPayment.*ext*	This functionality is called to complete the payment with PayPal and display the result to the buyer.
	The code constructs and sends the `DoExpressCheckoutPayment` request string to the PayPal server.
	Called by GetExpressCheckoutDetails.*ext* and CallerService.*ext*.

Getting Transaction Details

This sample shows how to use the GetTransactionDetails request. Access this sample from the following choice displayed on index.html or Default.htm:

GetTransactionDetails	Gets transaction details for a specific transaction ID.
	The main page displays a text box where the user enters a transaction ID. When the user clicks the **Submit** button, the code constructs an NVP API request to `GetTransactionDetails` and sends it to the PayPal server.

The primary files for this sample are:

TABLE C.2 **Get Transaction Details Files**

File	Description
GetTransactionDetails.*ext*	This is the main page for GetTransactionDetails sample. This page displays a text box where the user enters a transaction ID and a **Submit** button that calls TransactionDetails.*ext*.
	Calls TransactionDetails.*ext*.
TransactionDetails.*ext*	Sends a `GetTransactionDetails` NVP API request to PayPal.
	The code retrieves the transaction ID and constructs the NVP API request string to send to the PayPal server. The request to PayPal uses an API signature.
	After receiving the response from the PayPal server, the code displays the request and response in the browser. If the response was a success, it displays the response parameters. If the response was an error, it displays the errors received.
	Called by GetTransactionDetails.html.

Common Files

The following files are common to the samples.

TABLE C.3   Common Files

File	Description
index.html Default.htm	The main web page with links to each sample. Calls SetExpressCheckout.*ext*, and GetTransactionDetails.html.
sdk.css	Cascading Style Sheet (CSS) used by index.html or Default.htm.
CallerService.*ext*	This is the configuration file for the samples.This file contains the parameters needed to make an API call. The samples come with an API signature for making API calls to the PayPal sandbox. The API signature is described in "Sample API User with API Signature" on page 98. Called by TransactionDetails.*ext*, ReviewOrder.*ext*, and Display.*ext*.
Display.*ext*	Displays request and response parameters. If there is an error, displays request and error parameters. Called by TransactionDetails.*ext*, and DoExpressCheckoutPayment.*ext*.

Sample API User with API Signature

The samples come with an API signature for use with the samples and the PayPal Sandbox. This API signature belongs to the following user:

TABLE C.1 Details of the Sample API Signature

API username	`sdk-three_api1.sdk.com`
API password	`QFZCWN5HZM8VBG7Q`
API signature	`A-IzJhZZjhg29XQ2qnhapuwxIDzyAZQ92FRP5dqBzVesOkzbdUONzmOU`

IMPORTANT: You must protect the API signature values in your implementation. Consider storing these values in a secure location other than your web server document root and setting the file permissions so that only the system user executing your ecommerce application can access it.

The sample code does not store these values securely. *The sample code should never be used in production.*

Samples Using PHP

This section contains information for configuring and running the NVP API Web Samples Using PHP.

Required Software

The following software is required:

TABLE C.4   Required Software

Software	Version	Download Location
PHP with CURL extension enabled	4.4.2 or greater	http://www.php.net/downloads.php
Apache HTTP Server	1.3.17 or greater	http://httpd.apache.org/

You must install and configure PHP with the Apache HTTP Server.

Download and Unzip the Samples

The latest version of the Web Samples are available at https://www.paypal.com/IntegrationCenter/ic_nvp.html.

1. Download the zipfile distribution.

2. Unzip the zipfile to any directory of you choose.

Installing the Samples

Copy the sample folder, `php_nvp_samples`, to the docroot of the Apache HTTP Server. By default docroot is in *datadir*`/htdocs`.

Running the Samples

First, make sure that you have installed the required software and the samples.

You can run the samples by entering the following address in a web browser:

`http://`***name_of_Apache_HTTP_Server:port***`/php_nvp_samples/index.html`

Samples Using Classic ASP

This section contains information for configuring and running the NVP API Web Samples Using Classic ASP.

Required Software

No additional software is required.

Download and Unzip the Samples

The latest version of the Web Samples are available at https://www.paypal.com/IntegrationCenter/ic_nvp.html.

1. Download the zipfile distribution.

2. Unzip the zipfile to any directory of you choose.

Installing the Samples

The samples must be installed in IIS. The samples require IIS version 5.1 or above.

Create a virtual directory named `PayPalClassicAspNvpSamples` in IIS that points to *Samples_Root*.

Running the Samples

First, make sure that you have installed the required software and the samples.

You can run the samples by entering the following address in a web browser:

`http://`***name_of_Server:port***`/PayPalClassicAspNvpSamples/Default.htm`

Samples Using ColdFusion

This section contains information for configuring and running the NVP API Web Samples Using ColdFusion.

Required Software

The following software is required:

TABLE C.5   Supported Standards

Standard	Version	Download Location
ColdFusion	7.x MX	http://www.adobe.com/products/coldfusion/

Download and Unzip the Samples

The latest version of the Web Samples are available at https://www.paypal.com/IntegrationCenter/ic_nvp.html.

1. Download the zipfile distribution.

2. Unzip the zipfile to any directory of you choose.

Installing the Samples

> **NOTE:** The samples assume that ColdFusion is running on Microsoft Windows.

3. Copy the sample folder to your ColdFusion application server web document root, *ColdFusionMX7_root_directory*\wwwroot.

Running the Samples

First, make sure that you have installed the required software and the samples.

You can run the samples by entering the following address in a web browser:

`http://`***name_of_Server:port***`/cf_nvp_samples/index.html`

D The Java SDK

This section describes how to use the Java SDK for the NVP API and includes the following topics:

- "Installing the Java SDK" on page 103
- "Profiles" on page 106
- "Sample Applications" on page 107

Installing the Java SDK

This section details the software and hardware supported and required by the PayPal SDK, installation, and post-installation tasks.

Supported Standards

The PayPal SDK has been verified to work with the following standards.

TABLE D.1 Supported Standards

Standard	Version
Java Runtime Environment	1.4.2 or greater

Supported Human Languages

The PayPal SDK is available in U.S. English.

SDK Version Number

This guide describes PayPal Java SDK version 5.1.1.

Recommended Hardware Configuration

The minimum hardware requirements for using the PayPal SDK in development and test are listed below. Production systems might require more capacity, depending on their expected load.

TABLE D.2   Recommended Hardware Configuration

Component	Minimum Capacity
RAM	256 MB
CPU	Pentium 1 GHz
Disk space	50 MB

Download and Unzip the SDK

The latest version of the PayPal SDK is available at https://www.paypal.com/IntegrationCenter/ic_nvp.html.

1. Download the zipfile distribution.

2. Unzip the zipfile to any directory of you choose.

NOTE: We refer to the directory in which you choose to extract the SDK as: *SDK_root*.

Post-installation Set-up

This section details steps you must take before you start using the PayPal SDK.

Adding SDK JAR Files to CLASSPATH

Before developing applications with the Java SDK, be sure to add the SDK JAR files in *SDK_root*/`lib` to your `CLASSPATH` environment variable.

SDK Directories and Optional Configurations

The Java SDK components are organized into different subdirectories, as shown in Table D.3, "PayPal SDK for Java: Directories and Contents."

TABLE D.3   PayPal SDK for Java: Directories and Contents

Directory	Descrption
cert	PayPal public certificates for Live PayPal and PayPal Sandbox
docs	SDK API documentation
lib	SDK libraries
licenses	License files

TABLE D.3 **PayPal SDK for Java: Directories and Contents** (Continued)

Directory	Descrption
samples	Example code that use the SDK.
src	SDK source code
tools	Third-party applications

Complete SDK and API Class Documentation

Complete Javadoc documentation for all PayPal SDK interfaces, classes, methods, structures, and data types are included with the SDK distribution. To view the documentation, open the following file with your web browser:

SDK_root/docs/index.html

SDK Logging

The PayPal SDK uses log4j public domain logging software. For complete information, see the documentation at http://logging.apache.org/log4j/docs/

Setting Log Levels

Set the value of the level element in SDK_root/lib/log4j.properties.

TABLE D.4 **SDK Logging Levels**

Level	Description
ALL	Same as DEBUG
ERROR	Log only severe errors
INFO	Date/time of API operation, operation name, elapsed time, success or failure indication
DEBUG	Full text of requests and responses and other debugging messages. Because DEBUG logging can degrade the performance of the SDK, be careful about using it for day-to-day operation. **NOTE:** Because requests and responses are asynchronous, the recording of requests and responses might appear out of sequence in the log file.

Logfile Backup

The default size of the SDK log is 10MB. You can set this size larger or smaller with the value of param name="MaxFileSize" in log4j.properties. When the log file reaches its maximum size, a backup file is created and a new logfile begins.

Profiles

Before the SDK can be used, it must know the profile of the user accessing its services. A profile is a collection of information about a merchant or developer who uses the PayPal SDK. An API profile is associated with API Services and includes:

- A PayPal API username and password.

- If you are using API certificates, the path to the API certificate in P12 format and the private key password to that certificate.

- If you are using API signatures, the signature string.

- The optional name of a third-party who authorizes the caller to invoke PayPal APIs on his behalf. This third-party is called a subject

- The PayPal environment for processing API calls: live or sandbox.

An EWP profile is associated with EWP Services includes:

- The path to the merchant's local copy of that public certificate

- The private key password for that public certificate

- The path to a merchant's private key file for digitally signing data

- The URL to which the button form POSTs

- The optional URL of a payment button image. The default is PayPal's standard Buy Now button.

For more information about how EWP works, see the Website Payments Standard Integration Guide, available at
https://www.paypal.com/en_US/pdf/PP_WebsitePaymentsStandard_IntegrationGuide.pdf.

Overview to Profile-related Classes

The primary interfaces and classes for SDK profiles are described in Table D.5, "Interface and Classes for SDK Profiles," on page 106

TABLE D.5   Interface and Classes for SDK Profiles

Interface/Class	Descriptions
APIProfile interface	This interface defines the basic information that PayPal needs to know about a user of the PayPal Web Service APIs. Developers must create an instance of APIProfile for each account that accesses the APIs. For single-merchant developers, only a single APIProfile instance is needed. PayPal provides two implementation classes suitable for the needs of most SDK developers: CertificateAPIProfile and SignatureAPIProfile. However, you are free to write a custom implementation if you need additional functionality the default classes do not offer.

***TABLE* D.5** *Interface and Classes for SDK Profiles* (Continued)

Interface/Class	Descriptions
EWPProfile interface	This interface defines the basic information that PayPal needs to know about a user of PayPal's Encrypted Website Payments (EWP) service. Developers must create an instance of EWPProfile for each account that generates the encrypted button code; for single-merchant users this will just be a single instance). PayPal provides a basic implementation class called DefaultEWPProfile suitable for the needs of most SDK developers. However, you are free to write a custom implementation if you need functionality the default class does not offer.
ProfileFactory class	This class creates both APIProfile and EWPProfile objects. It contains static methods that handle the instantiation and construction of profile objects.
Profiles class	This data class represents all profiles the SDK knows about. It contains two collections, one for APIProfiles and one for EWPProfiles. This class is provided to ProfileHandler to save profile data and returned from ProfileHandler to retrieve profile data.

Sample Applications

The PayPal SDK includes sample applications in the *SDK_root*/`samples` directory. Each subdirectory comes with a README file that explains how to set up the application.

***TABLE* D.6** *PayPal SDK for Java: Sample Code in SDK_root/samples*

Subdirectory	Descrption
`Cert`	API certificates used by the sample applications
`JSP`	JavaScript implementation for Apache Tomcat of the following PayPal APIs: • Express Checkout for final sale and for authorization • TransactionSearch • GetTransactionDetails • RefundTransaction
SampleApp	Native Java application to call `TransactionSearch`, and `GetTransactionDetails`

Sample API User with API Signature

The samples come with an API signature for use with the samples and the PayPal Sandbox. This API signature belongs to the following user:

T*ABLE *D.7 *Details of the Sample API Signature*

API username	sdk-three_api1.sdk.com
API password	QFZCWN5HZM8VBG7Q
API signature	A-IzJhZZjhg29XQ2qnhapuwxIDzyAZQ92FRP5dqBzVesOkzbdUONzmOU

IMPORTANT: You must protect the API signature values in your implementation. Consider storing these values in a secure location other than your web server document root and setting the file permissions so that only the system user executing your ecommerce application can access it.

The sample code does not store these values securely. *The sample code should never be used in production.*

Sample API User with API Certificate

The samples come with an API digital certificate for use with the SDK and the PayPal Sandbox. This certificate belongs to the following user:

T*ABLE *D.8 *Details of the SDK Sample API Certificate*

Location of Certificate	*SDK_root*\samples\Certs\sdk-seller.p12
API Username	sdk-seller_api1.sdk.com
API Password	12345678
PKCS12 Passphrase	password

IMPORTANT: You must protect the API Certificate values in your implementation. Consider storing these values in a secure location other than your web server document root and setting the file permissions so that only the system user executing your ecommerce application can access it.

The sample code does not store these values securely. *The sample code should never be used in production.*

E The ASP.NET SDK

This section describes how to use the ASP.NET SDK for the NVP API and includes the following topics:

- "Installing the ASP.NET SDK" on page 109
- "Profiles" on page 113
- "Sample Applications" on page 115

Installing the ASP.NET SDK

This section details the software and hardware supported and required by the PayPal SDK, installation, and post-installation tasks.

Supported Standards

The PayPal SDK has been verified to work with the following standards.

TABLE E.1   Supported Standards

Standard	Version
Microsoft .NET Framework	1.1, Service Pack 1

Supported Human Languages

The PayPal SDK is available in U.S. English.

SDK Version Number

This guide describes PayPal ASP.NET SDK version 5.1.1.

Minimum Hardware Requirements

The following table lists the minimum hardware requirements for using the PayPal SDK in development and test. Production systems might require more capacity, depending on their expected load.

TABLE E.2   Minimum System Hardware Requirements

Component	Minimum Capacity
RAM	256 MB
CPU	Pentium 1 GHz
Disk space	50 MB

Required: Microsoft .NET Framework 1.1, Service Pack 1

IMPORTANT: The PayPal SDK requires Service Pack 1 for Microsoft .NET Framework 1.1. You can get Service Pack 1 from the Microsoft web site.

Downloading and Installing the SDK

The latest version of the PayPal SDK is available at https://www.paypal.com/IntegrationCenter/ic_nvp.html. You can download either a self-extracting installation program or a zipfile distribution.

The installation is straightforward and requires no special instruction. You have the option to install the SDK source, if you like.

Post-installation Set-up

This section details steps to take before you start using the PayPal SDK.

Referencing the SDK DLLs

Before developing applications with the SDK, be sure to add references in your ASP.NET projects to the SDK dynamic load libraries (DLLs) in *SDK_root*\bin.

Installing the Samples

The SDK comes with sample applications for your study and use. These samples can be installed in Microsoft Internet Information Server (IIS). For more information about the samples, see "Sample Applications" on page 115. For more information about installing in IIS, see "Installing the Samples in IIS" on page 116.

SDK Directories and Optional Configurations

The SDK components are organized into different subdirectories, as shown in Table E.3, "PayPal SDK Directories and Contents."

TABLE E.3   PayPal SDK Directories and Contents

Directory	Descrption
bin	Compiled SDK DLLs
docs	Ndoc class documentation and SDK guide
samples\ASPNET	Example code that use the SDK, in subdirectories
samples\cert	sdk-seller.p12 API certificate for API user sdk-seller_api1.sdk.com
src	Visual Studio project files and SDK source files. This folder is present only if you installed the source of the SDK.

Optional Custom Configurations in Web.config

You can add optional custom settings to the Web.config file.

Adding PayPal Settings

First, add a <section name="paypal"> tag, as shown below. The section must be enclosed in <configSections> that comes immediately after the top-level <configuration> tag.

```
<configuration>
    <configSections>
       <section name="paypal"
         type="com.paypal.sdk.core.ConfigSectionHandler, paypal_base"/>
    <configSections>
```

The optional custom settings themselves are in a <paypal> block later in the file:

```
<paypal>
     ... custom settings ...
</paypal>
```

SDK Logging

The PayPal SDK uses log4net public domain logging software. For information about log4net, see the log4net documentation at
http://logging.apache.org/log4net/release/manual/introduction.html.

This section describes SDK logging levels, in which configuration files you set the desired level, and request logging.

Log Levels

The SDK varies the amount of detail it records according to four

logging levels.

TABLE E.4   SDK Logging Levels

Level	Description
ALL	Same as DEBUG
ERROR	Log only severe errors
INFO	Date/time of API operation, operation name, elapsed time, success or failure indication
DEBUG	Full text of requests and responses and other debugging messages. DEBUG logging can degrade the performance of the SDK. Be careful about using it for day-to-day operation. **NOTE:** Because requests and responses are asynchronous, the recording of requests and responses might appear out of sequence in the log file.

Setting SDK Log Levels

To enable logging for your SDK-based web applications, add the following lines inside the `<configuration>` block of the `Web.config` file. You can copy these lines from the *SDK_root*`\samples\ASPNET\Web.config` file.

- You might want to change the value of the `file` element to write log records to a location you prefer.

- Set the value of the `level` element to the desired detail described in Table E.4, "SDK Logging Levels."

```
<configSections>
    <section name="log4net"
     type="log4net.Config.Log4NetConfigurationSectionHandler,log4net"/>
</configSections>
<log4net>
    <appender name="PAYPALLOGFILE"
type="log4net.Appender.RollingFileAppender">
        <file value="logs/paypal.sdk.log" />
        <appendToFile value="true" />
        <encoding value="UTF-8" />
        <rollingStyle value="5" />
        <maxSizeRollBackups value="10" />
        <maximumFileSize value="10MB" />
        <staticLogFileName value="true" />
        <layout type="log4net.Layout.PatternLayout">
           <conversionPattern
               value="%d{dd MMM yyyy HH:mm:ss} %-5p [%C{1}] %m%n" />
        </layout>
    </appender>
```

```
<logger name="com.paypal.sdk">
        <level value="ALL" />
        <appender-ref ref="PAYPALLOGFILE" />
    </logger>
</log4net>
```

Enabling Proxy Support

If your application is behind a proxy server, you must enable proxy support in the `Web.config` file. For details on how to use the `system.net` element in the `Web.config` file, please refer to Configuring Internet Applications in the MSDN Library.

Uninstalling the SDK

To uninstall the SDK, use the Microsoft Windows control panel **Add/Remove Programs**.

Complete SDK and API Class Documentation

Complete Microsoft .NET Ndoc documentation for all PayPal SDK interfaces, classes, methods, structures, and data types are included with the SDK distribution. To view the documentation, open the following file with your web browser:

`SDK_root/docs/PayPalBaseAPI.chm`

Profiles

Before the SDK can be used, it must know the profile of the user accessing its services. A profile is a collection of information about a merchant or developer who uses the PayPal SDK. An API profile is associated with API Services and includes:

- A PayPal API username and password.
- If you are using API certificates, the path to the API certificate in P12 format and the private key password to that certificate.
- If you are using API signatures, the signature string.
- The optional name of a third-party who authorizes the caller to invoke PayPal APIs on his behalf. This third-party is called a subject.
- The PayPal environment for processing API calls: live or sandbox.

An EWP profile is associated with EWP Services includes:

- The path to the merchant's local copy of that public certificate
- The private key password for that public certificate
- The path to a merchant's private key file for digitally signing data

- The URL to which the button form POSTs

- The optional URL of a payment button image. The default is PayPal's standard Buy Now button.

For more information about how EWP works, see the Website Payments Standard Integration Guide, available at
https://www.paypal.com/en_US/pdf/PP_WebsitePaymentsStandard_IntegrationGuide.pdf.

Overview to Profile-related Classes

The primary interfaces and classes for SDK profiles are described in Table E.5, "Summary of ASP.NET SDK Profile-related Interfaces and Classes."

TABLE E.5   *Summary of ASP.NET SDK Profile-related Interfaces and Classes*

Interface/Class	Description
`IAPIProfile` interface	This interface defines the basic information that PayPal needs to know about a user of the PayPal Web Service APIs. Developers must create an instance of IAPIProfile for each account that accesses the APIs. For single-merchant developers, only a single IAPIProfile instance is needed. PayPal provides a default implementation class called DefaultAPIProfile suitable for the needs of most SDK developers. However, you are free to write a custom implementation if you need additional functionality the default class does not offer.
`ProfileFactory` class	This class creates the IAPIProfile object. It contains static methods that handle the instantiation and construction of profile objects.
EWPProfile interface	This interface defines the basic information that PayPal needs to know about a user of PayPal's Encrypted Website Payments (EWP) service. Developers must create an instance of EWPProfile for each account that generates the encrypted button code; for single-merchant users this will just be a single instance). PayPal provides a basic implementation class called DefaultEWPProfile suitable for the needs of most SDK developers. However, you are free to write a custom implementation if you need functionality the default class does not offer.

Sample Applications

The PayPal SDK includes sample applications in the *SDK_root*\samples\ASPNET folder. The samples\ASPNET folder is divided into subfolders by products.

TABLE E.6 **Samples by Product**

Subfolder in SDK_Root\samples\ASPNET	Products
	GetTransactionDetails
	MassPay
	RefundTransaction
	TransactionSearch
wppro	Express Checkout

Sample API User with API Signature

The samples come with an API signature for use with the samples and the PayPal Sandbox. This API signature belongs to the following user:

TABLE E.7 **Details of the Sample API Signature**

API username	sdk-three_api1.sdk.com
API password	QFZCWN5HZM8VBG7Q
API signature	A-IzJhZZjhg29XQ2qnhapuwxIDzyAZQ92FRP5dqBzVesOkzbdUONzmOU

IMPORTANT: You must protect the API signature values in your implementation. Consider storing these values in a secure location other than your web server document root and setting the file permissions so that only the system user executing your ecommerce application can access it.

The sample code does not store these values securely. *The sample code should never be used in production.*

Sample API User with API Certificate

The samples come with an API digital certificate for use with the SDK and the PayPal Sandbox. This certificate belongs to the following user:

TABLE E.8   *Details of the SDK Sample API Certificate*

Location of Certificate	*SDK_root*\samples\Certs\sdk-seller.p12
API Username	sdk-seller_api1.sdk.com
API Password	12345678
PKCS12 Passphrase	password

IMPORTANT: You must protect the API Certificate values in your implementation. Consider storing these values in a secure location other than your web server document root and setting the file permissions so that only the system user executing your ecommerce application can access it.

The sample code does not store these values securely. *The sample code should never be used in production.*

Installing the Samples in IIS

NOTE: Be sure you are logged in as an administrator, IIS running, and WinHttpCertCfg.exe is in your PATH.

To install the samples in Microsoft IIS:

1. Run *SDK_root*\samples\ASPNET\InstallSample.bat.

2. To enable logging, change the permissions on the *localComputerName*\ASPNET folder to Full Control.

   InstallSample.bat does the following:
   – Creates a virtual directory named PaypalASPNETSample in IIS that points to *SDK_root*\samples\ASPNET.
   – Loads the sample API certificate *SDK_root*\samples\Certs\sdk-seller.p12 into the Microsoft Windows system store.
   – Uses the WinHttpCertCfg.exe command to grant unlimited access for account Everyone to that certificate.

Running the Samples

To run the samples, in Internet Explorer, open http://localhost/PaypalASPNETSamples.

F Country Codes

Table 1: Country Codes

Country	Code
AFGHANISTAN	AF
ÅLAND ISLANDS	AX
ALBANIA	AL
ALGERIA	DZ
AMERICAN SAMOA	AS
ANDORRA	AD
ANGOLA	AO
ANGUILLA	AI
ANTARCTICA	AQ
ANTIGUA AND BARBUDA	AG
ARGENTINA	AR
ARMENIA	AM
ARUBA	AW
AUSTRALIA	AU
AUSTRIA	AT
AZERBAIJAN	AZ
BAHAMAS	BS
BAHRAIN	BH
BANGLADESH	BD
BARBADOS	BB

Country	Code
BELARUS	BY
BELGIUM	BE
BELIZE	BZ
BENIN	BJ
BERMUDA	BM
BHUTAN	BT
BOLIVIA	BO
BOSNIA AND HERZEGOVINA	BA
BOTSWANA	BW
BOUVET ISLAND	BV
BRAZIL	BR
BRITISH INDIAN OCEAN TERRITORY	IO
BRUNEI DARUSSALAM	BN
BULGARIA	BG
BURKINA FASO	BF
BURUNDI	BI
CAMBODIA	KH
CAMEROON	CM
CANADA	CA
CAPE VERDE	CV
CAYMAN ISLANDS	KY
CENTRAL AFRICAN REPUBLIC	CF
CHAD	TD

Country	Code	Country	Code
CHILE	CL	FALKLAND ISLANDS (MALVINAS)	FK
CHINA	CN	FAROE ISLANDS	FO
CHRISTMAS ISLAND	CX	FIJI	FJ
COCOS (KEELING) ISLANDS	CC	FINLAND	FI
COLOMBIA	CO	FRANCE	FR
COMOROS	KM	FRENCH GUIANA	GF
CONGO	CG	FRENCH POLYNESIA	PF
CONGO, THE DEMOCRATIC REPUBLIC OF THE	CD	FRENCH SOUTHERN TERRITORIES	TF
COOK ISLANDS	CK	GABON	GA
COSTA RICA	CR	GAMBIA	GM
COTE D'IVOIRE	CI	GEORGIA	GE
CROATIA	HR	GERMANY	DE
CUBA	CU	GHANA	GH
CYPRUS	CY	GIBRALTAR	GI
CZECH REPUBLIC	CZ	GREECE	GR
DENMARK	DK	GREENLAND	GL
DJIBOUTI	DJ	GRENADA	GD
DOMINICA	DM	GUADELOUPE	GP
DOMINICAN REPUBLIC	DO	GUAM	GU
ECUADOR	EC	GUATEMALA	GT
EGYPT	EG	GUERNSEY	GG
EL SALVADOR	SV	GUINEA	GN
EQUATORIAL GUINEA	GQ	GUINEA-BISSAU	GW
ERITREA	ER	GUYANA	GY
ESTONIA	EE	HAITI	HT
ETHIOPIA	ET		

Country	Code	Country	Code
HEARD ISLAND AND MCDONALD ISLANDS	HM	LATVIA	LV
HOLY SEE (VATICAN CITY STATE)	VA	LEBANON	LB
		LESOTHO	LS
HONDURAS	HN	LIBERIA	LR
HONG KONG	HK	LIBYAN ARAB JAMAHIRIYA	LY
HUNGARY	HU	LIECHTENSTEIN	LI
ICELAND	IS	LITHUANIA	LT
INDIA	IN	LUXEMBOURG	LU
INDONESIA	ID	MACAO	MO
IRAN, ISLAMIC REPUBLIC OF	IR	MACEDONIA, THE FORMER YUGOSLAV REPUBLIC OF	MK
IRAQ	IQ	MADAGASCAR	MG
IRELAND	IE	MALAWI	MW
ISLE OF MAN	IM	MALAYSIA	MY
ISRAEL	IL	MALDIVES	MV
ITALY	IT	MALI	ML
JAMAICA	JM	MALTA	MT
JAPAN	JP	MARSHALL ISLANDS	MH
JERSEY	JE	MARTINIQUE	MQ
JORDAN	JO	MAURITANIA	MR
KAZAKHSTAN	KZ	MAURITIUS	MU
KENYA	KE	MAYOTTE	YT
KIRIBATI	KI	MEXICO	MX
KOREA, DEMOCRATIC PEOPLE'S REPUBLIC OF	KP	MICRONESIA, FEDERATED STATES OF	FM
KOREA, REPUBLIC OF	KR	MOLDOVA, REPUBLIC OF	MD
KUWAIT	KW	MONACO	MC
KYRGYZSTAN	KG	MONGOLIA	MN
LAO PEOPLE'S DEMOCRATIC REPUBLIC	LA	MONTSERRAT	MS

Country	Code	Country	Code
MOROCCO	MA	PHILIPPINES	PH
MOZAMBIQUE	MZ	PITCAIRN	PN
MYANMAR	MM	POLAND	PL
NAMIBIA	NA	PORTUGAL	PT
NAURU	NR	PUERTO RICO	PR
NEPAL	NP	QATAR	QA
NETHERLANDS	NL	REUNION	RE
NETHERLANDS ANTILLES	AN	ROMANIA	RO
NEW CALEDONIA	NC	RUSSIAN FEDERATION	RU
NEW ZEALAND	NZ	RWANDA	RW
NICARAGUA	NI	SAINT HELENA	SH
NIGER	NE	SAINT KITTS AND NEVIS	KN
NIGERIA	NG	SAINT LUCIA	LC
NIUE	NU	SAINT PIERRE AND MIQUELON	PM
NORFOLK ISLAND	NF	SAINT VINCENT AND THE GRENADINES	VC
NORTHERN MARIANA ISLANDS	MP	SAMOA	WS
NORWAY	NO	SAN MARINO	SM
OMAN	OM	SAO TOME AND PRINCIPE	ST
PAKISTAN	PK	SAUDI ARABIA	SA
PALAU	PW	SENEGAL	SN
PALESTINIAN TERRITORY, OCCUPIED	PS	SERBIA AND MONTENEGRO	CS
		SEYCHELLES	SC
PANAMA	PA	SIERRA LEONE	SL
PAPUA NEW GUINEA	PG	SINGAPORE	SG
PARAGUAY	PY	SLOVAKIA	SK
PERU	PE	SLOVENIA	SI

Country	Code	Country	Code
SOLOMON ISLANDS	SB	UGANDA	UG
SOMALIA	SO	UKRAINE	UA
SOUTH AFRICA	ZA	UNITED ARAB EMIRATES	AE
SOUTH GEORGIA AND THE SOUTH SANDWICH ISLANDS	GS	UNITED KINGDOM	GB
		UNITED STATES	US
SPAIN	ES	UNITED STATES MINOR OUTLYING ISLANDS	UM
SRI LANKA	LK		
SUDAN	SD	URUGUAY	UY
SURINAME	SR	UZBEKISTAN	UZ
SVALBARD AND JAN MAYEN	SJ	VANUATU	VU
SWAZILAND	SZ	VENEZUELA	VE
SWEDEN	SE	VIET NAM	VN
SWITZERLAND	CH	VIRGIN ISLANDS, BRITISH	VG
SYRIAN ARAB REPUBLIC	SY	VIRGIN ISLANDS, U.S.	VI
TAIWAN, PROVINCE OF CHINA	TW	WALLIS AND FUTUNA	WF
TAJIKISTAN	TJ	WESTERN SAHARA	EH
TANZANIA, UNITED REPUBLIC OF	TZ	YEMEN	YE
		ZAMBIA	ZM
THAILAND	TH	ZIMBABWE	ZW
TIMOR-LESTE	TL		
TOGO	TG		
TOKELAU	TK		
TONGA	TO		
TRINIDAD AND TOBAGO	TT		
TUNISIA	TN		
TURKEY	TR		
TURKMENISTAN	TM		
TURKS AND CAICOS ISLANDS	TC		
TUVALU	TV		

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