



Recurring Payments API Overview

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Recurring Payments API Overview

Document Number: 10045S.en_US-200704

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Preface

This Document

This document describes PayPal's Recurring Payments API.

NOTE: The Recurring Payments API is one of several ways of implementing recurring billing using PayPal. For more information about recurring billing using Website Payments Standard, refer to the document *Subscriptions and Recurring Payments*. For more information about using recurring billing for PayFlow Link or PayFlow Pro, see *Payflow Pro – Recurring Billing Service User's Guide*

Intended Audience

This document is written for developers who want to implement recurring payments using either PayPal's SOAP or NVP API interface.

Related PayPal Documentation

This manual relies on some information in other PayPal documentation. Obtain a copy of the following manuals:

- PayPal SOAP API Reference
- PayPal Name-Value Pair API Developer Guide and Reference
- Subscriptions and Recurring Payments
- Payflow Pro – Recurring Billing Service User's Guide

Notational Conventions

This document uses typefaces to identify the characteristics of text. These typefaces and the characteristics they imply are described below:

Typeface	How Used
serif italics	<p>A document title.</p> <p>A term being discussed or defined. For example: A file is a readable or writable stream of characters ...</p> <p>Boolean values (not keywords). For example: The function returns true if it encounters an error.</p>
monospaced	<p>Pathnames or file names that appear in body text frames.</p> <p>Code-related names that appear in body text frames. Such names are used for functions, callbacks, arguments, data structures, and fields. For example: <code>AbstractResponseType</code> is the SOAP response type definition on which all PayPal API response methods are based.</p> <p>Components of Internet protocol requests and responses, such as HTTPS and FORM variables. For example: The PayPal system uses a <code>method=POST</code> request to return IPN status variables related to subscriptions, such as <code>txn_type</code>.</p>
Serif bold	<p>User interface names, such as window names or menu selections. For example: On the Profile page, click Email to confirm your email address.</p>
San-serif oblique	<p>Placeholders used in the context of a format or programming standard or formal descriptions of PayPal system syntax. Placeholders indicate values or names that the reader should provide. Example: For example, <code>amount</code> is the variable for a single-item shopping cart, but <code>amount_X</code> is the name of the variable for a multi-item shopping cart. <code>amount_3</code> is the item amount for the third item in a multiple-item shopping cart.</p>

To convey additional information, this document may also apply color and underlining to words or phrases that use the typefaces described above. Such use is described below:

Text attribute	How Used
xxxxxx	Hypertext link to a page in the current document or to another document in the set.
xxxxxx	Hypertext link to a URL or that initiates a web action, such as sending mail.

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4. Complete the form.

Revision History

Revision history for this document..

TABLE P. 1 Revision History

Date	Description
April 2007	Initial version of document.



1

Recurring Payments API

The Recurring Payments API enables you to bill a customer for a fixed amount of money on a fixed schedule. The buyer signs up for recurring payments during checkout from your site. Consider the following examples:

- A buyer purchases a subscription to a magazine or newsletter from your site and agrees to pay a monthly fee.
- A buyer agrees to pay an Internet Service Provider a flat fee on a semi-annual basis to host a website.

These examples represent payment transactions that reoccur periodically and are for a fixed amount.

NOTE: The Recurring Payments API is not the same as Subscriptions and Recurring Billing available for Website Payments Standard, or the Recurring Billing available for PayFlow Link or PayFlow Pro. See *Subscriptions and Recurring Payments* and *Payflow Pro – Recurring Billing Service User’s Guide* for more information on these products.

The Recurring Payments API is available using both the SOAP or Name/Value Pair (NVP) API Interfaces. For API details, refer to the *SOAP API Reference* or the *Name-Value Pair API Developer Guide and Reference*.

Overview

You create recurring payments by calling the Recurring Payments API during the checkout flow from your website.

When you create a recurring payment for a buyer, you create a recurring payments profile. A profile contains information about the recurring payment, including details for an optional trial period and a payment period.

Each period contains information about the payment frequency and payment amounts, including shipping and tax, if applicable.

After a profile is created, PayPal automatically queues payments based on the billing start date, billing frequency, and billing amount, until the profile either expires or is cancelled by the buyer or merchant.

Either the buyer or the merchant can view recurring payments details or cancel the recurring payments profile from their respective PayPal account. You can access recurring payment reports using the PayPal Merchant Reporting Portal.

Limitations

The current release has the following limitations on recurring payments using the Recurring Payments API:

- A profile can only have a single trial period and a single payment period.
- Items that require recurring and non-recurring payments cannot be mixed in the buyer's shopping cart.
- Only one recurring payment can be created during checkout.
- You cannot modify or cancel a recurring payment profile using the Recurring Payments API.

Creating a Recurring Payment

The following diagram illustrates the typical processing flow to create a recurring payment during checkout. The numbered steps in the figure are detailed in [Table 1.1](#).

FIGURE 1.1 Recurring Payments Processing Flow

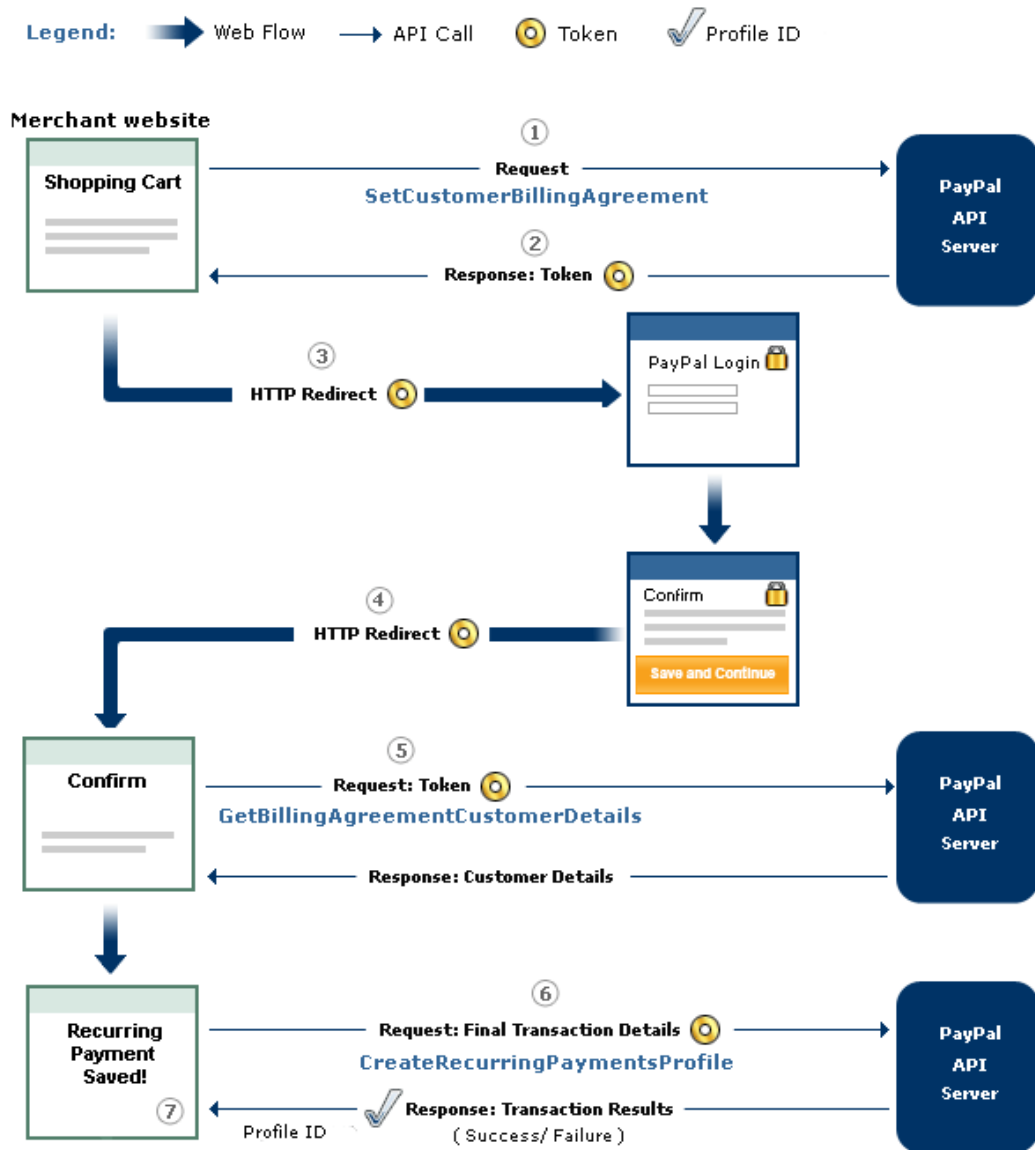


TABLE 1.1 Recurring Payments Processing Flow

Step	Merchant...	PayPal...
1	Calls <code>SetCustomerBillingAgreement</code> with the billing type set to <code>RecurringPayment</code> to initiate recurring payments transaction	
2		Returns a token to the merchant identifying the transaction.

TABLE 1.1 Recurring Payments Processing Flow

Step	Merchant...	PayPal...
3	Redirects customer's browser to: https://www.paypal.com/cgi-bin/webscr?cmd=_customer-billing-agreement&token=<token returned by SetCustomerBillingAgreement>	Displays login page. Allows user to modify shipping address.
4		Redirects customer's browser to successURL passed to SetCustomerBillingAgreement.
5	Call GetBillingAgreementCustomerDetails to get customer information (optional).	Returns GetBillingAgreementCustomerDetails response.
	Displays review page for customer.	
6	Calls CreateRecurringPaymentsProfile.	Returns ProfileID in CreateRecurringPaymentsProfile response if profile successfully created.
7	Displays successful transaction page.	

Initiating the Processing Flow with SetCustomerBillingAgreement

The SetCustomerBillingAgreement request notifies PayPal that you are initiating a recurring payments transaction with your customer.

You must always include the following parameters in the SetCustomerBillingAgreement request:

TABLE 1.2 SetCustomerBillingAgreement Required Fields

SOAP	NVP
BillingType	BILLINGTYPE
ReturnURL	RETURNURL
CancelURL	CANCELURL

Table 1.3 shows a sample request and response for SetCustomerBillingAgreement using the NVP API. The SetCustomerBillingAgreement response provides a token that uniquely identifies the transaction for later redirects and API calls.

TABLE 1.3 SetCustomerBillingAgreement Request and Response (NVP)

Request	<i>[requiredSecurityParameters]</i> &METHOD=SetCustomerBillingAgreement&BILLINGTYPE=RecurringPayments&RETURNURL=https://www.anycompany.com/orderprocessing/orderreview.html&CANCELURL=https://www.anycompany.com/orderprocessing/shippinginfo.html&
Response	<i>[successResponseFields]</i> &TOKEN=RP-6WV965525F6410539

Specifying a Custom Payment Page Style

You can set the Custom Payment Page Style for the PayPal pages by setting the PAGESTYLE parameter in SetCustomerBillingAgreement. Set PAGESTYLE to one of the Page Style Names you defined in your Custom Payment Pages on https://www.paypal.com. After you log in, select Profile and then select Custom Payment Pages.

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

TABLE 1.4 Specifying a Custom Payment Page Style

Request	<i>[requiredSecurityParameters]</i> &METHOD=SetCustomerBillingAgreement&BILLINGTYPE=RecurringPayments&RETURNURL=https://www.anycompany.com/orderprocessing/orderreview.html&CANCELURL=https://www.anycompany.com/orderprocessing/shippinginfo.html&PAGESTYLE=DesignerFotos-Yellow
Response	<i>[successResponseFields]</i> &TOKEN=RP-6WV965525F6410539

Specifying Logo and Color Settings

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

- 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

TABLE 1.5 Specifying Logo and Color Settings Individually (NVP)

Request	<code>[requiredSecurityParameters]&METHOD=SetCustomerBillingAgreement&BILLINGTYPE=RecurringPayments&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</code>
Response	<code>[successResponseFields]&TOKEN=RP-6WV965525F6410539</code>

Redirecting the Customer's Browser to PayPal

After you receive a successful response from `SetCustomerBillingAgreement`, add the `TOKEN` from the `SetCustomerBillingAgreement` 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=_customer-billing-agreement&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.

Getting Payer Details Using `GetBillingAgreementCustomerDetails`

The `GetBillingAgreementCustomerDetails` method returns information about the customer, including name and address stored on PayPal. You can optionally call this API after PayPal redirects the customer's browser to the `ReturnURL` you specified in the `SetCustomerBillingAgreement` request.

NOTE: Calling `GetBillingAgreementCustomerDetails` is optional.

The `GetBillingAgreementCustomerDetails` request has one required parameter, `TOKEN`, which is the value returned in the `SetCustomerBillingAgreement` response.

The `GetBillingAgreementCustomerDetails` response contains this `TOKEN` and customer details.

TABLE 1.6 Getting Payer Details (NVP)

Request	<code>[requiredSecurityParameters]&METHOD=GetBillingAgreementCustomerDetails&TOKEN=RP-6WV965525F6410539</code>
---------	--

```
[successResponseFields]&TOKEN=RP-6WV965525F6410539&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&
Response ADDRESSSTATUS=Confirmed
```

Completing the Transaction with CreateRecurringPaymentsProfile

After your customer has confirmed the transaction on your confirmation page, call `CreateRecurringPaymentsProfile` to create the profile and complete the transaction.

IMPORTANT: The recurring payment transaction is not completed until you call `CreateRecurringPaymentsProfile`.

You must always include the required parameters in the `CreateRecurringPaymentsProfile` request.

TABLE 1.7 Fields for `CreateRecurringPaymentsProfile`

SOAP	NVP
Required	
Token	TOKEN
RecurringPaymentProfileDetails.BillingStartDate	PROFILESTARTDATE
ScheduleDetails.PaymentPeriod.BillingPeriod	BILLINGPERIOD
ScheduleDetails.PaymentPeriod.BillingFrequency	BILLINGFREQUENCY
ScheduleDetails.PaymentsPeriod.Amount	AMT
Optional	
ScheduleDetails.PaymentsPeriod.TotalBillingCycles	TOTALBILLINGCYCLES
ScheduleDetails.PaymentsPeriod.ShippingAmt	SHIPPINGAMT
ScheduleDetails.PaymentsPeriod.TaxAmt	TAXAMT
ScheduleDetails.MaxFailedPayments	MAXFAILEDPAYMENTS
ScheduleDetails.PaymentsPeriod.Description	DESCRIPTION
ScheduleDetails.PaymentsPeriod.ProfileReference	PROFILEREERENCE

In the `MaxFailedPayments` field, specify the number of times a payment is allowed to be rejected. You can use the `Description` and `ProfileReference` fields for your own purpose.

Additionally, if you want to include a trial period in the profile, you must include the following fields.

TABLE 1.8 Additional Fields for a Trial Period

SOAP	NVP
Required	
ScheduleDetails.TrialPeriod.BillingPeriod	TRIALBILLINGPERIOD
ScheduleDetails.TrialPeriod.BillingFrequency	TRIALBILLINGFREQUENCY
ScheduleDetails.TrialPeriod.Amount	TRIALAMT
Optional	
ScheduleDetails.TrialPeriod.TotalBillingCycles	TRIALTOTALBILLINGCYCLES
ScheduleDetails.TrialPeriod.ShippingAmt	TRIALSHIPPINGAMT
ScheduleDetails.TrialPeriod.TaxAmt	TRIALTAXAMT

TABLE 1.9 CreateRecurringPaymentsProfile Request and Response (NVP)

Request	<code>[requiredSecurityParameters]&METHOD=CreateRecurringPaymentsProfile&TOKEN=RP-6WV965525F6410539&PROFILESTARTDATE=2007-10-12&TRIALBILLINGPERIOD=Month&TRIALBILLINGFREQUENCY=3&TRIALTOTALBILLINGCYCLES=2&TRIALAMT=5.99&BILLINGPERIOD=Month&BILLINGFREQUENCY=3&TOTALBILLINGCYCLES=6&AMT=12.99</code>
----------------	---

The CreateRecurringPaymentsProfile response contains a Profile ID, which is an encoded string that uniquely identifies the transaction:

Response	<code>[successResponseFields]&PROFILEID=4DK48DKD9D030</code>
-----------------	--

Displaying and Cancelling Recurring Payments Profiles

Both the buyer and the merchant can display or cancel a recurring payments profile from the PayPal site.

NOTE: There is currently no API access to allow merchants to modify or cancel a profile.

Displaying a Recurring Payments Profile

To view a recurring payments profile, log into your account and click the **Recurring Payments** link on the **Profile** page. [Figure 1.2](#) shows a sample profile listing.

FIGURE 1.2 Recurring Payments Profile Summary

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

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

Active Recurring Payments [Back to Profile Summary](#)

Active Payments [View Inactive Payments](#)

Start Date	Merchant	Status	Last Bill Amount
Nov. 13, 2013	View Details Preferred Funding Source: Visa Card XXXX-XXXX-XXXX-0537 Edit Funding Source	Active	
Nov. 10, 2013	View Details Preferred Funding Source: Edit Funding Source	Active	-\$10.00 USD
Nov. 10, 2013	View Details Preferred Funding Source: Edit Funding Source	Active	-\$6.99 USD
Nov. 10, 2013	View Details Preferred Funding Source: Edit Funding Source	Active	-\$6.99 USD

Click the **View Details** link for any profile to see the information about that profile, as shown in [Figure 1.3](#).

FIGURE 1.3 Recurring Payments Details

My Account		Send Money	Request Money	Merchant Services	A
Overview	Add Funds	Withdraw	History	Resolution Center	Profile

Recurring Payment Details

Every 2 Days Subscription for Recurring

Profile ID:	I-41776400FC5512817
Profile Status:	Active Cancel

Merchant Information

Merchant Name:	Foundation Quarter Horse Club
Customer Service URL:	
Customer Service e-mail:	bxiao-seller@paypal.com
Customer Service Phone:	

Payment Period

Start Date:	Nov. 16, 2013
Payment Cycle:	Every 2 Days
Amount Per Cycle:	\$10.00 USD

Payment Activity

Last Payment Date:	Nov. 19, 2013
Last Payment Amount:	-\$10.00 USD
Last Payment Status:	Success
Outstanding Balance:	\$1.00 USD
Next Payment Date:	Nov. 21, 2013
Primary Funding Source	Edit
After PayPal Balance:	

Cancelling a Recurring Payments Profile

Either the buyer or seller can cancel a recurring payments profile. Click the Cancel link on the Recurring Payments detail screen to cancel a recurring payments profile. The window in [Figure 1.4](#) is displayed.

FIGURE 1.4 Cancel Recurring Payments Profile

If the user clicks **Yes**, the profile is cancelled.