

PaperCut Payment Gateway Module - PayPal Payflow Link - Quick Start Guide

This guide is designed to supplement the *Payment Gateway Module* documentation and provides a guide to installing, setting up, and testing the Payment Gateway Module for use with PayPal's hosted credit card payment service, PayPal Payflow Link. The main Payment Gateway Module documentation may be downloaded from:

<http://www.papercut.com/anonftp/pub/pcng/ext/payment-gateway/PaymentGatewayModule.pdf>

IMPORTANT: *You should have a registered and active PayPal account with PayPal Payflow Link activated before installing the payment gateway module. This can be done via the [PayPal website](#). The login information will be required during setup.*

Setup and testing time should take around 30 minutes for basic setup, plus time for customizing the order pages if required. No system level restart is required; however the PaperCut application server will be restarted during the install process. If other administrators are using the PaperCut administration interface at this time, it may be advisable to warn them of the pending restart.

This document is written assuming the reader has good server administration skills and is experienced with general PaperCut administration.

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1 Do I have the right PayPal?

PaperCut provides integration with two separate PayPal products:

- PayPal Payflow Link (detailed in this guide) is for accepting payments INTO a bank account. The bank account must be a PayPal-approved internet merchant account.
- PayPal Website Payments Standard (detailed in a separate guide) is for accepting payments INTO a PayPal account. The funds in this PayPal account can then be transferred into a bank account manually if required.

PayPal Payflow Pro is NOT supported by PaperCut. This product is for accepting credit card numbers directly and sending the numbers to PayPal for processing. This product would require full PCI-DSS certification, unlike the other products above.

Many educational organizations find that Payflow Link is the preferred option due to auditing policies requiring a traditional bank account. A PayPal account might be used to directly make purchases, which could disrupt auditing.

If you are still confused, ask your financial controller, as your site may have an existing policy about which kind of payment system can or can't be used.

2 Find out which version of PayPal Payflow Link you have

In late 2013 PayPal updated their Payflow Link interface and API functionality, resulting in changes to the way it is configured and the way PaperCut integrates. To find out which version your account is running:

1. Log into PayPal Manager at <https://manager.paypal.com/>.
2. Click the **Service Settings** menu item.
3. In the second level menu row, do you see:
 - a. **Hosted Checkout Pages** ? You have PayPal Payflow Link interface **version 2**.
 - b. **Payflow Link** ? You have PayPal Payflow Link interface **version 1**.
4. Be sure to follow the steps for the appropriate interface version when required below.

3 Installing the Payment Gateway Module

1. The Payment Gateway Module will function during the PaperCut NG 40 day trial period. After this, the module must be licensed. If you have been supplied with a new license take the time to install this now. The license install procedure is documented in the PaperCut user manual chapter 'Licensing and Support'.
2. Download the Payment Gateway Module from the PaperCut website at
<http://www.papercut.com/anonftp/pub/pcng/ext/payment-gateway/pcng-payment-gateway-module.exe>

3. Install the module into the same directory as PaperCut. This is normally:

```
C:\Program Files\PaperCut NG\
```

4. Open the file:

```
C:\Program Files\PaperCut NG\server\lib-ext\payment-gateway-payflowlink.properties
```

in a text editor such as Notepad.

5. Locate the line `payflowlink.enabled=N` and change the `N` to `Y`. This will enable the Payflow Link module.
6. Locate the following lines:

```
payflowlink.login=  
payflowlink.partner=  
payflowlink.security-token=
```

The `login` (AKA Merchant Account) and `partner` correspond to your Payflow Link login details as provided by PayPal. The partner code is often "PayPal". Enter these details on the right-hand side of the "=".

The `security-token` is a secret word only known to the PaperCut Server and the Payflow Link server, and prevents an attacker from simulating a "post back". Recommended practice is to set this to a 10 character random word.

7. If you have *interface version 2*, you can leave `payflowlink.enable-port-80` set to `N`, as it is not required.

If you have *interface version 1*, PayPal will need to communicate with your PaperCut Application Server via the internet on port 80, so set `payflowlink.enable-port-80` to `Y`.

8. Configure other options in this file as discussed in *General Configuration Options* in the *Payment Gateway Module* documentation. Options include limits on the amount to transfer, access groups and custom error messages.
9. **Save** the file and exit Notepad.
10. Restart the PaperCut Application Server via **Control Panel -> Administrative Tools -> Services** and wait 30 seconds.
11. Check the end of the file:

```
C:\Program Files\PaperCut NG\server\logs\server.log
```

For any obvious error messages.

4 Firewall configuration

If you have *interface version 2*, PayPal will communicate with your PaperCut server using HTTPS on port 9192.

If you have *interface version 1*, PayPal will communicate with your PaperCut server using HTTP on port 80. Alternatively you may use port forwarding from external port 80 to port 9191 on the PaperCut server, although the details of how to set up port forwarding are not covered in this guide as it varies depending on network environment.

You will need to ensure that PayPal servers are able to contact the PaperCut Application Server via the internet on the appropriate port. This will usually involve the following network changes:

1. Set up a public DNS entry to ensure the PaperCut Server is publically accessible with a friendly name (e.g. `papercut.myorganization.org`).
2. If using *interface version 1* (port 80), ensure no other application is using port 80 on the PaperCut server (e.g. IIS or another web server). To verify this, open the command-prompt (cmd.exe) and type:

```
netstat -na | more
```

Ensure that port 80 is not in a listening state. That is, the following line should not display:

```
TCP 0.0.0.0:80 0.0.0.0:0 LISTENING
```

3. Ensure your firewall allows traffic to the appropriate port on this server. Methods include adding "TCP Open" entry to your firewall and/or using port forwarding.
4. Test and ensure that the following URL is accessible via the public internet:
 - a. For interface version 2:
`https://publicservername:9192/rpc/gateway/payflow`
 - b. For interface version 1:
`http://publicservername/rpc/gateway/payflow`

DO NOT SKIP THIS STEP as the integration will not work unless the above URLs are accessible from the *internet*.

5 Payflow Link configuration

1. Ensure that you have a valid and active Payflow Link account. You will need your merchant login name, password and partner code (usually "PayPal").
2. You will also need a hostname for your PaperCut server that can be accessed from the internet, `externalservername`, and a hostname that can be accessed from your intranet, `internalservername`. These may be the same.
3. Log into the PayPal Manager interface at <https://manager.paypal.com/>
4. As the PayPal Manager interface differs between interface versions, please continue with either "*5.1 Payflow Link configuration for interface version 2*" or "*0*"

5. *Payflow Link configuration for interface version 1* according to the version you have.

5.1 Payflow Link configuration for interface version 2

1. **Navigate to Service Settings -> Hosted Checkout Pages -> Set Up .**

2. Set the **Transaction Process Mode** to **Test** .

3. Under the heading **Silent Post for Data Transfer :**

2.1. Change **Use Silent Post** to **Yes** .

2.2. For **Enter Silent Post URL** , use:

```
https://externalservername:9192/rpc/gateway/payflow/[security-token]
```

where “[security-token]” is the value chosen in “3. *Installing the Payment Gateway Module*”.

2.3. *Enable* the checkbox labelled “**Void transaction when my server fails to receive data sent by the silent post.**”.

IMPORTANT: For security reasons make sure this is checked.

4. For the following fields:

- **Enter Cancel URL**
- **Enter Error URL**
- **Enter Return URL**
- **Return URL when Silent Post fails**

use:

```
https://internalservername:9192/rpc/gateway/payflow
```

Note: do NOT add the security token to these fields, as these URLs will be visible to users.

5. The **Cancel URL Method** and **Return URL Method** should be left with their default values (“**GET**”).

6. Take the time to look over the other options on this page and customize as appropriate. Alternatively, test first and tweak settings later.

7. **IMPORTANT:** at the time of writing, PayPal Manager interface version 2 contained a bug where if the **PayPal Sandbox email address** field is left blank, transactions could not

be successfully tested (but live transactions would work as expected). If you see an error “*PayPal Express Checkout is not setup on this account*” then this is likely to be the cause.

To create a test Sandbox email address, you will need to:

- 7.1. Go to <https://developer.paypal.com/>.
 - 7.2. Sign in using any PayPal account (or sign up for a new one).
 - 7.3. After signing in, go to **Applications -> Sandbox accounts**.
 - 7.4. Create a new **Business (merchant)** account. The chosen email address does not need to be “real” (no emails will be sent to it), but it does need to be unique.
 - 7.5. Use this email address for the **PayPal Sandbox email address** field in PayPal Manager.
 - 7.6. You can see the details of the test transactions by signing into <https://www.sandbox.paypal.com/> using the test merchant account credentials.
8. Continue at “6. Testing”.

5.2 Payflow Link configuration for interface version 1

1. Navigate to **Service Settings -> Payflow Link -> Configuration**.
2. Select **Link** as the **Return Link Method**.
3. Enter a **Return Link** of (no spaces or newlines):

```
http://internalservername:9191/app?service=page/ExtnPayflowLink&success=true
```

where `internalservername` is an internally accessible name used by users to access the PaperCut web interface. Users are taken to this page after a successful transaction.

Note: Use port 9192 if your users access PaperCut via SSL.

4. Check **Force Silent Post Confirmation**
IMPORTANT: For security reasons make sure this is checked.
5. Enter a *Silent POST URL* of:

```
http://externalservername/rpc/gateway/payflow/security-token
```

Where `externalservername` is the public server name and `security-token` is a secure token set up in the payment-gateway config file in the previous section.

6. Check **Force Silent Post Confirmation**
7. Enter a **Failed Silent Post Return URL** of (no spaces or newlines):

```
http://internalservername:9191/app?service=page/ExtnPayflowLink&error=true
```

where `internalservername` is an internally accessible name used by users to access the PaperCut web interface. Users are taken to this page if a transaction fails.

Configuration

Below is your current Payflow Link configuration data. All modifications specific to your Payflow Link implementation are made here.

Form Configuration	
Return URL Method:	<input type="text" value="Link"/>
Return URL:	<input type="text" value="http://myserver:9191/app?service=page/ExtnPayflowLi"/>
Silent POST URL:	<input checked="" type="checkbox"/> <input type="text" value="http://papercut.myorganization.org/rpc/gateway/payflo"/>
Force Silent Post Confirmation:	<input checked="" type="checkbox"/> Failed Silent Post Return URL: <input type="text" value="http://myserver:9191/app?service=page/Extn"/>
Transaction Process Mode:	<input type="text" value="Test"/>
Billing Information	

8. Set the *Transaction Process Mode* to **Test**. This will be changed later after testing.
9. Click the *Save Changes* button to commit the configuration.
10. Take the time to look over the other options on this page and customize as appropriate. Alternatively, test first and tweak settings later.
11. Continue at “6. *Testing*”.

6 Testing

1. Log into PaperCut's user interface as a standard user via the URL:
<http://internalservername:9191/user>
2. A new link called Add Credit should appear on the left. Click this link.
3. Select an amount to add and press Continue.

Add credit using Credit Card

Username	chris
Current Balance	\$88.50
Amount to add	<input type="text" value="\$10.00"/> ▼
<input type="button" value="Continue"/>	

4. Enter the test Visa card number of 4111111111111111 (four, followed by fifteen ones), with any future expiry date.

PaperCut Test

Credit Card Information

Card Number:	<input type="text" value="4111111111111111"/>
Cards Accepted:	Enroute - Diner's Club - Visa - Discover - JCB - American Express - MasterCard
Card Type:	<input type="text" value="Visa"/> ▼
Exp Date:	<input type="text" value="07"/> ▼ / <input type="text" value="2007"/> ▼

Please note that we only support the US-English character set. In order to ensure that your transaction is processed correctly, please refrain from using International Characters.

5. Continue and confirm that the value is placed on the user's PaperCut account and the transaction is listed in their transaction history. See the Troubleshooting section if you have any problems.

7 Security

A confidential security-token will provide a high level of security. Administrators may however wish to take further steps to prevent forged postbacks by filtering request by IP address. This can be done either at the application level inside PaperCut or at your firewall or both. To apply an IP addressed based filter:

1. Determine the postback IP address used by PayPal by inspecting the log file located at:

```
C:\Program Files\PaperCut NG\server\logs\payment-gateway\event.log
```

2. Open the file:

```
C:\Program Files\PaperCut NG\server\lib-ext\ext-payment-gateway-payflowlink.properties
```

In your preferred text editor (e.g. Notepad).

3. Change the value `payflowlink.allowed-ip=` to the IP address discovered in step 1.

Note: The PayPal IP address may change. It is recommended that you expand the IP range a little further by entering a mask with the IP address as follows:

```
payflowlink.allowed-ip=216.113.188.202/255.255.255.0
```

8 Go-Live

Log into the PayPal Manager interface and change the **Transaction Process Mode** from **Test** to the active setting. Your system is now live and will accept and charge real Credit Cards.

9 Troubleshooting

Administrators may find information in the following log files useful when trying to troubleshoot setup/configuration problems or issues reported by end-users.

Payment Gateway Event Log:

```
C:\Program Files\PaperCut NG\server\logs\payment-gateway\event.log
```

This log contains gateway specific error messages and events.

Application Log:

```
C:\Program Files\PaperCut NG\server\logs\server.log
```

This log contains general application specific error messages and events.

Transaction Log:

```
C:\Program Files\PaperCut NG\server\logs\payment-gateway\transaction.log
```

This log contains a list of successful transactions in a tab-delimited form.

Please feel free to contact the PaperCut Software Development Team at support@papercut.com if you require assistance.