

PaperCut | Barclaycard ePDQ CPI – 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 *Barclaycard ePDQ CPI*. The main *Payment Gateway Module* documentation may be downloaded from:

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

The Barclaycard ePDQ Cardholder Payment Interface (CPI) is a service provided by Barclaycard Business, a business unit of Barclays Bank. It provides a secure web based card payment site that may be used by many applications within the organization.

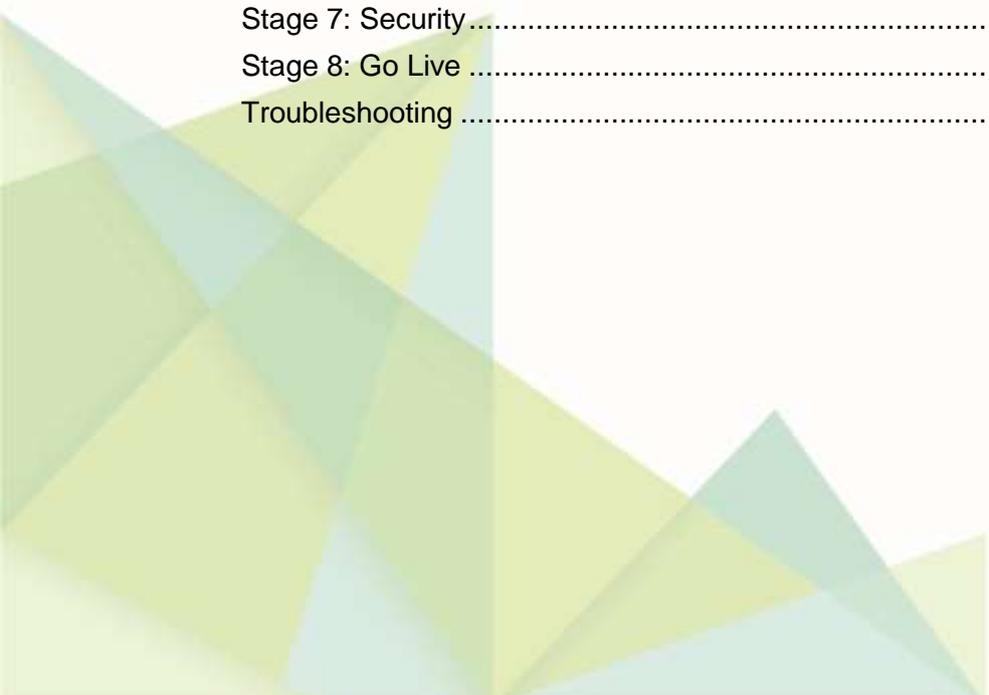
Setup and testing should take around 30 minutes. No system level restart is required; however, the PaperCut application server will be restarted during the install process. If other administrators are using the PaperCut administration interface at this time it may be advisable to warn them of the pending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

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

This guide assumes an existing Barclaycard ePDQ account that has been tested and is successfully processing transactions.

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Stage 1: Barclaycard Configuration: 'Store Admin'

When PaperCut sends payment information to ePDQ, it must do so using the credentials of an ePDQ user account. Rather than use an admin account for this purpose, it is recommended to create a new limited access account; a service account. To do this:

1. Log into the ePDQ Store Admin interface.
2. Navigate to 'Administration -> Users -> User Configuration Page -> Add'
3. Create a new user account with a Role of 'CPI Access'. It is recommended to give the account a username like 'cpi-integration' to reflect its purpose. See the Barclaycard 'ePDQ User Guide' for help with the other fields if required.
4. Click 'Add', and try signing on with the new user account (it should be denied access to Store Admin due to the selected Role).

Stage 2: Barclaycard Configuration: 'ePDQ Configuration Pages', AKA 'ePDQ Admin Tool'

Barclaycard ePDQ will now be configured to enable integration with the PaperCut Payment Gateway Module.

1. Log into the ePDQ Configuration Pages. This is usually located at:
<https://cpiadmin.epdq.co.uk/cgi-bin/CcxBarclaysEpdgAdminTool.e>
2. Log in with the ePDQ Client ID assigned by Barclaycard (AKA Store ID), and the username and password created in Stage 1.
3. The next page should display a form titled "CPI Administration".

CPI Administration

Client ID:*	<input type="text" value="123"/>
User name:*	<input type="text" value="cpi-integration"/>
Password:*	<input type="password" value="*****"/>
Pass-phrase:*	<input type="password" value="*****"/>
Allowed URL:*	<input type="text" value="https://papercut.my.org:9192/app"/>
Continue Option 1:*	Yes <input type="radio"/> No <input checked="" type="radio"/>
Continue Option 2:*	Yes <input type="radio"/> No <input checked="" type="radio"/>
Continue Option 3:*	Yes <input type="radio"/> No <input checked="" type="radio"/>
POST Order result:*	Yes <input checked="" type="radio"/> No <input type="radio"/>
POST URL:	<input type="text" value="http://papercut.my.org/rpc/gateway/barclaycard/2ax97bq23n"/>
POST User name:	<input type="text" value="NA"/>
POST Password:	<input type="password" value="**"/>
POST Email:	<input type="text" value="epdq.audit@my.org"/>

[Clear form](#) [Submit](#)

Fill out the form as follows:

- **Client ID:** As provided by Barclaycard (AKA Store ID).
- **User name:** The username of the new account created in Stage 1, e.g. "cpi-integration".
- **Password:** The password of the new account created in Stage 1.
- **Pass-phrase:** Create a new password here and take note of it. It can be the same as the 'Password' field if desired.
- **Allowed URL:** **<https://internalservname:9192/app>**
Where *internalservname* is the internally accessible name used by users to access the PaperCut web interface. Barclaycard checks this URL to ensure that only users reaching the ePDQ CPI via this URL are allowed. If a user accesses the ePDQ CPI via any other URL they will be denied access. For this reason it is important that users always access the PaperCut web interface via the same URL as above (with the exception of "/app" at the end).

Note: The use of HTTPS (and hence port 9192) is strongly recommended. The reason for this is explained in Stage 3.

- **Continue Option 1, 2, 3:** See Barclaycard documentation for more information. The most secure option is to choose 'No' for all.
 - **POST Order result:** Yes
 - **POST URL:** `http://externalservername/rpc/gateway/barclaycard/security-token`
Where *externalservername* is the hostname of your PaperCut server, and *security-token* is a secure token that will be referenced in the payment gateway config file. This security token prevents an attacker from simulating a 'post back', as the secret token is known only to PaperCut and the Barclaycard ePDQ server. It is recommended to use a random string of at least 10 characters, e.g.: 2ax97bq23n).
Note: Barclaycard ePDQ only supports port 80 for this POST URL, so ensure that no port is specified in the URL (as in the example above).
 - **POST User name:** Type anything, this option will not be used.
 - **POST Password:** Type anything, this option will not be used.
 - **POST Email:** Optionally enter an email address to have the details for every transaction sent there, e.g. for auditing purposes.
4. Press 'Submit'.

Stage 3: Configuring PaperCut

When a user is sent from the PaperCut 'Add Credit' page to the ePDQ CPI Payment Page, Barclaycard checks the 'HTTP Referrer' URL (the URL they just came from) and matches it against the 'Allowed URL', configured in Stage 2. Barclaycard only supports one Allowed URL, and it must exactly match the URL the user was sent from.

As users can access the PaperCut web interface via either HTTP or HTTPS, this presents multiple URLs from which a user can be sent to ePDQ, which is not supported by Barclaycard. For this reason, we recommend mandating the use of HTTPS (SSL) for the PaperCut end-user web interface. To force the use of HTTPS for the end-user web interface:

1. In the PaperCut administration interface, navigate to 'Options -> General -> Client Software'.
2. Enable the option 'Use SSL/HTTPS if available (Advanced)'.
3. Press 'Apply'.

Stage 4: Firewall Configuration

Barclaycard ePDQ CPI communicates with the PaperCut server via HTTP on port 80. You will need to ensure that Barclaycard servers are able to contact the PaperCut server via the internet. This will usually involve the following network changes:

1. Set up a public DNS entry to ensure that the PaperCut server is publicly accessible with a friendly name (e.g. `papercut.my.org`).
2. Ensure that 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 port 80 on this server. Methods include adding a '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:

```
http://externalservname/rpc/gateway/barclaycard
```

where *externalservname* is the DNS name set up in step 1. Accessing this URL with a web browser should display a simple confirmation message.

Note: Strictly speaking it is not a mandatory requirement to have PaperCut start on port 80. This is a configurable option. An alternate method is to port forward port 80 to port 9191 (the standard PaperCut port).

Stage 5: Installing the Payment Gateway Module

1. The Payment Gateway Module will function during the PaperCut NG 40 day trial period. After this time the module must be licensed. If you have been supplied with a new license, take the time to install this now. The license installation procedure is documented in the 'Licensing and Support' chapter of the PaperCut user manual.
2. Download the Payment Gateway module installer from the PaperCut website at: <http://www.papercut.com/files/pcng/ext/payment-gateway/pcng-payment-gateway-module.exe>
3. Run and complete the installer, following the prompts.
4. Open the file:
`[app-dir]\server\lib-ext\ext-payment-gateway-barclaycard.properties`
in a text editor such as WordPad.
5. Locate the line:
`barclaycard.enabled=N`
and change the `N` to `Y`. This will enable the Barclaycard module.
6. Locate the following lines:
`barclaycard.client-id=`
`barclaycard.epdq-passphrase=`
`barclaycard.security-token=`
`barclaycard.merchant-name=`
 - The `client-id` is a number provided by Barclaycard when setting up an ePDQ CPI account. It is also known as a 'Site ID'. Enter this number to the right of the '=' sign.
 - The `epdq-passphrase` is the passphrase chosen in the Barclaycard 'ePDQ Configuration Pages' in Stage 2.
 - The `security-token` is the token specified at the end of the 'POST URL' in Stage 2.
 - The `merchant-name` is the name of your organization, or any name you wish to appear on the ePDQ CPI Payment Page.
7. If using a currency other than Pound Sterling (GBP), locate the line `barclaycard.currency-code`, and replace the value with the desired ISO currency code. Contact Barclaycard for more information about currency codes and supported currencies.
8. Configure the other options in this file as discussed in the *General Configuration Options* section of the *Payment Gateway Module* documentation. Options include limits on the amount to transfer, groups allowed to access the feature, and custom labels.
Further configuration options are available in the global `ext-payment-gateway.properties` file, as described in the *Payment Gateway Module* documentation.
9. Save the file and exit the text editor.
10. Restart the PaperCut Application Server as described in the PaperCut user manual section 'Stopping and Starting the Application Server', and wait approximately 30 seconds for the application server to start up.
11. Open the file:
`[app-dir]\server\logs\server.log`
in a text editor and look for any error messages that may indicate an issue.

Stage 6: Testing

1. Log into PaperCut's end-user interface as a standard user via the URL:
<https://internalservname:9192/user>
2. A new link titled 'Add Credit' should appear in the left navigation menu. Click this link.
3. Select a payment amount and click 'Add Value'.

Add credit using Credit Card

Username	tom
Current Balance	\$0.06
Amount to add	<input type="text" value="\$5.00"/>
<input type="button" value="Add Value"/>	

4. You will now be redirected to the Barclaycard ePDQ CPI Payment Page to enter the payment details. Either enter the details for a real credit card (the card will be charged the selected amount), or contact Barclaycard for information about using test card numbers (to avoid an actual charge and transaction fees). Fill in the remaining details (address, etc.) as required.
5. After clicking 'Submit Payment', the next screen will show the status of the transaction (success or failure). At this stage, the transaction has taken place and the balance added in PaperCut if it was successful. Clicking 'Complete Payment' will take you back to the PaperCut end-user interface.
6. Further tracking information is written to log files, discussed in the **Troubleshooting** section.

Stage 7: Security

A confidential security token (configured in stages 2 and 5) will provide a high level of security, but administrators may wish to take further steps to prevent forged postbacks by filtering requests by IP address. This can be done either at the application level inside PaperCut, at your firewall or both. To apply an IP address based filter in PaperCut:

1. Determine the postback IP address used by Barclaycard ePDQ by inspecting the log file located at:
`[app-path]/server/logs/payment-gateway/event.log`
2. Open the file:
`[app-path]/server/lib-ext/payment-gateway-barclaycard.properties`
in your preferred text editor (e.g. WordPad).
3. Change the value `barclaycard.allowed-ip=` to the IP address discovered in step 1.

Note: The Barclaycard ePDQ CPI IP address may change. It is recommended to expand the IP range a little further by entering a mask with the IP address as follows:
`barclaycard.allowed-ip=217.140.33.121/255.255.255.0`

Stage 8: Go Live

At this stage the PaperCut Payment Gateway Module has been successfully configured to integrate with Barclaycard ePDQ CPI, and test transactions are working. You can now proceed to provide users with information about how to use the system for adding PaperCut balance with their card.

Troubleshooting

Administrators may find information in the following log files useful when trying to troubleshoot a setup/configuration problem or other issues reporting by end users.

- **Payment Gateway Event Log:**

`[app-dir]\server\logs\payment-gateway\event.log`

this log file contains payment gateway specific error messages and events. Events in this log may be useful in tracking down problems or unexplained events.

- **Application Log:**

`[app-dir]\server\logs\server.log`

this log file contains general application specific error messages and events.

- **Transaction Log:**

`[app-dir]\server\logs\payment-gateway\transaction.log`

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

Contact your reseller or Authorized Solution Center for assistance. You can find their contact information in your PaperCut Admin interface on the **About** page.