



Getting started with the Cashflows Gateway API

An introduction for developers
Version 1.0 – May 2021



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About this guide

Welcome to Getting started with the Cashflows Gateway API. This is an introduction for developers who have not worked with our API before.

This guide assumes knowledge of programming and using API calls.

For more information

The latest version of this guide is always available on the [Cashflows website](#).

The following guides are also available:

- [Connecting with the Cashflows Gateway](#) (PDF)
An integration guide for developers who are working for an online business and want to integrate with all of the functionality that our Cashflows Gateway provides for payment processing.
- [Adding a Cashflows hosted payment page to a website](#) (PDF)
An integration guide for developers who want to use a payment page that we host for an online business.
- [Customising a hosted payment page](#)
A customisation guide for developers who want to make a hosted page look like the other pages on an eCommerce website.
- [Cashflows Go Guide](#) (PDF)
An introduction to Cashflows Go which is your online account with Cashflows. It gives you access to all your transaction data, payment tools, and notifications.
- [Payment processing response codes](#)
A full list of responses from our payment processing (acquiring) platform. These codes can help you to understand why and how a payment may not have been successfully processed.

Technical support

Our team of specialists can provide technical support during your integration with Cashflows. For live technical integration and technical help, you can:

- Email: techsupport@cashflows.com
- Phone: 0330 128 9855 Option 3

Customer Support

For live operational support, such as reconciliation, account changes, PCI set up and so on you can:

- Email: support@cashflows.com
- Phone: 0330 128 9855 Option 3



What is the Cashflows Gateway API?

To enable you to connect your payment processing system with the Cashflows Gateway, we offer our Gateway API. By using our Gateway API, you can integrate with all of the functionality that comes with our gateway for processing online payments. We take care of many of the technical complexities. This can save you time and money.

Key features

With our API you can send us requests for:

- Creating payments and taking mail or telephone (MOTO) payments,
- Automating day-to-day tasks, such as processing refunds and cancellations.
- Securely storing card details for a shopper's online account or for when they return to your website for future purchases
- Retrieving the full range of available payment methods that our gateway offers, for example *Card*, *PayPal* and so on. This includes the logos and icons to display. If we add a payment method to the gateway, you can automatically offer it on a website checkout page without any extra development effort.

The benefits of using our Gateway API

Benefits include:

- **More ways to pay**
Our gateway API enables acceptance of major card types, including Visa, Mastercard, and American Express. We're continually working to add new payment types to our gateway. The wider the range of payment methods that you can offer, the more business your website is likely to attract. Shoppers can pay the way they want to. As we add more payment options to the gateway, they automatically become available to you via a single API call. No hard coding. No extra development effort needed.
- **Accepting payments in other currencies**
Our gateway supports a range of currencies as well as Pound Sterling - GBP.
- **Standards**
Our gateway API is REST-based and uses recognisable methods. This makes it easy to learn and use.
- **Security**
Our gateway ensures extensive validation and conversion for each transaction request. It also offers, as standard, an extra security layer with built-in 3-D Secure authentication and authorisation checks. Our gateway includes 3-D Secure services (up to version 2.2) from Visa (Verified by Visa) and Mastercard (SecureCode).
- **Modern integration**
Our Cashflows Gateway uses the latest integration practices to provide security and flexibility. You can use the same Gateway API to implement a payment page that we host for you. For information, see [Adding a Cashflows hosted payment page to a website](#) (PDF).

- Integration environment for testing
We have an API integration environment that you can use for testing. This does not affect any live data or interact with any external finance networks, for example banks.

Industry standards

Our Gateway API conforms to the OpenAPI Specification (OAS – formerly Swagger).

Our Gateway API accepts requests in JSON that can be generated in a variety of popular languages including PHP, cURL, Java, or .NET.

Our Gateway API is based on the REST (Representational State Transfer) architectural style. It uses standard HTTP response codes, authentication, and verbs.

Standard verbs

- GET
Used to retrieve a resource.
- POST
Used to create new resources and sub-resources.
- PUT
Used to update existing resources.
- PATCH
Used to update existing resources.
- DELETE
Used to delete existing resources.

Standard response codes

Our gateway uses the following standardised codes in the responses that you receive. These codes tell you if a request was successful or not. A code that starts with 2 indicates success. A code that starts with 4 indicates an issue.

Code	Meaning
200	Payment or payment job received or retrieved or cancelled successfully
201	Payment job created successfully
400	Request contains errors.
401	Invalid token.
403	Insufficient permissions.
404	Configuration not found.
406	Bad response.



Authentication

So that you can use our Gateway API, you need to collect your access credentials, so that you can prove your identity to the gateway and it can recognise the calls that you submit as genuine. We use API keys for this and they are available for you to collect from Cashflows Go.

Cashflows Go is your online account with Cashflows. When you first sign up with us, we send you a welcome email that includes the details that you need to sign into Cashflows Go. If you don't know how to sign in, visit [How to sign in to Cashflows Go](#) on our website.

Collect your access credentials

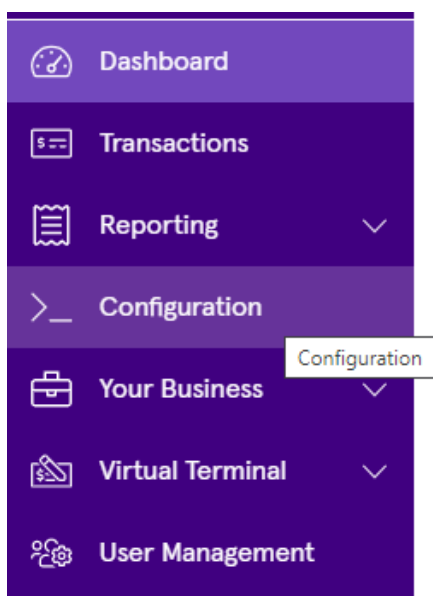
Before you can integrate your website with our gateway using the Gateway API you need a:

- Configuration ID
This is the unique identifier of the business account (also referred to as the merchant account). You need to include this in API messages so that we can recognise the business and match transactions to it.
- Current API key
This is the key to use for encrypting API messages that you send us.

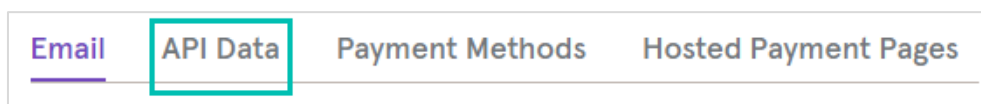
To collect your access credentials from Cashflows Go

Before you can use our API, you need to collect your access credentials from Cashflows Go.

1. Sign into [Cashflows Go](#). If you don't know how to sign in, visit [How to sign in to Cashflows Go](#) on our website.
2. From the Cashflows Go menu, select **Configuration**.



3. Select the **API Data** page.



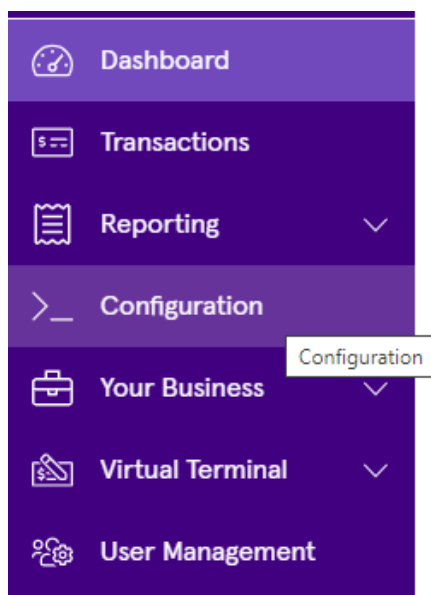
The API Data page displays your API configuration details:

Use your ID and key to connect your website to our payment solutions.	
Configuration ID	201226100000131072
Current API Key	922429b6-cc20-47d9-b509-ff5e287ceee5
New API Key	Generate a new API key for migration

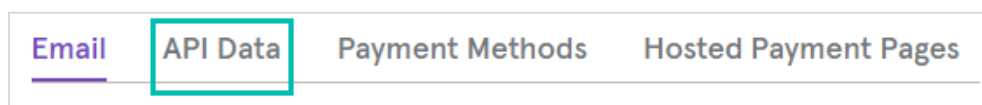
4. Include the Configuration ID in any messages that you send to our API.
5. Use the Current API key to encrypt the API messages that you send us.

To generate a new API key

1. Sign into [Cashflows Go](#). If you don't know how to sign in, visit [How to sign in to Cashflows Go](#) on our website.
2. From the Cashflows Go menu, select **Configuration**.



3. Select the **API Data** page.



4. Select **Generate a new API key for migration**.

Current API Key	922429b6-cc20-47d9-b509-ff5e287ceee5
New API Key	Generate a new API key for migration

A new key is generated for you and displayed on the screen.

Use your ID and key to connect your website to our payment solutions.		Update API Key
Configuration ID	201226100000131072	
Current API Key	922429b6-cc20-47d9-b509-ff5e287ceee5	
New API Key	e6d3ec72-7515-4774-81a5-5459b395ac0f	

5. Wherever your integration uses the API key, replace the old key with the new one.
6. Select **Update API Key** to replace your old key with the new one.

Update API Key

×

Current API Key	922429b6-cc20-47d9-b509-ff5e287ceee5
Will be replaced by:	
New API Key	e6d3ec72-7515-4774-81a5-5459b395ac0f

Please make sure that you have updated the API Key in all of your configuration instances. The New API Key will overwrite the current API Key and the Portal won't be able to connect any longer. Failing to update all configuration instances correctly could result in unnecessary application downtime.

☐ I have updated all API Key references and understand that my Current API Key will be overwritten with the New API Key.

[Cancel](#) [Update API Key](#)

- When you have successfully updated all references to your API key with the newly generated one, check the box to confirm.

☐ I have updated all API Key references and understand that my Current API Key will be overwritten with the New API Key.

8. Select **Update API Key**. The old key is replaced with the new one.

Signing API calls

All messages that we send are signed with a SHA512 hash. You must use the same hashing technique that we do so that we can match our hash with yours. The hash assures message consistency and authenticity to protect the payment request from being tampered with during transfer to our gateway (a man-in-the-middle attack).

To calculate the hash, append the message body to the API password, for example: <password><message body>. If the message body is empty, you only need to hash the password.

The calculated hash is then converted to a hex-string and sent in the header with `Hash: xxxxxx`.

It's possible for the gateway to have two passwords at the same time. When you change a password, you need to first create a new second password. When all systems have migrated to the new password, you can remove the first password. In this way you can change a password without any downtime.

HTML header

As well as the hash, you must supply the configuration ID in the HTML header of each call to the gateway. The configuration ID enables the gateway to identify your application and recognise the configuration settings for your business. The header must be in the format:

```
ConfigurationId: xxxxx.
```

```
Hash:ExampleExampleExampleExampleExampleExampleExampleExampleExampleExample  
ExampleExampleExampleExampleExampleExample
```

Sending us a request

When you are ready to send us payment requests, you can send using HTTPS to either our integration or production environment.

Environment	URL
Integration	https://gateway-int.cashflows.com
Production	https://gateway.cashflows.com

Here's an example request to create a new payment job

POST <https://gateway-int.cashflows.com/api/gateway/payment-jobs>

```
{ "type": "Payment", "paymentMethodsToUse": [ "creditcard" ], "parameters":  
{ "cardNumber": "4000000000000002", "cardCvc": "123", "cardExpiryMonth": "05",  
"cardExpiryYear": "23" }, "order": { "orderNumber": "Payment ref D1" }, "currency": "GBP",  
"amountToCollect": "10.00" }
```

Our integration guides on our website include detailed instructions, with code examples, for sending different types of payment request. For more information, refer to:

- [Connecting with the Cashflows Gateway](#) (PDF)
An integration guide for developers who are working for an online business and want to integrate with all of the functionality that our Cashflows Gateway provides for processing online payments.
- [Adding a Cashflows hosted payment page to a website](#) (PDF)
An integration guide for developers who want to use a payment page that we host for an online business.



Testing your integration

To enable you to test your integration before going live, we have an integration environment where you can simulate different payment scenarios. We also provide some test cards that you can use.

If you need an integration account for testing purposes, please email techsupport@cashflows.com.

Important: You need different credentials for the integration and production environments.

The Cashflows integration environment

To test your integration to our payment page, you need to send payment requests to the integration environment (<https://secure-int.cashflows.com/gateway/standard>).

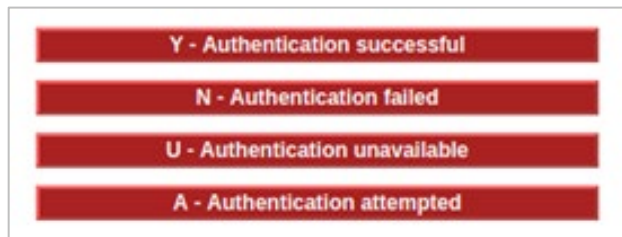
If you are testing card payments, you need to use a valid card number. Here are some test card numbers that you can use you to test your integration.

Card number	Expiry date	Security code (CVV)
4000000000000002 (VISA)	Any valid expiry date (mm/yy)	123
4462030000000000 (VISA prepaid)	Any valid expiry date (mm/yy)	444
5555555555554444 (MasterCard)	Any valid expiry date (mm/yy)	321
5597507644910558 (MasterCard prepaid)	Any valid expiry date (mm/yy)	888

If you enter some test card details and select **Pay with card ...**, you see our 3-D Secure simulation page. For information, see [Using our 3-D Secure simulator](#).

Using our 3-D Secure simulator

Our 3-D Secure simulator provides options for you to simulate different scenarios so that you can test, for example, whether a transaction passes or fails 3-D Secure checks.



Authentication successful

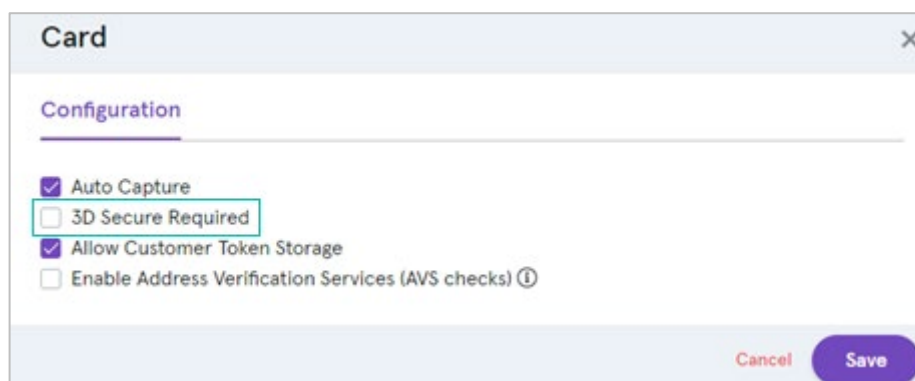
This option simulates a payment that has successfully passed all 3-D Secure checks. The payment will proceed to the authorisation stage of payment processing.

Authentication failed

This option simulates the scenario where a shopper does not correctly complete 3-D Secure checks. For example, a shopper might have entered the wrong authentication details. The payment will be declined by the gateway and will not proceed to the authorisation stage of payment processing.

Authentication unavailable

This option simulates the scenario where a card issuer's system is not available. The response depends on how the gateway is configured in Cashflows Go where there is a setting called **3D Secure Required**.



If this option is disabled, the payment will proceed to the authorisation stage of payment processing.

If this option is enabled, the payment will be declined by the gateway. It will not proceed to the authorisation stage of payment processing.

Note: You or the business owner can choose to reject a payment if 3-D Secure is unavailable.

Authentication attempted

This option simulates the scenario where the 3-D Secure system is available, but the card has not been enrolled for 3-D Secure. The payment will proceed to the authorisation stage of payment processing.



Going live

Before you can connect to our production environment for going live, you need:

- A production account
- Sign-in credentials

We provide these when your account has been approved. If you have not received these, email techsupport@cashflows.com.

Important: You need different credentials for the production environment. You can't use your integration account credentials.

When you are satisfied that your integration is complete and working you can start processing live transactions by switching from the integration environment to the production environment).

You need to change your:

- Configuration ID.
- API key.
- The URLs that point to the environments where you send your API messages. This means that you need to change the integration (test) URL from <https://gateway-int.cashflows.com> to <https://gateway.cashflows.com> for the production environment.



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