



## Connecting with the Cashflows Gateway

An integration guide for developers

Version 1.0 March 2021

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## About this guide

Welcome to this guide about Connecting with the Cashflows Gateway. This is an integration guide for website developers. This guide assumes in-depth knowledge of programming and using Application Programming Interface (API) calls. This guide is for you if you are a developer working for an online business.

**Note:** The tasks described in this guide involve our Gateway API. Our API accepts calls in JavaScript Object Notation (JSON). Therefore, the examples throughout this guide are in JSON. You can use different programming languages to create the JSON.

## For more information

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

The following guides are also available:

- [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.
- [Adding a hosted payment page to a website \(PDF\)](#)  
An integration guide for website developers who want to add and customise a hosted payment page.

The following information may also be useful:

- [Hosted payment page](#)  
A dedicated page on our website where you can find an overview and a link to the guide that covers how to customise a hosted payment page.
- [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.
- [Becoming PCI DSS compliant](#)  
If a website is not PCI DSS compliant, the business owner is responsible for any losses through fraud. Find out how to become compliant and avoid fines.
- [Best Practices for Securing E-commerce \(PDF\)](#)  
Information about best practices as recommended by the PCI Security Standard Council.
- [Website compliance](#)  
Guidance including strong customer authentication and compliance with the Payment Services Directive (PSD2).
- [Maximising Payment Success \(PDF\)](#)  
Our whitepaper about PSD2 Strong Customer Authentication.

For more support information, visit our [Cashflows support page](#).

Our team of specialists can also provide technical support during your integration with Cashflows. If you have questions about implementation or integration, please email [Technical Support team](#).

If you need to contact our Customer Support team, visit: [Support Contact Details](#).



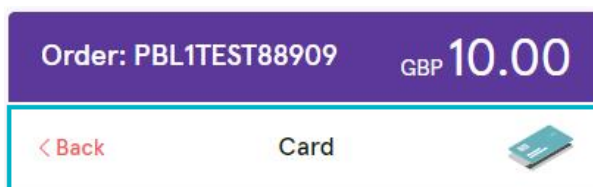
## Introduction

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 of our Gateway API

Our Gateway API includes API calls to:

- Retrieve the full range of available payment methods that our gateway offers, for example *Card*, *PayPal* and so on. This includes the logos 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.



For information, see [Retrieving details of supported payment methods](#).

**Note:** You or the business owner can choose which of the available payment methods to display on the checkout page. This is done in Cashflows Go. For information, refer to the [Cashflows Go Guide](#) (PDF) on our website.

- Send us the payment details that we need to process payments on your behalf. For information, see [Sending us payment details](#).
- Process Mail Order, Telephone Order (MOTO) payments. For information, see [Processing a MOTO payment](#).
- Enable our gateway to securely store card details  
Cards are securely stored in a way that a shopper's card details are never revealed at any stage of the payment process. For a smooth payment experience, your checkout page can present previously stored cards to shoppers. The results is a fast and convenient way for your regular customers to pay. For information, see [Enabling our gateway to securely store card details](#).
- Set up recurring payments. For information, see [Setting up and processing a recurring payment](#).
- Automate of day-to-day tasks such as processing refunds and cancelations. For information, [Cancelling a payment](#) and [Refunding a payment](#).
- Defer the capture of funds until a shopper is ready to pay for a service. For information, see [Managing capture requests](#).
- Process transactions in a range of popular currencies. For information, see [Transaction currencies](#).

- Apply 3-D Secure checks.  
Some banks require an extra layer of security known as 3-D Secure. Our gateway includes 3-D Secure services (up to version 2.2) from Visa (Verified by Visa) and Mastercard (SecureCode). We also have a 3 D Secure simulator that you can use for testing your integration. For information, see [Using our 3-D Secure simulator](#).

### The benefits of using our Gateway API

As a business owner and/or a developer working for an online business, the benefits include:

- More ways to pay  
Our Gateway API enables acceptance of major card types: Visa, MasterCard, American Express. We're continually working to add new payment types such as PayPal and Apple Pay. 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.

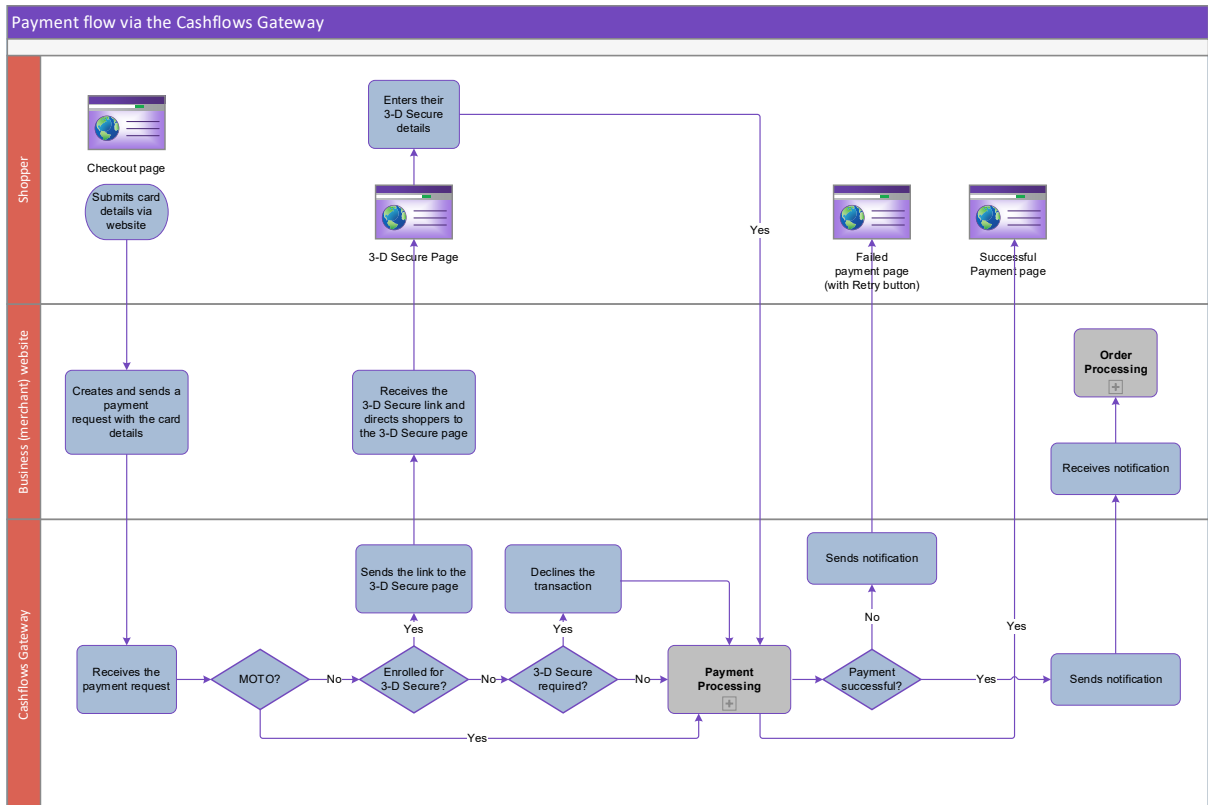
Our Cashflows Gateway supports a range of other currencies in addition to Pound Sterling - GBP.

- Convenience  
With gateway API calls you can automate processing such as refunds and cancellations.
- Security  
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. If you need help, contact our [Technical Support team](#) or your account manager.

### How it works

This section illustrates how our Cashflows Gateway processes a payment when a shopper pays for their purchase. This all happens in about one second.

The first diagram shows the high-level payment flow in terms of a shopping experience. The diagram that follows shows more detail with API calls that you'll be using to integrate your website with our gateway.

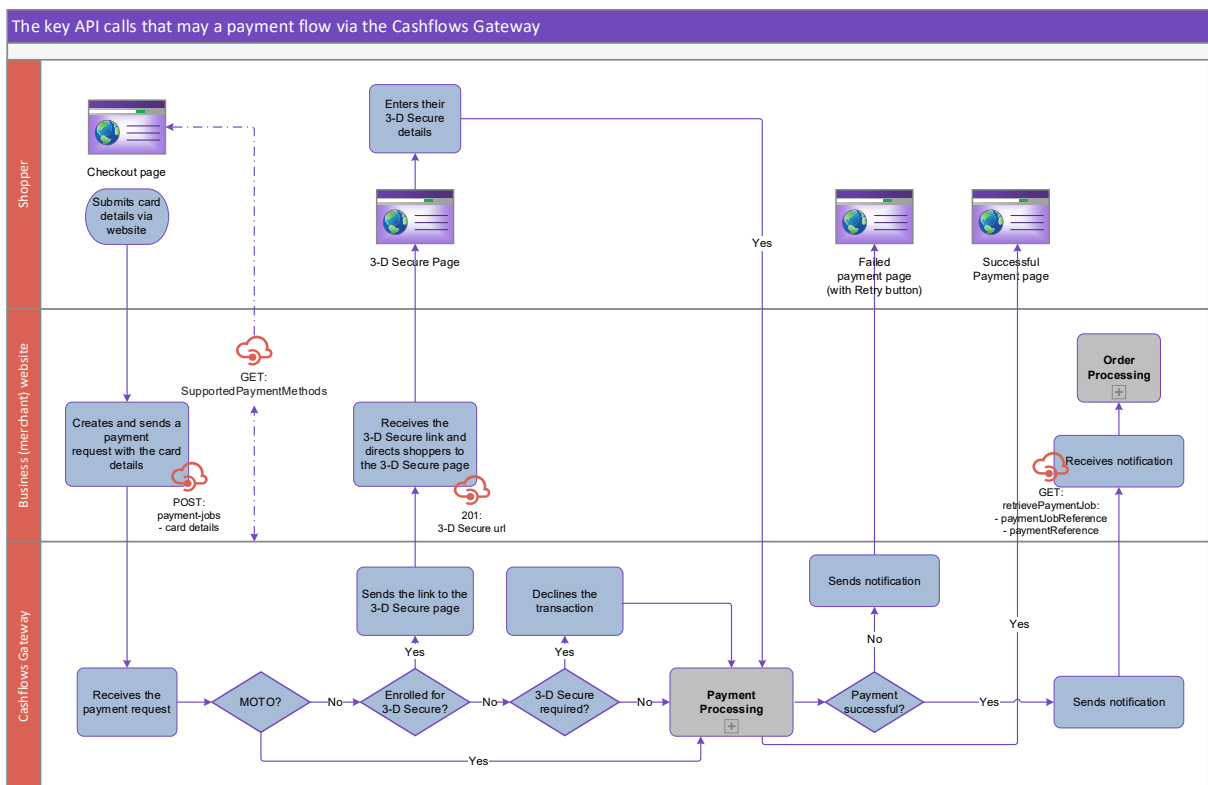


1. A shopper starts the checkout process on your website when they choose to pay.
2. The shopper securely enters their card details.
3. Your website sends a payment request to our online payment servers to initiate the transaction. The request includes the card details.
4. We receive the request with the card details.
5. We check whether it's MOTO payment.
  - a. If it is a MOTO payment, we process the payment. If isn't, we check whether the card is enrolled for 3-D Secure checks.
  - b. If the card is enrolled for 3-D Secure, we send you a link to the 3-D Secure page. This is where you need to direct the shopper so that they can enter their 3-D Secure details.

- c. If the card is not enrolled for 3-D Secure, we check whether 3-D Secure is required for this card.
  - d. If 3-D Secure is required, we decline the payment.
  - e. If 3-D Secure is not required, we process the payment.
6. We notify you about the change of status for the payment.
  7. You fetch the latest status so that you can update the shopper's order and arrange delivery.
  8. We direct the shopper back to your website via a corresponding web page (successful or failed).

**Tip:** For security reasons, we recommend that you update an order only when you receive the payment status notification from us. A notification from our Cashflows Gateway assures you that a payment request has not been intercepted during transfer.

Here is a diagram to show the payment flow with the key API calls. This guide explains the API calls to use at each stage of the process with example code for you to use.







## Getting started

So that you can make the most of using our Cashflows Gateway and we can process payments in a way that gives shoppers a seamless experience, there are a few things that you need to tell us. This section explains how you can provide some of the details that we need via Cashflows Go. This section also explains how to collect the details that you need to be able to use our API.

### Before you start

You need access to Cashflows Go. Cashflows Go is your online account with Cashflows. It gives you access to all your transaction data, payment tools and notifications. This is where you can:

- Find the configuration details that you need to integrate your website with our gateway using the Gateway API
- Tell us where to send the status updates after we have finished our payment processing.

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.

If you need an integration account for testing purposes, send an email request to [techsupport@cashflows.com](mailto:techsupport@cashflows.com).

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

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

- A production account
- Sign-in credentials

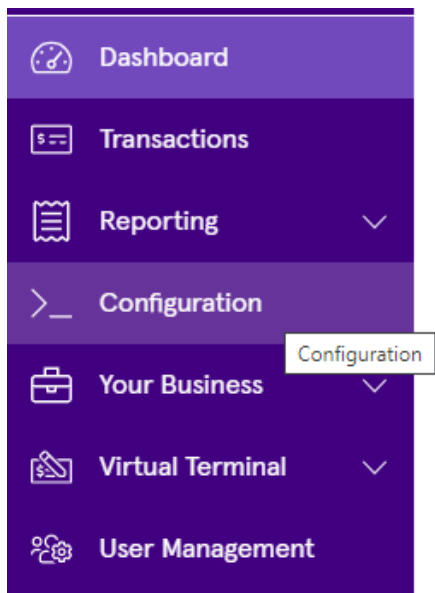
We provide these when your account has been approved. If you have not received these, send an email to [support@cashflows.com](mailto:support@cashflows.com).

### To collect your API configuration details from Cashflows Go

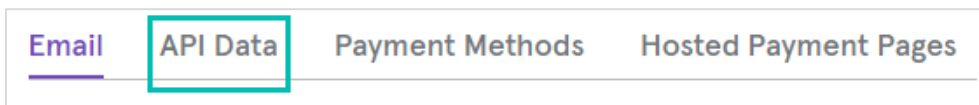
Before you can use our API, you need to collect your API configuration details from Cashflows Go. This is where you can find:

- 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.
- New API key  
This is where you can always generate a new API key, for example if a previous key becomes compromised.

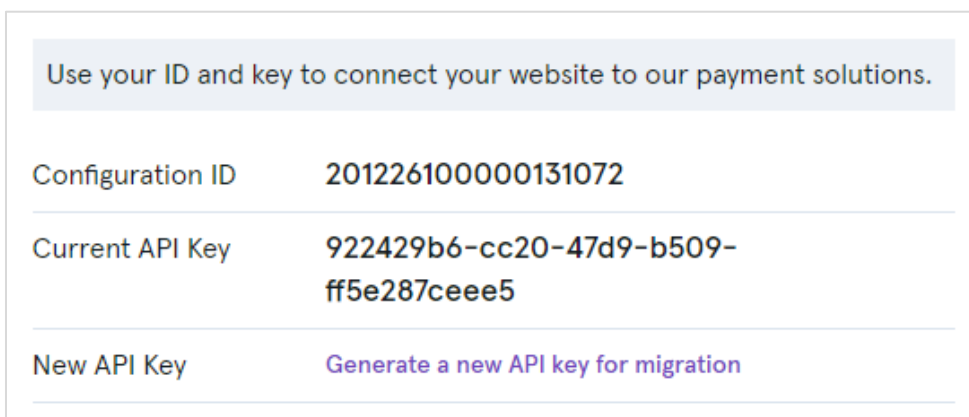
1. Sign into [Cashflows Go](#). If you don't know how to sign in, visit [How to sign in to Cashflows Go](#) on our website.
2. From the Cashflows Go menu, select **Configuration**.



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



The API Data page displays your API configuration details:



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.

### Where should we redirect shoppers after payment processing?

After we finish processing their payments, shoppers are redirected back to your website.

**Note:** For MOTO payments, there is no redirection since there is no shopper to redirect. We process MOTO payments immediately.

We direct shoppers to a webpage according to the status of their payment (successful or failed). Alternatively, you can choose to display your own webpages. You just need to set the addresses (return URLs) of the pages that you want us to display instead. This section explains how to set the default return URLs in Cashflows Go.

Sometimes you might not want to use our default pages or your own. For example, if your business has more than one website for selling different things, you can override the default page. The shopper then returns to your website via a webpage that relates to their purchase rather than the default page. For information, see [How to override a default return address \(URL\)](#).

**Note:** For recurring payments, you don't need to set up any return URLs.

You can specify a different page for each of the following scenarios:

- **Success:** A shopper completes a successful transaction. You can display a Thank You page and explain what happens next, when they can expect their delivery and so on.

**Tip:** For security reasons, we recommend that you update an order only when you receive the payment status notification from us. A notification from our Cashflows Gateway assures you that a payment request has not been intercepted during transfer.

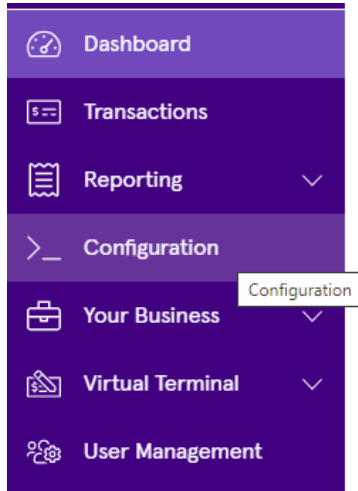
- **Failed:** A shopper fails to complete the payment process, for example because we (or their bank) did not approve it (the payment was declined). You can display a page to explain what might have happened and give the shopper the opportunity to try again with a different payment method.

### Where should we send payment status updates?

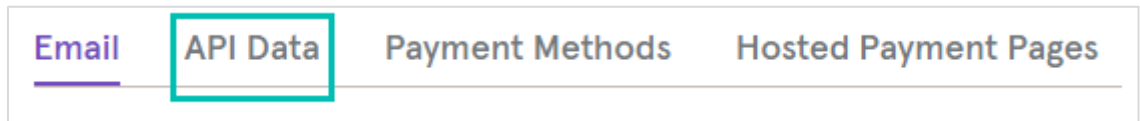
When we have processed a payment and the status changes, for example from *Pending* to *Paid*, we need to communicate this to your website. We use webhooks for this. A webhook is a way for one application to provide data to other applications as it happens (in real-time). This means that you receive data immediately. You don't need to check for changes in payment status. Instead, we can notify you, as long as you tell us where to send the notification webhooks.

To tell us where to send notification webhooks:

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 **Edit API Data**.
5. In the Notification section, add the Notification URL. This is the address where you would like us to send the notifications (webhooks). Here is an example.

A screenshot of the Notification section. The title is 'Notification'. Below it is the label 'Notification URL' with an information icon. A text input field contains the URL: `https://webhook.site/28b8f83a-dbf9-497d-ae07-8d59983bfb5c`.

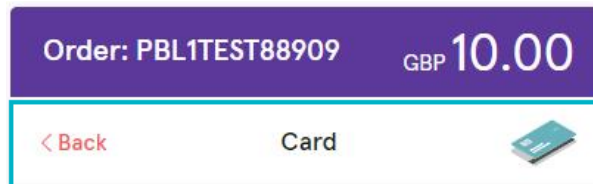
6. In the Notification section, add the Notification email address. This is the email address where you would like us to send emails if we need to tell you about any notifications (webhooks) that we couldn't deliver or if anything needs to be configured differently. These emails are for whoever maintains the website. These are not customer-facing emails. Therefore, this should be a business email address, for example the email address of the business owner or person responsible for managing the website.

A screenshot of the Notification Email section. The title is 'Notification Email' with an information icon. Below it is a text input field containing the email address: `info@mywebshop.com`. A green checkmark is visible to the right of the input field, indicating validation.



## Retrieving details of supported payment methods

When your website is integrated with our gateway, shoppers see a section in the checkout page where they can choose how they want to pay, for example by card or an alternative method that they prefer such as PayPal.



Our gateway API includes a call that you can use to retrieve all of the payment methods that the gateway supports and present them for selection in your website. With a single API call you can automatically retrieve the full list of payment methods, together with logos and icons, instead of having to hard code each one. By using this call and the response results, you can avoid extra work in the future. When we add new payment methods, they will automatically be added to the list of payment options available on your website.

### How to retrieve details of supported payment methods

The API call to retrieve the payment methods is SupportedPaymentMethods. This call retrieves from the gateway all supported payment methods at once, including the logos and icons that represent each method, surcharges and so on.

You must encrypt the message with the API key that you collected from Cashflows Go. For information, see [To collect your API configuration details from Cashflows Go](#).

### Example request

**GET** <https://gateway-int.cashflows.com/api/gateway/supported-payment-methods>

### Example response

```
{
  "data": [
    {
      "paymentMethod": "Card",
      "logo": "https://gateway-int.cashflows.com/assets/payment-method-card.svg",
      "issuerList": [],
      "supportsTokenisation": true,
      "tokenizedCards": [],
      "currencies": [
        "NoCurrencyCashflows",
        "AUD",
        "CAD",
        "DKK",
        "HKD",
        "JPY",
        "NZD",
        "NOK",
        "SGD",
      ]
    }
  ]
}
```

```
        "ZAR",
        "SEK",
        "CHF",
        "AED",
        "GBP",
        "USD",
        "EUR",
        "XXX"
    ],
    "description": "Card Simulator"
},
{
    "paymentMethod": "CreditCard",
    "logo": "https://gateway-int.cashflows.com/assets/payment-method-card.svg",
    "issuerList": [],
    "supportsTokenisation": true,
    "tokenizedCards": [],
    "currencies": [
        "NoCurrencyCashflows",
        "AUD",
        "CAD",
        "DKK",
        "HKD",
        "JPY",
        "NZD",
        "NOK",
        "SGD",
        "ZAR",
        "SEK",
        "CHF",
        "AED",
        "GBP",
        "USD",
        "EUR",
        "XXX"
    ],
    "description": "Card Simulator"
}
]
}
```



3. If 3-D Secure is enabled, use the link to direct the shopper to our 3-D Secure page where they can enter their extra security details. For information, see [How to receive a response to a payment request and redirect a shopper](#).

### How to create a payment job

To create a payment job, you must provide a payment job request that contains at least the mandatory required fields. To help you track payments, we recommend that you provide more than the mandatory fields in the payment job. As a minimum, consider including:

- Payment amount
- Currency
- Order reference (the reference that you generate)
- Customer name
- Customer email

**Tip:** As a starting point to establish and test connectivity, it's good enough to provide only the mandatory information. You can then add details as required to build out the payment job request. To make it easier for you to identify a payment, we recommend that you include as much information as possible. Our API includes many more details including billing/shipping details, order line details and more. For a full list of mandatory required and optional fields, please contact our [Technical Support team](#).

#### To create a payment job:

1. In the request header, provide your configuration ID and a hash.

Your configuration ID identifies your application to the gateway and is available in Cashflows Go. For information, see [To collect your API configuration details from Cashflows Go](#).

2. Concatenate the message body to the API key to give one long string.

For example, to use an example API key like this:

```
845c51f6-1cd5-4338-a586-df752e65d690
```

To submit to the Cashflows API the following fields and values:

```
amountToCollect": "10.00", "currency": "GBP", "locale": "en_GB"
```

You would concatenate with the API key to give:

```
845c51f6-1cd5-4338-a586-df752e65d690{"amountToCollect": "10.00", "currency": "GBP", "locale": "en_GB" }
```

3. Hash the concatenated string to give, for example:

```
3CDF192F6AC67E3A491EF2B60EA9A03C6B408056CE19C3BBC307EB06A4CE1F4081B8D021B1E9760E7CC18EED479EDBAFF926DADC2953B5F8B25717B8D5CB7609
```

**Important:** Every field and value that you send, and every parenthesis, must be included in the hash.



The resulting headers must match the format of this example:

```
ConfigurationId:201226100000131072
```

```
Hash:3CDF192F6AC67E3A491EF2B60EA9A03C6B408056CE19C3BBC307EB06A4CE1F4081B8D021B1E9760E7CC18EED479EDBAFF926DADC2953B5F8B25717B8D5CB7609
```

### Example: 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" }
```

### Required fields

Field	Description
amountToCollect	The total value of the payment transaction.
currency	The transaction currency.

### Optional fields

Field	Description
orderNumber	The reference number that you generate to identify an order.
customerName	The name of the shopper.
customerEmail	The email address of the shopper.
locale	Determines the language that messages are displayed in. For example, to set the language to English, use the locale en-GB. Other options are: <ul style="list-style-type: none"> <li>el_GR (Greek)</li> <li>en_US (US English)</li> <li>nl_NL (Dutch)</li> <li>es_ES (Spanish)</li> </ul>

**Tip:** If your language is not available, please choose the most appropriate language for your shoppers.

**Tip:** Including optional shopper and delivery details in your payment request enables us to display this information in Cashflows Go, for example in the transaction details and reports. This can make it easier for you to locate payments and help with reconciliation. The extra detail can also help our Customer Support team to find a payment it ever needs investigating.

### Additional details required for financial institutions

To comply with financial regulations, a payment request from a financial institution needs to include some extra information about the person who is receiving the funds. You need to include the extra details in the recipientDetails object when you create a new payment job, a MOTO payment job a parent payment job, or a recurring payment job.

**Note:** For MCC 6012 payments, we advise that you check the card type as credit cards are not accepted.

#### Example request

```
{
  "type": "Payment",
  "paymentMethodsToUse": ["creditcard"],
  "currency": "GBP",
  "amountToCollect": "10.00",
  "parameters": {
    "cardNumber": "4000000000000002",
    "cardCvc": "123",
    "cardExpiryMonth": "05",
    "cardExpiryYear": "23",
    "mcc": "6012",
    "recipientDetails": "{\n\"lastname\": \"Smith\", \n\"dateOfBirth\": \"1980-07-29T23:00:00.000Z\", \n\"postcode\": \"CB21 5XE\", \n\"primaryAccountNumber\": \"111213313\"}"
  }
}
```

### Required fields for financial institutions (MCC 6012, 6051 or 7299 businesses)

Field	Description
lastname	The family name or last name of the person who is receiving the funds (2-64 alphabetic characters, including - )
dateOfBirth	The date of birth of the person who is receiving the funds, in the format YYYYMMDD (8 digits)
postcode	The postcode of the person who is receiving the funds (2 to 16 alphabetic characters, including spaces)
primaryAccountNumber	The account number of the person who is receiving the funds. The account number must be in a valid format which is 1 to 32 alphanumeric characters which can include / and -. The account number cannot include spaces. For a card number, use the first six digits and the last four digits.

### How to receive a response to a payment request and redirect a shopper

The gateway receives the payment request and responds with:

- A response code (to confirm success or otherwise) and
- A link that points to the action URL where you should direct the shopper.

Here is an example with the action URL, (in this case a 3-D Secure page) highlighted.

```
61     },
62     "action": {
63       "url": "https://gateway-int.cashflows.com/payment?
           ref=4ab07d818100e4880130c8e35d25ea1b317860763a486bd47dc3180cddd178dc6c4f9dd9cc9a6d140af7f976aa8cbd38457e78a7cd8874102f7728b7321a1f79
           ",
64       "type": "text/html"
65     },
```

If the request is successful, you receive a 201 response. For a list of other response codes, see [Response codes](#) later in this section.

**To receive the response:**

1. For a card payment, extract the link (action URL) and use it to take you to the integration environment 3-D Secure simulation page:



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. For more information, see [Using our 3-D Secure simulator](#).

**Response codes**

After you have submitted a request to create a payment job, the Gateway API responds with a code. Ideally the response is a success code but can be any of the following.

Code	Description
201	Payment job created successfully.
400	Request contains errors.
401	Invalid token.
403	Insufficient permissions.
404	Configuration not found.
406	Bad response

**Example response**

When you send a request to create a payment job in our integration environment, you receive back a response that includes a link (action URL). For a card payment, this is usually a link to the 3-D Secure page. This is the link that you need to use to redirect the shopper so that they enter their 3-D Secure details. As soon as we have the details that we need, we can process the payment. For more information, see [Payment processing](#).

Here is an example of the full response with the success response code included.

```
{
  "data": {
    "reference": "210221017179873304",
    "createDateTimeUtc": "2021-02-18T11:04:38.2907414Z",
    "type": "Payment",
    "traceReference": "210220121768573008",
    "configurationId": "200426117314086912",
    "domain": "cashflows.com",
    "locale": "en_GB",
    "timeZone": "Europe/London",
    "order": {
```

```

    "orderNumber": "Payment ref D1",
    "createDateTimeUtc": "2021-02-18T11:04:38.2907443Z",
    "orderLines": []
  },
  "orderHistory": [],
  "paymentMethodsToUse": [
    "Card"
  ],
  "currency": "GBP",
  "amountToCollect": "10.00",
  "expirationDateTimeUtc": "2021-08-18T11:04:38.2907396Z",
  "dueDateTimeUtc": "2021-02-18T11:14:38.8761894Z",
  "lastUpdateTimeUtc": "2021-02-18T11:04:38.2907435Z",
  "lastProcessedTimeUtc": "2021-02-18T11:04:38.2907426Z",
  "flags": {
    "direct": true
  },
  "attributes": {},
  "paymentStatus": "Pending",
  "payments": [
    {
      "reference": "210221117314091036",
      "createDateTimeUtc": "2021-02-18T11:04:38.4842538Z",
      "paymentMethods": [
        "Card"
      ],
      "status": "Pending",
      "amountToCollect": "10.00",
      "surchargeAmount": "0",
      "steps": [
        {
          "reference": "210221204311744516",
          "createDateTimeUtc": "2021-02-18T11:04:38.8763717Z",
          "action": "Start",
          "paymentMethods": [
            "Card"
          ],
          "status": "Pending",
          "amountToCollect": "10.00"
        }
      ]
    },
    {
      "reference": "210221117314091036",
      "createDateTimeUtc": "2021-02-18T11:04:38.4842538Z",
      "paymentMethods": [
        "Card"
      ],
      "status": "Pending",
      "amountToCollect": "10.00",
      "surchargeAmount": "0",
      "steps": [
        {
          "reference": "210221204311744516",
          "createDateTimeUtc": "2021-02-18T11:04:38.8763717Z",
          "action": "Start",
          "paymentMethods": [
            "Card"
          ],
          "status": "Pending",
          "amountToCollect": "10.00"
        }
      ]
    }
  ],
  "flags": {},
  "attributes": {
    "returnUrlSuccess":
"https://www.mywebshop.com/?paymentjobref=210221017179873304&paymentref=210221117314091036&ordernumber=Payment+ref+D1",
    "returnUrlFailed":
"https://www.mywebshop.com/?paymentjobref=210221017179873304&paymentref=210221117314091036&ordernumber=Payment+ref+D1",
  }
}

```

```

        "returnUrlCancelled":
"https://www.mywebshop.com?paymentjobref=210221017179873304&paymentref=210221117314091036&ordernumber=Payment+ref+D1&status=cancelled",
        "cashFlowsAcquiringDetails":
        "{\
          \"ThreeDSecureVersion\": \"1.0.2\",
          \"ThreeDSecureVersionReason\": \"3-D Secure v2 not enabled for this merchant.\"
        }"
      },
      "refunds": [],
      "captures": []
    }
  ]
},
"links": {
  "data": {
    "url": "https://gateway-int.cashflows.com/api/gateway/payment-jobs/210221017179873304",
    "type": "application/json"
  },
  "action": {
    "url": "https://gateway-int.cashflows.com/payment/form-post?ref=4ab07d818100e4880130c8e35d25ea1bc381fe26d5ff52c0c5692920446c747de8a6e94459bc22b5184f86645f275caa21e76555ba0c111cc55412948a453b6e",
    "type": "text/html"
  },
  "documentation": {
    "url": "https://gateway-int.cashflows.com/payment-gateway-api/documentation/index.html",
    "type": "text/html"
  }
}
}
}

```



## Payment processing

When you simulate a card payment in our integration environment, the 3-D Secure simulation page is displayed. For more information, see [Testing your integration](#).

When you simulate a successful or failed payment in our integration environment, we send you back a webhook to notify you about the payment status change, for example when the payment changes from *Pending* to *Paid*. If you haven't already done so, you need to tell us where to send these notification webhooks. For information, see [Where should we send payment status updates?](#)

You can then use the *paymentJobReference* and *paymentReference* from the notification webhook to check the status of the order, update your system or database and continue with your own business processes for arranging fulfilment.

**Tip:** For security reasons, we recommend that you update an order only when you receive the payment status notification from us. A notification from our Cashflows Gateway assures you that a payment request has not been intercepted during transfer. For additional security, we recommend matching the references provided by the webhook with the references stored by your system during creation of the payment job.

When we direct shoppers back to your website after we finish processing their payments, we direct them back to the confirmation webpage that corresponds to the status of their payment (successful or failed). By default, we use the addresses of the pages (return URLs) that you set up in Cashflows Go. For information, see [Where should we redirect shoppers after payment processing?](#)

If your business has more than one website for selling different things, you can override the default address and tell us to use a different one that you specify in the payment job request. For information, see [How to override a default return address \(URL\)](#).

### How to override a default return address (URL)

When you use our Cashflows Gateway, we provide default pages to display when we direct a shopper back to your website after a successful or failed payment. You can use these default pages, or you can display your own. You just need to set the addresses (return URLs) of the pages that you want us to display instead. You do this in Cashflows Go. For information, see [Where should we redirect shoppers after payment processing?](#)

Sometimes you might not want to use our default pages or yours. For example, if your business has more than one website for selling different things, you can override the default page. You can use an individual payment job request to tell us where to direct the shopper. The shopper then returns to your website via a webpage that relates to their purchase rather than the default page.

**Note:** For recurring payments, you don't need to specify a return URL at all. For information, see [Setting up and processing a recurring payment](#).

### To override a default return URL

Include the return URL, for example <https://www.mywebshop.com?status=success>, in the create payment job request.

**Important:** Do not update any orders based on this URL. For security reasons, we recommend that you update an order only when you receive the payment status notification (webhook) from us. A notification from our Cashflows Gateway assures you that a payment request has not been intercepted during transfer.

**Example**

```
{ "amountToCollect": "10.00", "currency": "GBP", "locale": "en_GB", "order":  
  { "orderNumber": "Your ref1", "billingAddress" : { "firstName" : "Alex",  
    "lastName" : "Smith"}, "billingIdentity": { "emailAddress":  
    "alex@test.com"}}, "parameters": { "returnUrlSuccess":  
    "https://www.mywebshop.com?status=success", "returnUrlCancelled":  
    "https://www.mywebshop.com?status=cancelled", "returnUrlFailed":  
    "https://www.mywebshop.com?status=failed"}}
```



## Processing a MOTO payment

After we receive the payment request with the card details, we check whether it's a Mail Order, Telephone Order (MOTO) payment. If it is, we process it without any checks. By definition, a MOTO payment is made by email or telephone and therefore it's not possible to carry out 3-D Secure checks.

After we have processed the payment, we notify you about the change of status for the payment (for example from *Pending* to *Paid*). For information, see [Handling payment status updates](#).

### How to process a MOTO payment

For a MOTO payment, include the *IsMoto* option in the payment request.

#### Example request

```
{ "type": "Payment", "paymentMethodsToUse": ["creditcard"], "parameters":
{ "cardNumber": "4000000000000002", "cardCvc": "123", "cardExpiryMonth": "05",
"cardExpiryYear": "23" }, "order": { "orderNumber": "Payment ref M1"}, "options": [ "IsMoto"
], "currency": "GBP", "amountToCollect": "5.00" }
```

#### Example response

```
{
  "data": {
    "reference": "210221000033558552",
    "createDateTimeUtc": "2021-02-18T10:58:51.1499764Z",
    "type": "Payment",
    "traceReference": "210220104588703824",
    "configurationId": "200426117314086912",
    "domain": "cashflows.com",
    "locale": "en_GB",
    "timeZone": "Europe/London",
    "order": {
      "orderNumber": "Payment ref M1",
      "createDateTimeUtc": "2021-02-18T10:58:51.1499784Z",
      "orderLines": []
    },
    "orderHistory": [],
    "paymentMethodsToUse": [
      "Card"
    ],
    "currency": "GBP",
    "amountToCollect": "5.00",
    "amountCollected": "5.00",
    "paidAmount": "5.00",
    "paidDateTimeUtc": "2021-02-18T10:58:52.0469417Z",
    "expirationDateTimeUtc": "2021-08-18T10:58:51.1499752Z",
    "lastUpdateTimeUtc": "2021-02-18T10:58:52.071243Z",
    "lastProcessedTimeUtc": "2021-02-18T10:58:51.1499771Z",
    "flags": {
      "moto": true,
      "direct": true
    }
  }
}
```



```

    },
    "attributes": {},
    "paymentStatus": "Paid",
    "payments": [
      {
        "reference": "210221100167776284",
        "createDateTimeUtc": "2021-02-18T10:58:51.3404954Z",
        "paymentMethods": [
          "Card"
        ],
        "status": "Paid",
        "amountToCollect": "5.00",
        "surchargeAmount": "0",
        "paidAmount": "5.00",
        "steps": [
          {
            "reference": "210221221659516928",
            "createDateTimeUtc": "2021-02-18T10:58:52.0467157Z",
            "action": "Start",
            "paymentMethods": [
              "Card"
            ],
            "status": "Paid",
            "amountToCollect": "5.00"
          }
        ],
        "flags": {},
        "attributes": {
          "returnUrlSuccess":
"https://www.mywebshop.com/?paymentjobref=210221000033558552&paymentref=210221100167776284&ordernumber=Payment+ref+M1",
          "returnUrlFailed":
"https://www.mywebshop.com/?paymentjobref=210221000033558552&paymentref=210221100167776284&ordernumber=Payment+ref+M1",
          "returnUrlCancelled":
"https://www.mywebshop.com?paymentjobref=210221000033558552&paymentref=210221100167776284&ordernumber=Payment+ref+M1&status=cancelled",
          "cashFlowsAcquiringDetails":
            "{\AuthCode\": \"AUTHOK\", \"Arn\": \"74501871049010015672137\", \"Message\": \"Authorised\", \"Status\": \"Successful\", \"IssuerResponseCode\": \"00\", \"CvvAvsResult\": \"200\", \"AcquirerResponseCode\": \"A\", \"TruncatedCardNumber\": \"400000*****0002\"}",
          "paymentMethodTransactionId": "01S00DAA658"
        }
      },
      "refunds": [],
      "captures": []
    ]
  },
  "links": {
    "data": {

```

```

      "url": "https://gateway-int.cashflows.com/api/gateway/payment-
jobs/210221000033558552",
      "type": "application/json"
    },
    "action": {
      "url":
"https://www.mywebshop.com/?paymentjobref=210221000033558552&paymentref=210221100167776284&
ordernumber=Payment+ref+M1",
      "type": "text/html"
    },
    "documentation": {
      "url": "https://gateway-int.cashflows.com/payment-gateway-
api/documentation/index.html",
      "type": "text/html"
    }
  }
}
}

```

### Required fields

Field	Description
IsMoto	A flag to indicate that a payment is a MOTO payment.
cardNumber	The number of the card that the shopper is paying with. <b>Note:</b> This is mandatory unless a token is being used.
cardCvc	The security code on the back of the shopper's card. <b>Note:</b> This is mandatory unless a token is being used.
cardExpiryMonth	The month when the card expires. <b>Note:</b> This is mandatory unless a token is being used.
cardExpiryYear	The year when the card expires. <b>Note:</b> This is mandatory unless a token is being used.
amountToCollect	The total value of the payment transaction.
paymentAmount	The total value of the payment transaction.
currency	The transaction currency.

**Important:** To comply with financial regulations, a payment request from a financial institution needs to include some extra information about the person who is receiving the funds. This includes payment requests for MOTO, parent and recurring transactions. You need to include the extra details in the recipientDetails object. For information, see [Additional details required for financial institutions](#).

### Optional fields

Field	Description
customerName	The name of the shopper.
customerEmail	The email address of the shopper.
orderNumber	The reference number that you generate to identify an order.

**Response codes**

After you have submitted a request to create a MOTO payment job, the Cashflows Gateway API responds with a code. Ideally the response is a success code but can be any of the following.

<b>Code</b>	<b>Description</b>
201	Payment job created successfully.
400	Request contains errors.
401	Invalid token.
403	Insufficient permissions.
404	Configuration not found.
406	Bad response



## Handling payment status updates

To notify you about a payment status update, for example when the payment changes from *Pending* to *Paid*, we send you back a webhook. The body of the notification webhook includes the `paymentJobReference` and `paymentReference`. Here is an example.

REQUESTS (1/500) Newest First	Request Details
<p><b>POST</b> #e0b30 34.240.99.81 01/05/2021 10:28:42 AM</p>	<p><b>POST</b> <a href="https://webhook.site/28b8f83a-dbf9-497d-ae07-8d59983bfb5c">https://webhook.site/28b8f83a-dbf9-497d-ae07-8d59983bfb5c</a></p> <p>Host 34.240.99.81 whois</p> <p>Date 01/05/2021 10:28:42 AM (in a few seconds)</p> <p>Size 132 bytes</p> <p>ID e0b303d7-caab-484c-a346-e97ec28237f0</p> <p><b>Files</b></p> <p><b>Query strings</b> (empty)</p> <p><b>Raw Content</b></p> <pre>{   "notifyType": "PaymentStatusChange",   "paymentJobReference": "210121017196646404",   "paymentReference": "210121117230331908" }</pre>

When you receive a webhook, you need to extract these details and include them in a `RetrievePaymentJob` API call to get the payment status.

When the payment status has been confirmed, your business systems can be updated to match. For example, if the payment status is *Paid*, you can store this in your database and proceed with your shipping process.

**Tip:** For security reasons, we recommend that you update an order only when you receive the notification webhook from us. A notification from our Cashflows Gateway assures you that a payment request has not been intercepted during transfer.

### How to receive a notification webhook

We recommend that when you receive a notification webhook from us, you use it to confirm the status of the payment before you update an order.

#### To receive the payment status:

1. Extract the `paymentJobReference` and `paymentReference` from the notification webhook.
2. Match these details with the corresponding references that you stored when you created the payment job.
3. Include them in a `RetrievePaymentJob` API call.

#### Example `RetrievePaymentJob`

**GET** <https://gateway-int.cashflows.com/api/gateway/payment-jobs/{paymentJobReference}/payments/{paymentReference}>

**Example response with the payment status and amount**

```
"status": "Paid",
"amountToCollect": "10.00"
```

**Required fields**

Field	Description
paymentJobReference	The reference of the payment job to retrieve.
paymentReference	The reference of the payment to retrieve.

**Optional fields**

Field	Description
configurationId	Your configuration ID.
hash	A hexadecimal sha512 hash of your password.
locale	Determines the language that messages are displayed in. For example, to set the language to English, use the locale en-GB. Other options are: <ul style="list-style-type: none"> <li>el_GR (Greek)</li> <li>en_US (US English)</li> <li>nl_NL (Dutch)</li> <li>es_ES (Spanish)</li> </ul>

**Tip:** If your language is not available, please choose the most appropriate language for your shoppers.

**Response codes**

Code	Description
200	Payment retrieved successfully.
400	Request contains errors.
401	Invalid token.
403	Insufficient permissions.
404	Configuration, payment job or payment not found.

### How to reply to a notification webhook

When the Cashflows Gateway receives the confirmed paymentJobReference and paymentReference, the notification process ends. It starts again when another payment status change occurs. It's good practice to acknowledge a notification webhook so that we know that you have received it.

Also, if the response does not contain the expected 200 response code and the message body, or if there is no response at all, the gateway keeps trying to send the same notification webhook for as long as a month. Initially, the retries are every minute and then every day and then every week. Therefore, if you don't acknowledge a notification webhook, the repeated attempts to send it create unnecessary gateway traffic.

#### To reply to a notification webhook:

Send the 200 response with the paymentJobReference and the paymentReference, for example:

```
{
  paymentJobReference: "200421017498767380",
  paymentReference: "200421100461508616"
}
```



### Enabling our gateway to securely store card details

Our Gateway is an ideal way to enable shoppers to securely save details of a card for an online account or for future purchases, if they want to. When they return to your website to buy something, they can use a stored card for a faster checkout. The card details are never revealed at any stage of the payment process. The card details are securely stored in the Cashflows Gateway. We convert the card details to a unique series of randomly-generated numbers (known as a *token*).

You can use API calls to send us a request for a token and then use the token in future payment requests instead of the card details. For information, see [How to request a token](#).

We then send you the token to use in payment jobs for future transactions that use the same stored card. For subsequent payments by the same shopper, you send us the token and not the stored card details.

## Using a token instead of card details

Our Cashflows Gateway can securely store card details so that they are not revealed at any time during the payment process. If a shopper chooses to store their card details on your website, you can send us the card details and ask us to convert them to a unique series of randomly-generated numbers (known as a *token*). We then validate the card and send you the token to use in payment jobs for future transactions that use the same stored card. For subsequent payments by the same shopper, you send us the token and not the stored card details.

This section explains how to:

- Ask us to create a token from the card details that you send us. For information, see [How to request a token](#).
- Ask us to create a token during a payment. For example, if a shopper wants to pay with a card that they haven't stored yet (so we haven't tokenised it yet). For information, see [How to request a token during a payment](#).
- Use a token for a payment instead of the card details. For information, see [How to use a token for a payment](#).

## How to request a token

To request a token, you need to tell us the card details that you would like us to convert to a token (tokenise).

### Example Request

POST <https://gateway-int.cashflows.com/api/gateway/card-tokenisation>

```
{"cardNumber": "4000000000000002", "CardHolderName" : "A Smith", "cardExpiryYear": "21",
"cardExpiryMonth": "10", "cardCvc": "123"}
```

### Example Response

```
{
  "data": {
    "token": "100000000030419",
    "cardExpiryMonth": "10",
    "cardExpiryYear": "21",
    "truncatedCardNumber": "400000****0002"
  }
}
```

## Required fields

Field	Description
cardNumber	The card number to be converted to a token (tokenised).
cardHolderName	The name on the card that the shopper is paying with.
cardExpiryYear	The year when the card expires in the format YY (2 digits). For example, if the card expires in 2025, set this to 25.

Field	Description
cardExpiryMonth	The month when the card expires in the format MM {01-12}. For example, if the card expires in April, set this to 04.
cardCvc	The security code on the back of the card.

### How to request a token during a payment

If a shopper wants to pay with a card that they haven't stored yet (so we haven't tokenised it yet), you can ask us to tokenise it during the payment process. You add the token request to the payment request by including the option *GenerateToken*.

#### Example request to generate a token

```
{
  "type": "Payment",
  "paymentMethodsToUse": ["creditcard"],
  "parameters": {
    "cardNumber": "4000000000000002",
    "cardCvc": "123",
    "cardExpiryMonth": "05",
    "cardExpiryYear": "23"
  },
  "order": {
    "orderNumber": "Payment ref D1T"
  },
  "options": ["GenerateToken"],
  "currency": "GBP",
  "amountToCollect": "10.00"
}
```

The response provides the result of the 3-D Secure checks and if the payment passes the 3-D Secure checks, it includes you with the requested token.

#### Example response with the link to the 3-D Secure page:

```
{
  "data": {
    "reference": "210221000000135192",
    "createDateTimeUtc": "2021-02-18T11:17:27.1270204Z",
    "type": "Payment",
    "traceReference": "210220104756475984",
    "configurationId": "200426117314086912",
    "domain": "cashflows.com",
    "locale": "en_GB",
    "timeZone": "Europe/London",
    "order": {
      "orderNumber": "Payment ref D1T",
      "createDateTimeUtc": "2021-02-18T11:17:27.1270232Z",
      "orderLines": []
    },
    "orderHistory": [],
    "paymentMethodsToUse": [
      "Card"
    ],
    "currency": "GBP",
    "amountToCollect": "10.00",
    "expirationDateTimeUtc": "2021-08-18T11:17:27.1270185Z",
    "dueDateTimeUtc": "2021-02-18T11:27:27.6829616Z",
    "lastUpdateTimeUtc": "2021-02-18T11:17:27.1270223Z",
    "lastProcessedTimeUtc": "2021-02-18T11:17:27.1270215Z",
    "flags": {
      "generateToken": true,
      "direct": true
    }
  },
}
```



```

"attributes": {},
"paymentStatus": "Pending",
"payments": [
  {
    "reference": "210221100134352924",
    "createDateTimeUtc": "2021-02-18T11:17:27.3627718Z",
    "paymentMethods": [
      "Card"
    ],
    "status": "Pending",
    "amountToCollect": "10.00",
    "surchargeAmount": "0",
    "steps": [
      {
        "reference": "210221221491613700",
        "createDateTimeUtc": "2021-02-18T11:17:27.6831162Z",
        "action": "Start",
        "paymentMethods": [
          "Card"
        ],
        "status": "Pending",
        "amountToCollect": "10.00"
      }
    ],
    "flags": {},
    "attributes": {
      "returnUrlSuccess":
"https://www.mywebshop.com/?paymentjobref=210221000000135192&paymentref=210221100134352924&ordernumber=Payment+ref+D1T",
      "returnUrlFailed":
"https://www.mywebshop.com/?paymentjobref=210221000000135192&paymentref=210221100134352924&ordernumber=Payment+ref+D1T",
      "returnUrlCancelled":
"https://www.mywebshop.com?paymentjobref=210221000000135192&paymentref=210221100134352924&ordernumber=Payment+ref+D1T&status=cancelled",
      "cashFlowsAcquiringDetails":
      "{\\"ThreeDSecureVersion\\":\\"1.0.2\\",\\"ThreeDSecureVersionReason\\":\\"3-D Secure v2 not enabled for this merchant.\\"}"
    }
  },
  "refunds": [],
  "captures": []
}
],
"links": {
  "data": {
    "url": "https://gateway-int.cashflows.com/api/gateway/payment-jobs/210221000000135192",
    "type": "application/json"
  },
  "action": {

```

```

      "url": "https://gateway-int.cashflows.com/payment/form-
post?ref=4ab07d818100e4880130c8e35d25ea1ba2c0683e11093a397f633206169e119a9f117f236e44a080e0
e737832494b8ac1058c297e401acd1001f1a2ef9468837",
      "type": "text/html"
    },
    "documentation": {
      "url": "https://gateway-int.cashflows.com/payment-gateway-
api/documentation/index.html",
      "type": "text/html"
    }
  }
}

```

### Example response with the token

After 3-D Secure checking is complete, the retrieve payment job provides you with the token (**highlighted**).

```

{
  "data": {
    "reference": "210221000000135192",
    "createDateTimeUtc": "2021-02-18T11:17:27.127Z",
    "type": "Payment",
    "traceReference": "210220104756475984",
    "configurationId": "200426117314086912",
    "domain": "cashflows.com",
    "locale": "en_GB",
    "timeZone": "Europe/London",
    "order": {
      "orderNumber": "Payment ref D1T",
      "createDateTimeUtc": "2021-02-18T11:17:27.127Z",
      "orderLines": []
    },
    "orderHistory": [],
    "paymentMethodsToUse": [
      "Card"
    ],
    "currency": "GBP",
    "amountToCollect": "10.00",
    "amountCollected": "10.00",
    "paidAmount": "10.00",
    "paidDateTimeUtc": "2021-02-18T11:19:57.773Z",
    "expirationDateTimeUtc": "2021-08-18T11:17:27.127Z",
    "dueDateTimeUtc": "2021-02-18T11:27:27.682Z",
    "lastUpdateTimeUtc": "2021-02-18T11:19:57.811Z",
    "lastProcessedTimeUtc": "2021-02-18T11:17:27.127Z",
    "flags": {
      "generateToken": true,
      "direct": true,
      "createdOnMapi": true
    }
  }
}

```

```

    },
    "attributes": {},
    "paymentStatus": "Paid",
    "payments": [
      {
        "reference": "210221100134352924",
        "createDateTimeUtc": "2021-02-18T11:17:27.362Z",
        "paymentMethods": [
          "Card"
        ],
        "status": "Paid",
        "amountToCollect": "10.00",
        "surchargeAmount": "0",
        "paidAmount": "10.00",
        "steps": [
          {
            "reference": "210221221491613700",
            "createDateTimeUtc": "2021-02-18T11:17:27.683Z",
            "action": "Start",
            "paymentMethods": [
              "Card"
            ],
            "status": "Pending",
            "amountToCollect": "10.00"
          },
          {
            "reference": "210221221525168132",
            "createDateTimeUtc": "2021-02-18T11:19:57.773Z",
            "action": "Process",
            "paymentMethods": [
              "Card"
            ],
            "status": "Paid",
            "amountToCollect": "10.00"
          }
        ]
      },
      {
        "reference": "210221100134352924",
        "createDateTimeUtc": "2021-02-18T11:17:27.362Z",
        "paymentMethods": [
          "Card"
        ],
        "status": "Paid",
        "amountToCollect": "10.00",
        "surchargeAmount": "0",
        "paidAmount": "10.00",
        "steps": [
          {
            "reference": "210221221491613700",
            "createDateTimeUtc": "2021-02-18T11:17:27.683Z",
            "action": "Start",
            "paymentMethods": [
              "Card"
            ],
            "status": "Pending",
            "amountToCollect": "10.00"
          },
          {
            "reference": "210221221525168132",
            "createDateTimeUtc": "2021-02-18T11:19:57.773Z",
            "action": "Process",
            "paymentMethods": [
              "Card"
            ],
            "status": "Paid",
            "amountToCollect": "10.00"
          }
        ]
      }
    ],
    "flags": {},
    "attributes": {
      "returnUrlSuccess":
https://www.mywebshop.com/?paymentjobref=210221000000135192&paymentref=210221100134352924&ordernumber=Payment+ref+D1T,
      "returnUrlFailed":
https://www.mywebshop.com/?paymentjobref=210221000000135192&paymentref=210221100134352924&ordernumber=Payment+ref+D1T,
      "returnUrlCancelled":
https://www.mywebshop.com?paymentjobref=210221000000135192&paymentref=210221100134352924&ordernumber=Payment+ref+D1T&status=cancelled,
      "cashFlowsAcquiringDetails":
      "{ \"ThreeDSecureVersion\": \"1.0.2\", \"ThreeDSecureVersionReason\": \"3-D Secure v2 not enabled for this merchant.\", \"AuthenticationStatus\": \"Y\", \"Xid\": \"pBoZubEx533uMpLNFjuXU0LMRq1=\", \"Cavv\"

```

```

":\ "aq0zADZ1wIha0IgU3j9FRt0sA2V=\ ",\ "Eci\ ":\ "05\ ",\ "AuthCode\ ":\ "AUTHOK\ ",\ "Arn\ ":\ "7450187
1049010015672418\ ",\ "Message\ ":\ "Authorised\ ",\ "Status\ ":\ "Successful\ ",\ "IssuerResponseCod
e\ ":\ "00\ ",\ "CvvAvsResult\ ":\ "200\ ",\ "AcquirerResponseCode\ ":\ "A\ ",\ "TruncatedCardNumber\ "
:\ "400000*****0002\ "},
    "originatingIpAddress": "81.106.197.200, 95.100.156.174, 88.221.51.77",
    "originHeader": "https://integration.cashflows.com",
    "paymentMethodTransactionId": "01S00DAA6A7",
    "token": "1000000000030419"
  },
  "refunds": [],
  "captures": []
}
]
},
"links": {
  "data": {
    "url": "https://gateway-int.cashflows.com/api/gateway/payment-
jobs/210221000000135192?locale=en_GB",
    "type": "application/json"
  },
  "documentation": {
    "url": "https://gateway-int.cashflows.com/payment-gateway-
api/documentation/index.html",
    "type": "text/html"
  }
}
}
}

```

### Required fields

Field	Description
cardNumber	The card number to be converted to a token (tokenised).
cardHolderName	The name on the card.
cardExpiryYear	The year when the card expires in the format YY (2 digits). For example, if the card expires in 2025, set this to 25.
cardExpiryMonth	The month when the card expires in the format MM {01-12}. For example, if the card expires in April, set this to 04.
cardCvc	The security code on the back of the card.
generateToken	Flag to indicate that this is a request to generate a token.

## How to use a token for a payment

When you have received a token, you can use it in a payment request. You just need to replace the cardNumber field with the token field. We then process the payment as usual.

### Example request

```
{
  "type": "Payment",
  "locale": "en_GB",
  "paymentMethodsToUse": ["creditcard"],
  "parameters": {
    "token": "1000000000030419",
    "cardCvc": "123",
    "cardExpiryMonth": "05",
    "cardExpiryYear": "23"
  },
  "order": {
    "orderNumber": "Payment ref D1UT"
  },
  "currency": "GBP",
  "amountToCollect": "10.00"
}
```

### Example response

```
{
  "data": {
    "reference": "210221000033689624",
    "createDateTimeUtc": "2021-02-18T11:30:38.7419169Z",
    "type": "Payment",
    "traceReference": "210220104588703828",
    "configurationId": "200426117314086912",
    "domain": "cashflows.com",
    "locale": "en_GB",
    "timeZone": "Europe/London",
    "order": {
      "orderNumber": "Payment ref D1UT",
      "createDateTimeUtc": "2021-02-18T11:30:38.741919Z",
      "orderLines": []
    },
    "orderHistory": [],
    "paymentMethodsToUse": [
      "Card"
    ],
    "currency": "GBP",
    "amountToCollect": "10.00",
    "expirationDateTimeUtc": "2021-08-18T11:30:38.7419153Z",
    "dueDateTimeUtc": "2021-02-18T11:40:39.2516539Z",
    "lastUpdateTimeUtc": "2021-02-18T11:30:38.7419183Z",
    "lastProcessedTimeUtc": "2021-02-18T11:30:38.7419176Z",
    "flags": {
      "direct": true
    },
    "attributes": {},
    "paymentStatus": "Pending",
    "payments": [
      {
        "reference": "210221100167907356",
        "createDateTimeUtc": "2021-02-18T11:30:38.8874465Z",
        "paymentMethods": [
          "Card"
        ],
        "status": "Pending",
        "amountToCollect": "10.00",

```

```

    "surchargeAmount": "0",
    "steps": [
      {
        "reference": "210221204311875588",
        "createDateTimeUtc": "2021-02-18T11:30:39.2518647Z",
        "action": "Start",
        "paymentMethods": [
          "Card"
        ],
        "status": "Pending",
        "amountToCollect": "10.00"
      }
    ],
    "flags": {},
    "attributes": {
      "returnUrlSuccess":
"https://www.mywebshop.com/?paymentjobref=210221000033689624&paymentref=210221100167907356&ordernumber=Payment+ref+D1UT",
      "returnUrlFailed":
"https://www.mywebshop.com/?paymentjobref=210221000033689624&paymentref=210221100167907356&ordernumber=Payment+ref+D1UT",
      "returnUrlCancelled":
"https://www.mywebshop.com?paymentjobref=210221000033689624&paymentref=210221100167907356&ordernumber=Payment+ref+D1UT&status=cancelled",
      "cashFlowsAcquiringDetails":
      "{\\"ThreeDSecureVersion\\":\\"1.0.2\\",\\"ThreeDSecureVersionReason\\":\\"3-D Secure v2 not enabled for this merchant.\\"}"
    },
    "refunds": [],
    "captures": []
  }
],
},
"links": {
  "data": {
    "url": "https://gateway-int.cashflows.com/api/gateway/payment-jobs/210221000033689624",
    "type": "application/json"
  },
  "action": {
    "url": "https://gateway-int.cashflows.com/payment/form-post?ref=4ab07d818100e4880130c8e35d25ea1bbf867b6a880705a3ec3b702f979abd9acc488c04c93f40cf3cb32634459161dcc4296d0bd680e7a4bf8f9e051c2a5bd0",
    "type": "text/html"
  }
},

```

```
    "documentation": {  
      "url": "https://gateway-int.cashflows.com/payment-gateway-  
api/documentation/index.html",  
      "type": "text/html"  
    }  
  }  
}
```

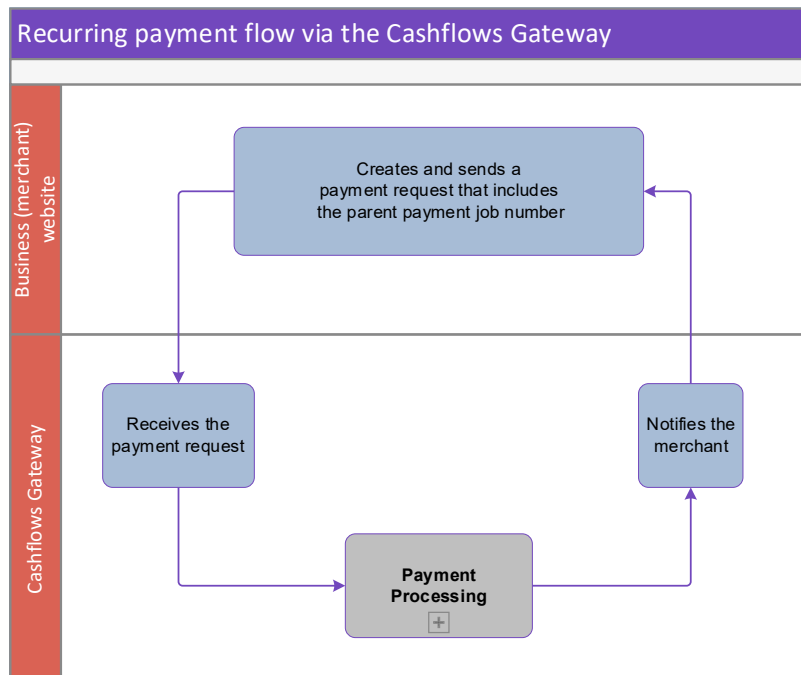


## Setting up and processing a recurring payment

For a recurring payment, your website needs to send us a payment request that includes a unique job number for the parent job under which the recurring child payments will take place. Therefore, you need to first create a parent payment job. Our Cashflows Gateway can then process the payment as usual and reply with a notification webhook to tell you the payment status of the parent job.

Any **recurring child payments do not need notification webhooks**. The status of a child payment is returned in the API response. Therefore, using the API response saves you some work and avoids unnecessary webhook traffic.

If you have set up a notification webhook in Cashflows Go, it gets used by the parent job (as required) but is also used automatically by the child payment jobs (not required). Therefore, instead of specifying the notification webhooks in Cashflows Go, you need to specify notification webhooks in the create payment job API request for the parent payment. This gives you greater control because you include a notification webhook only when need to (that is in the case of a parent payment). It also means that you don't need to reply to unnecessary webhooks, as described earlier in [How to reply to a notification webhook](#).



The process for setting up and processing a recurring payment involves the following steps:

1. Create a parent payment job for the initial transaction  
The cardholder needs to be present so that they can enter their card details, including security code (CVV) and go through 3-D Secure checks, if applicable. This initial transaction can include a payment or can be for a zero amount (to verify the card). This is also when you specify the notification webhook to use for the status of the parent payment. For information about creating a parent payment job, see [How to create a parent payment job](#).
2. Create the recurring child payment request that includes the unique job number (parentPaymentJobReference) of the parent payment job so that we can retrieve the card details to use for future payments. For information, see [How to create a recurring payment job](#).



## How to create a parent payment job

To set up a recurring payment, you need to create the parent payment job to verify a shopper's card and take a payment. Future recurring payments will be child payment jobs of this *parent*.

For a parent payment, you also need to specify the notification webhook to use for the status of the parent payment.

You can create a parent payment job via our Cashflows Gateway or via a hosted payment page, if you're using one. For information about using a hosted payment page, refer to [Adding a hosted payment page to a website](#) (PDF) on our website.

When you create a payment job via the Cashflows Gateway, you need to include some additional information in the request to make this payment job a parent payment job. The request should include the option 'IsRecurringPaymentJobParent'.

### Example request

```
{
  "type": "Payment",
  "locale": "en_GB",
  "options": ["IsRecurringPaymentJobParent"],
  "paymentMethodsToUse": ["creditcard"],
  "parameters": {
    "cardNumber": "4000*****0002",
    "cardCvc": "123",
    "cardExpiryMonth": "05",
    "cardExpiryYear": "23",
    "webhookUrl": "https://www.mywebhookurl"
  },
  "currency": "GBP",
  "amountToCollect": "0.00"
}
```

In this example, the payment was a zero-amount authorisation.

In Cashflows Go, the transaction will show as a recurring **parent** payment in the Advanced tab of the Transaction details. For more information, refer to the [Cashflows Go Guide](#) (PDF) on our website.

### Example response

```
{
  "data": {
    "reference": "210221000411041792",
    "createDateTimeUtc": "2021-02-22T17:06:06.9100226Z",
    "type": "Payment",
    "traceReference": "210220104303388672",
    "configurationId": "200426117314086912",
    "domain": "cashflows.com",
    "locale": "en_GB",
    "timeZone": "Europe/London",
    "orderHistory": [],
    "paymentMethodsToUse": [
      "Card"
    ],
    "currency": "GBP",
    "amountToCollect": "0.00",
    "expirationDateTimeUtc": "2021-08-22T17:06:06.9100204Z",
    "dueDateTimeUtc": "2021-02-22T17:16:07.510655Z",
    "lastUpdateTimeUtc": "2021-02-22T17:06:06.9100242Z",
    "lastProcessedTimeUtc": "2021-02-22T17:06:06.9100234Z",
    "flags": {
      "recurringParent": true,
      "direct": true
    }
  },
}
```

```

"attributes": {},
"paymentStatus": "Pending",
"payments": [
  {
    "reference": "210221100327286784",
    "createDateTimeUtc": "2021-02-22T17:06:07.0457549Z",
    "paymentMethods": [
      "Card"
    ],
    "status": "Pending",
    "amountToCollect": "0.00",
    "steps": [
      {
        "reference": "210221221533560840",
        "createDateTimeUtc": "2021-02-22T17:06:07.5108252Z",
        "action": "Start",
        "paymentMethods": [
          "Card"
        ],
        "status": "Pending",
        "amountToCollect": "0.00"
      }
    ],
    "flags": {},
    "attributes": {
      "returnUrlSuccess":
"https://www.bing.com/?paymentjobref=210221000411041792&paymentref=210221100327286784",
      "returnUrlFailed":
"https://www.yahoo.co.uk/?paymentjobref=210221000411041792&paymentref=210221100327286784",
      "returnUrlCancelled":
"https://www.google.co.uk?paymentjobref=210221000411041792&paymentref=210221100327286784&status=cancelled",
      "cashFlowsAcquiringDetails":
      "{\\"ThreeDSecureVersion\\":\\"1.0.2\\",\\"ThreeDSecureVersionReason\\":\\"3-D Secure v2 not enabled for this merchant.\\"}"
    },
    "refunds": [],
    "captures": []
  }
],
"links": {
  "data": {
    "url": "https://gateway-int.cashflows.com/api/gateway/payment-jobs/210221000411041792",
    "type": "application/json"
  },
  "action": {
    "url": "https://gateway-int.cashflows.com/payment/form-post?ref=4ab07d818100e4880130c8e35d25ea1be01f7f9452408d235224886e479afa8719b43b45d88251cf73bae8160e1bb551ca61ac1cbeab0c889200fe8199e49109",

```

```

        "type": "text/html"
    },
    "documentation": {
        "url": "https://gateway-int.cashflows.com/payment-gateway-
api/documentation/index.html",
        "type": "text/html"
    }
}
}
}

```

### Required fields

Field	Description
amountToCollect	The total value of the payment transaction.
currency	The transaction currency.
paidAmount	The amount paid by the shopper.
IsRecurringPaymentJobParent	A flag to indicate that this payment job is a parent payment job for the purpose of a recurring payment

**Important:** To comply with financial regulations, a payment request from a financial institution needs to include some extra information about the person who is receiving the funds. This includes payment requests for MOTO, parent and recurring transactions. You need to include the extra details in the recipientDetails object. For information, see [Additional details required for financial institutions](#).

### Optional fields

Field	Description
orderNumber	The reference number that you generate to identify an order.
customerName	The name of the shopper.
customerEmail	The email address of the shopper.
locale	Determines the language that messages are displayed in. For example, to set the language to English, use the locale en-GB. Other options are: <ul style="list-style-type: none"> <li>el_GR (Greek)</li> <li>en_US (US English)</li> <li>nl_NL (Dutch)</li> <li>es_ES (Spanish)</li> </ul>

**Tip:** If your language is not available, please choose the most appropriate language for your shoppers.

## Response codes

After you have submitted a request to create a parent payment job, the Gateway API responds with a code. Ideally the response is a success code but can be any of the following.

Code	Description
201	Parent payment job created successfully.
400	Request contains errors.
401	Invalid token.
403	Insufficient permissions.
404	Configuration not found.
406	Bad response

## How to create a recurring payment job

When you create the child payment job for the recurring payment, you must include the reference to the parent payment job to enable us to retrieve the card details to use for the payment. For information about creating a parent payment job, see [How to create a parent payment job](#).

Our gateway does not currently support scheduling. Therefore, you need to initiate the recurring payment with the required amount at the required time.

### Example request

The payment job request must include the parent payment job number for the default card or card selected by the shopper, for example:

```
{
  "amountToCollect": "10.00",
  "currency": "GBP",
  "locale": "en_GB",
  "parentPaymentJobReference": "200721021609123852",
  "order": {
    "orderNumber": "Payment 2"
  }
}
```

**Important:** To comply with financial regulations, a payment request from a financial institution needs to include some extra information about the person who is receiving the funds. This includes payment requests for MOTO, parent and recurring transactions. You need to include the extra details in the recipientDetails object. For information, see [Additional details required for financial institutions](#).

### Example response

The response contains the payment status. There is no need to specify a notification webhook for a recurring child payment job:

```
{
  "data": {
    "reference": "200921017221943304",
    "createDateTimeUtc": "2020-09-10T14:20:32.5873637Z",
    "type": "Payment",
    "traceReference": "200920100402698252",
    "configurationId": "200426117314086912",
    "domain": "cashflows.com",
    "locale": "en_GB",
    "timeZone": "Europe/London",
  }
}
```

```

"order": {
  "orderNumber": "Payment 2",
  "createDateTimeUtc": "2020-09-10T14:20:32.5873662Z",
  "orderLines": []
},
"orderHistory": [],
"parentPaymentJobReference": "200721021609123852",
"paymentMethodsToUse": [
  "Card"
],
"currency": "GBP",
"amountToCollect": "10.00",
"amountCollected": "10.00",
"paidAmount": "10.00",
"paidDateTimeUtc": "2020-09-10T14:20:33.763025Z",
"expirationDateTimeUtc": "2021-03-10T14:20:32.5873618Z",
"lastUpdateTimeUtc": "2020-09-10T14:20:33.7981683Z",
"lastProcessedTimeUtc": "2020-09-10T14:20:32.5873645Z",
"flags": {
  "direct": true
},
"attributes": {},
"paymentStatus": "Paid",
"payments": [
  {
    "reference": "200921100142737416",
    "createDateTimeUtc": "2020-09-10T14:20:32.8319012Z",
    "paymentMethods": [
      "Card"
    ],
    "status": "Paid",
    "amountToCollect": "10.00",
    "surchargeAmount": "0",
    "paidAmount": "10.00",
    "steps": [
      {
        "reference": "200921217196650516",
        "createDateTimeUtc": "2020-09-10T14:20:33.762769Z",
        "action": "Start",
        "paymentMethods": [
          "Card"
        ],
        "status": "Paid",
        "amountToCollect": "10.00"
      }
    ]
  },
  {
    "reference": "200921217196650516",
    "createDateTimeUtc": "2020-09-10T14:20:33.762769Z",
    "action": "Start",
    "paymentMethods": [
      "Card"
    ],
    "status": "Paid",
    "amountToCollect": "10.00"
  }
],
"flags": {},
"attributes": {
  "returnUrlSuccess": "https://gateway-
int.cashflows.com/payment?ref=4ab07d818100e4880130c8e35d25ea1b4131ec54744e457ba541445578fce
d03c977295fb58cd009e7944c69e6a8876cc1af0b024b99302aea53b8ca09aafe24",

```

```

"returnUrlFailed": "https://gateway-
int.cashflows.com/payment?ref=4ab07d818100e4880130c8e35d25ea1b4131ec54744e457ba541445578fced03c977295fb58cd009e7944c69e6a8876cc1af0b024b99302aea53b8ca09aafe24",
"returnUrlCancelled": "https://gateway-
int.cashflows.com/payment?ref=4ab07d818100e4880130c8e35d25ea1b4131ec54744e457ba541445578fced03c977295fb58cd009e7944c69e6a8876cc1af0b024b99302aea53b8ca09aafe24&status=cancelled",
"cashFlowsAcquiringDetails": "{\"AuthCode\":\"AUTHOK\",\"Arn\":\"74501870254010013958712\",\"Message\":\"Authorised\",\"Status\":\"Successful\",\"IssuerResponseCode\":\"00\",\"CvvAvsResult\":\"000\",\"AcquirerResponseCode\":\"A\"}",
"paymentMethodTransactionId": "01S00CECA74"

```

### Required fields

Field	Description
amountToCollect	The total value of the payment transaction.
currency	The transaction currency.
parentPaymentJobReference	The unique reference number of the parent payment under for this is recurring child payment.

**Important:** To comply with financial regulations, a payment request from a financial institution needs to include some extra information about the person who is receiving the funds. This includes payment requests for MOTO, parent and recurring transactions. You need to include the extra details in the recipientDetails object. For information, see [Additional details required for financial institutions](#).

### Optional fields

Field	Description
orderNumber	The reference number that you generate to identify an order.
customerName	The name of the shopper.
customerEmail	The email address of the shopper.
locale	Determines the language that messages are displayed in. For example, to set the language to English, use the locale en-GB. Other options are: <ul style="list-style-type: none"> <li>el_GR (Greek)</li> <li>en_US (US English)</li> <li>nl_NL (Dutch)</li> <li>es_ES (Spanish)</li> </ul>

**Tip:** If your language is not available, please choose the most appropriate language for your shoppers.

**Response codes**

After you have submitted a request to create a parent payment job, the Gateway API responds with a code. Ideally the response is a success code but can be any of the following.

<b>Code</b>	<b>Description</b>
201	Payment job created successfully.
400	Request contains errors.
401	Invalid token.
403	Insufficient permissions.
404	Configuration not found.
406	Bad response



## Cancelling a payment

If you need to cancel a payment, you can do this in Cashflows Go, as long as the payment has not been settled (which means that the funds have not been transferred yet). If you cancel a payment, you must cancel the full amount.

When you cancel a payment, you are deleting the request for the funds (the capture request). No funds are ever taken from the card. These requests for funds are batched up and submitted at midnight. Therefore, you can cancel a payment on the same day any time up until midnight. If you need to cancel a payment after midnight (not the same day), the funds will have been transferred and you need to refund the payment instead. For information, see [Refunding a payment](#).

Cancelling a payment and cancelling a payment job are not the same thing. If you cancel a payment but not the payment job, you can still use the payment job for submitting more payments in the future. For information, see [Cancelling a payment](#).

### How to cancel a payment

As long as a payment has not been settled, you can usually cancel the payment on the same day when the transaction occurred.

You can only cancel a payment job for payments that have not been settled. If a payment has been settled, the only way to reverse it is with a refund. For information, see [Refunding a payment](#).

### Example request to cancel a payment

The cancel payment has no message body. You just need to include the paymentJobReference and paymentReference in the URL, for example:

<https://gateway-int.cashflows.com//api/gateway/payment-jobs/210221017490247692/payments/210221117473470476/cancel>

### Example response

```
{
  "data": {
    "reference": "210221117473470476",
    "createDateTimeUtc": "2021-02-24T14:05:08.475Z",
    "paymentMethods": [
      "Card"
    ],
    "status": "Cancelled",
    "amountToCollect": "10.00",
    "surchargeAmount": "0",
    "paidAmount": "10.00",
    "steps": [
      {
        "reference": "210221221667909660",
        "createDateTimeUtc": "2021-02-24T14:05:08.9Z",
        "action": "Start",
        "paymentMethods": [
          "Card"
        ],
        "status": "Pending",
      }
    ]
  }
}
```



```

        "amountToCollect": "10.00"
    },
    {
        "reference": "210221204563402752",
        "createDateTimeUtc": "2021-02-24T14:05:30.79Z",
        "action": "Process",
        "paymentMethods": [
            "Card"
        ],
        "status": "Paid",
        "amountToCollect": "10.00"
    },
    {
        "reference": "210221204596957184",
        "createDateTimeUtc": "2021-02-24T14:11:07.9139698Z",
        "action": "Cancel",
        "paymentMethods": [
            "Card"
        ],
        "status": "Cancelled",
        "amountToCollect": "10.00"
    }
],
"flags": {},
"attributes": {
    "returnUrlSuccess":
"https://www.mywebshop.com/?paymentjobref=210221017490247692&paymentref=210221117473470476&ordernumber=Payment+ref+D1C",
    "returnUrlFailed":
"https://www.mywebshop.com/?paymentjobref=210221017490247692&paymentref=210221117473470476&ordernumber=Payment+ref+D1C",
    "returnUrlCancelled":
"https://www.mywebshop.com?paymentjobref=210221017490247692&paymentref=210221117473470476&rdernumber=Payment+ref+D1C&status=cancelled",
    "cashFlowsAcquiringDetails":
    "{\
    \"ThreeDSecureVersion\": \"1.0.2\",
    \"ThreeDSecureVersionReason\": \"3-D Secure v2 not enabled for this merchant.\",
    \"AuthenticationStatus\": \"Y\",
    \"Xid\": \"0Kbcw53GnooWrEjdo1T3f1iBbb0=\",
    \"Cavv\": \"7EmWG0mKzy1eEJPl890fUwX9S9T=\",
    \"Eci\": \"05\",
    \"AuthCode\": \"AUTHOK\",
    \"Arn\": \"74501871055010015749357\",
    \"Message\": \"Authorised\",
    \"Status\": \"Successful\",
    \"IssuerResponseCode\": \"00\",
    \"CvvAvsResult\": \"200\",
    \"AcquirerResponseCode\": \"A\",
    \"TruncatedCardNumber\": \"400000*****0002\"}",
    "originatingIpAddress": "86.167.78.143, 23.200.87.37, 88.221.114.222",
    "originHeader": ""https://integration.cashflows.com"",
    "paymentMethodTransactionId": "01S00DB3211",
    "paymentMethodVoidTransactionId": "01V00DB322B"
},
"refunds": [],
"captures": []
}
}

```

## How to cancel a payment job

A payment job can remain on the Cashflows Gateway for six months before it expires so it's good housekeeping to cancel any payment jobs that are no longer in use.

**Tip:** If you want a payment job to expire sooner than six months, you can set an expiry date when you create the payment job. Here's an example that includes an expiration date and time:

```
{ "type": "Payment", "paymentMethodsToUse": ["creditcard"], "parameters":
{ "cardNumber": "4000000000000002", "cardCvc": "123", "cardExpiryMonth": "05",
"cardExpiryYear": "23" }, "order": { "orderNumber": "Payment ref D1E"}, "currency": "GBP",
"amountToCollect": "10.00", "expirationDateTimeUtc": "2021-01-20T16:50:01" }
```

It's also good practice to cancel a payment job to prevent misuse and ensure that that it can't be used for any other tasks. When you can cancel a payment job, it will not be possible to submit any more payments using the same payment job.

**Note:** Cancelling a payment job does not cancel completed payments.

## Example request to cancel a payment job

**PATCH** <https://gateway-int.cashflows.com/api/gateway/payment-jobs/{paymentJobReference}/cancel>

## Example response

```
{
  "data": {
    "reference": "210121017238589452",
    "createDateTimeUtc": "2021-01-14T10:32:50.506Z",
    "type": "Payment",
    "traceReference": "210120117364553808",
    "configurationId": "200426117314086912",
    "domain": "cashflows.com",
    "locale": "en_GB",
    "timeZone": "Europe/London",
    "order": {
      "orderNumber": "Your ref",
      "createDateTimeUtc": "2021-01-14T10:32:50.506Z",
      "billingAddress": {
        "firstName": "Alex",
        "lastName": "Smith"
      },
      "billingIdentity": {
        "emailAddress": "alex@test.com"
      },
      "orderLines": []
    },
    "orderHistory": [],
    "paymentMethodsToUse": [
      "Card"
    ],
    "currency": "GBP",
    "amountToCollect": "10.00",
```

```

"expirationDateTimeUtc": "2021-07-14T10:32:50.506Z",
"lastUpdateTimeUtc": "2021-01-14T15:10:59.0720383Z",
"lastProcessedTimeUtc": "2021-01-14T10:32:50.506Z",
"flags": {
  "createdOnMapi": true
},
"attributes": {},
"paymentStatus": "Cancelled",
"payments": [
  {
    "reference": "210121117372807180",
    "createDateTimeUtc": "2021-01-14T10:32:50.677Z",
    "paymentMethods": [
      "Card"
    ],
    "status": "Cancelled",
    "amountToCollect": "10.00",
    "steps": [
      {
        "reference": "210121217372942352",
        "createDateTimeUtc": "2021-01-14T10:32:50.73Z",
        "action": "DisplayHostedPage",
        "paymentMethods": [
          "Card"
        ],
        "status": "Pending",
        "amountToCollect": "10.00"
      },
      {
        "reference": "210121217339387924",
        "createDateTimeUtc": "2021-01-14T15:10:59.0479346Z",
        "action": "Cancel",
        "paymentMethods": [
          "Card"
        ],
        "status": "Cancelled",
        "amountToCollect": "10.00"
      }
    ]
  },
  {
    "returnUrlSuccess":
https://www.mywebshop.com/?paymentjobref=210121017238589452&paymentref=210121117372807180&ordernumber=Your+ref,
    "returnUrlFailed":
https://www.mywebshop.com/?paymentjobref=210121017238589452&paymentref=210121117372807180&ordernumber=Your+ref,
    "returnUrlCancelled":
https://www.mywebshop.com?paymentjobref=210121017238589452&paymentref=210121117372807180&rdernumber=Your+ref&status=cancelled
  },

```

```

        "refunds": [],
        "captures": []
    }
  ]
}

```

### Required fields

Field	Description
paymentJobReference	The reference of the payment job to cancel.
paymentReference	The reference of the payment to cancel.

### Optional fields

Field	Description
configurationId	Your configuration ID.
hash	A hexadecimal sha512 hash of your password.
locale	<p>Determines the language that messages are displayed in. For example, to set the language to English, use the locale en-GB. Other options are:</p> <ul style="list-style-type: none"> <li>• el_GR (Greek)</li> <li>• en_US (US English)</li> <li>• nl_NL (Dutch)</li> <li>• es_ES (Spanish)</li> </ul>

**Tip:** If your language is not available, please choose the most appropriate language for your shoppers

### Response codes

Code	Description
200	Payment or payment job successfully cancelled.
400	Request contains errors.
401	Invalid token.
403	Insufficient permissions.
404	Configuration, payment job or payment not found.
406	Bad response



## Refunding a payment

Occasionally it might be necessary to refund a payment, for example if a shopper returns an item. You can make a refund via Cashflows Go. For information, refer to the *Cashflows Go Guide*. Alternatively, you can use an API call to the Cashflows Gateway.

### How to refund a payment

To refund a payment, you need the *paymentJobReference* and *paymentReference* of the payment job that was used to make the original payment.

**Note:** A payment job can include multiple payments. However, you cannot refund in one call more than the amount that was paid using the payment method that is specified in the payment job that the *paymentReference* refers to.

### Example request

POST <https://gateway-int.cashflows.com/api/gateway/payment-jobs/{paymentJobReference}/payments/{paymentReference}/refunds>

```
{"amountToRefund": "10.00", "refundNumber" : "Your refund reference"}
```

### Example response

```
{
  "data": {
    "reference": "210123000142606340",
    "createDateTimeUtc": "2021-01-14T15:21:56.9346867Z",
    "refundNumber": "Your refund reference",
    "status": "Completed",
    "amountToRefund": "10.00",
    "steps": [
      {
        "reference": "210123100142606340",
        "createDateTimeUtc": "2021-01-14T15:21:57.6097637Z",
        "action": "Start",
        "status": "Completed",
        "resultAttributes": {}
      }
    ]
  },
}
```

```

      "attributes": {
        "cashFlowsAcquiringDetails":
"{\"ThreeDSecureVersion\": \"1.0.2\", \"ThreeDSecureVersionReason\": \"3-D Secure v2 not
enabled for this
merchant.\", \"AuthenticationStatus\": \"Y\", \"Xid\": \"17TnAA8FZXc4eYiMEvUE1CauPu1=\", \"Cavv\
\": \"jqvNMAuNmkJdA878z9A7PsPvTR=\", \"Eci\": \"05\", \"AuthCode\": \"116\", \"Arn\": \"\", \"Messa
ge\": \"Authorised\", \"Status\": \"Successful\", \"IssuerResponseCode\": \"\", \"CvvAvsResult\":
\"222\", \"AcquirerResponseCode\": \"A\", \"TruncatedCardNumber\": \"400000*****0002\"}",
        "paymentMethodTransactionId": "01R00D76D2C"
      }
    }
  }
}

```

### Required fields

Field	Description
paymentJobReference integer(\$int64) (path)	The reference of the payment job to create a refund for.
paymentReference integer(\$int64) (path)	The reference of the payment to create a refund for.

### Optional fields

Field	Description
configurationId string (header)	Your configuration ID.
hash string (header)	A hexadecimal sha512 hash of your password plus the body.
locale string (query)	Determines the language that messages are displayed in. For example, to set the language to English, use the locale en-GB. Other options are: <ul style="list-style-type: none"> <li>el_GR (Greek)</li> <li>en_US (US English)</li> <li>nl_NL (Dutch)</li> <li>es_ES (Spanish)</li> </ul>

**Tip:** If your language is not available, please choose the most appropriate language for your shoppers

## Response codes

Code	Description
201	Refund created successfully.
400	Request contains errors.
401	Invalid token.
403	Insufficient permissions.
404	Configuration, payment job or payment not found.
406	Bad response



## Managing capture requests

The payment process for a card transaction involves the following stages:

- **Authorisation**  
This is when a shopper's payment is validated to ensure that they can pay the requested amount. The payment is reserved for you (the business owner) but the funds are not actually taken from the shopper's account.
- **Capture**  
The bank receives a capture request from you. This indicates to the bank that you are ready to ship goods or provide your services to the shopper. The bank then charges the shopper's payment card for the goods or services that they are buying. If the bank does not receive a capture request, the bank releases the reserved funds typically after five to seven days.

Our Cashflows Gateway takes care of the capture stage. By default, funds are automatically captured for the payments that we process for you. Cashflows Go has an option called Auto Capture. When this option is enabled, we send both an authorisation (to reserve the funds on the card) and a capture request (for the funds to be transferred) to the shopper's bank. By default, Auto Capture is enabled but you can disable it at any time.

Depending on the nature of the business, it might be necessary for you to defer the capture of the funds until the shopper is ready to pay for the service. For example, if the business offers services that shoppers book ahead and pay for later when or after they receive the service. Examples of such transactions are hotel reservations or car hire bookings.

To defer the capture stage, you need to:

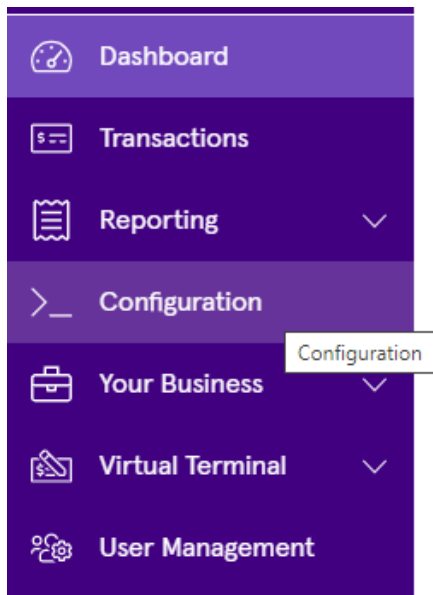
1. Disable Auto Capture in Cashflows Go. For information, see [How to disable automatic capture for all payments](#).
2. Create a capture request with an API call within seven days. For information, see [How to create a capture request](#).

## How to disable automatic capture for all payments

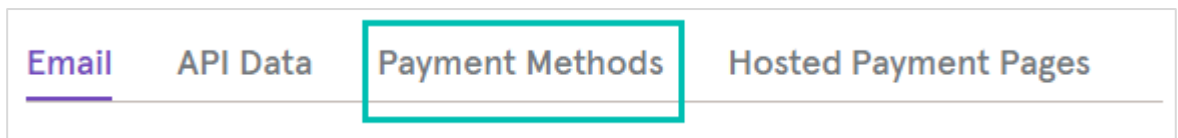
**Note:** The steps that follow apply to all transactions. If you want to defer capture for an individual payment, you need to use create a capture request with an API call. For information, see [How to create a capture request](#).

### To disable Auto Capture:

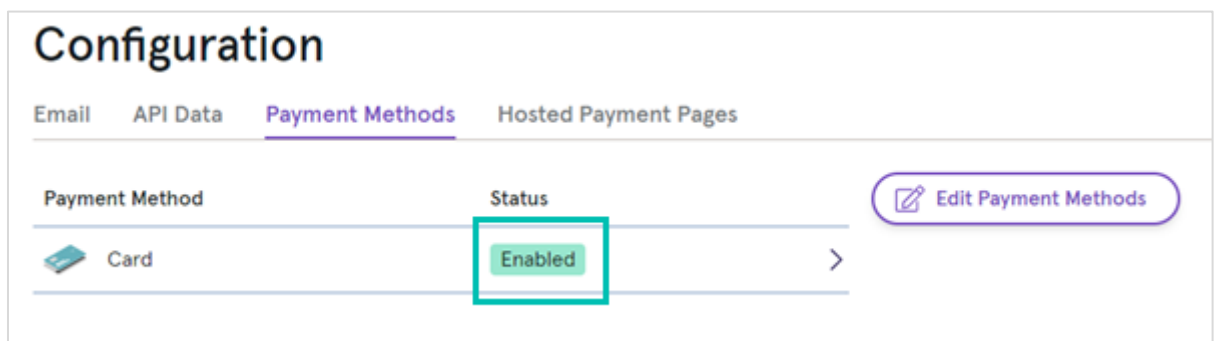
3. Sign into [Cashflows Go](#). If you don't know how to sign in, visit [How to sign in to Cashflows Go](#) on our website.
4. From the Cashflows Go menu, select **Configuration**.



5. Select **Payment Methods**.

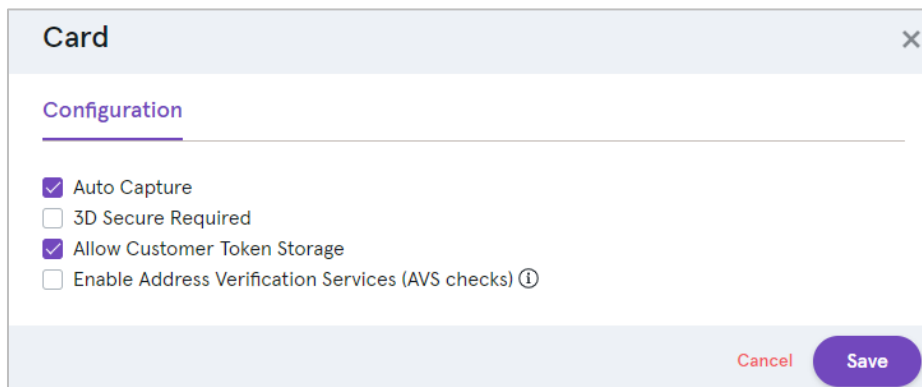


6. Select **Enabled**.

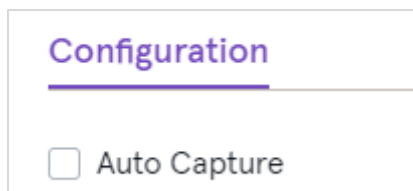




The card settings are displayed:



7. Clear the Auto Capture check box.



8. Select **Save**.
9. From now on, only an authorisation request will be sent. This will reserve funds on the card but the payment will not be completed. To complete the payment, you need to issue a separate capture request within seven days using an API call via the Cashflows Gateway. For information, see [How to create a capture request](#).

### How to create a capture request

If you disable Auto Capture, we send an authorisation request to reserve funds on the card, but the payment will not be completed. To complete the payment, you need to issue a separate capture request within seven days using an API call via the Cashflows Gateway.

#### Example request

POST <https://gateway-int.cashflows.com/api/gateway/payment-jobs/{paymentJobReference}/payments/{paymentReference}/captures>

```
{"amountToCapture": "10", "isFinalCapture": "true"}
```

### Example response

```
{
  "data": {
    "reference": "210123500033554432",
    "createDateTimeUtc": "2021-01-14T15:18:27.1360974Z",
    "status": "Completed",
    "amountToCapture": "10",
    "isFinalCapture": true,
    "attributes": {
      "paymentMethodTransactionId": "01S00D76D1A"
    }
  }
}
```

### Required fields

Field	Description
paymentJobReference	The reference of the payment job to capture.
paymentReference	The reference of the payment to create a capture for.

### Optional fields

Field	Description
configurationId	Your configuration ID.
hash	A hexadecimal sha512 hash of your password plus the body.
locale	Determines the language that messages are displayed in. For example, to set the language to English, use the locale en-GB. Other options are: <ul style="list-style-type: none"> <li>el_GR (Greek)</li> <li>en_US (US English)</li> <li>nl_NL (Dutch)</li> <li>es_ES (Spanish)</li> </ul>

**Tip:** If your language is not available, please choose the most appropriate language for your shoppers

## Response codes

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



## Transaction currencies

Our Cashflows Gateway supports a range of currencies in addition to Pound Sterling - GBP. For the full list of supported currencies, visit our website.

**Note:** We need to configure your business account to use other currencies. Please contact our [Technical Support team](#) or your account manager.



## Address Verification Service (AVS) checks

The Address Verification Service (AVS) is a fraud-prevention service that banks can subscribe to. This service is generally used in the UK, US, and Canada. AVS uses the address details that a shopper provides to verify that the address registered to the card that they are paying with is valid and matches the address that the bank has on record.

If a shopper's bank subscribes to the Address Verification Service (AVS), their bank confirms to us (and you, the business owner) whether or not the address matches.

AVS checking is not enabled by default. You can enable it in Cashflows Go.

**Important:** Enabling AVS checks needs careful consideration. You need to understand the checks that this carries out the checks and responses that you might receive as a result of those checks. We recommend that you enable this option only if you are confident in your knowledge of payment processing.

For more information, contact our [Technical Support team](#) or your account manager. If you need to contact our Customer Support team, you can also visit: [Support Contact Details](#).



## 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, send an email request to [techsupport@cashflows.com](mailto: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 some payment requests to the integration environment (<https://secure-int.cashflows.com/gateway/standard>) using 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

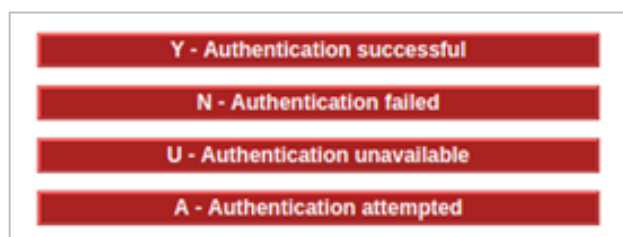
If you enter some test card details and select **Pay with card ...**, you see our 3-D Secure simulation page. For information, see [Using our 3-D Secure simulator](#).

### Using our 3-D Secure simulator

Some banks require an extra layer of security known as 3-D Secure (although different card schemes use different names, for example Verified by Visa, SecureCode or Identify Check). 3-D Secure settings are set on the Cashflows Gateway at the business (or merchant) level. This means that you are responsible for enabling 3-D Secure settings. If 3-D Secure is enabled, the Hosted Payment Page redirects a shopper to their banking website, collects the 3-D Secure data and automatically adds it to the payment details that we receive from your website. For more information about 3-D Secure, visit:

- [Secure payments, Verified by Visa](#)
- [Mastercard: Identity Check](#)
- [Maximising Payment Success](#) (PDF on our website)  
A whitepaper on our Cashflows website about Strong Customer Authentication.

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

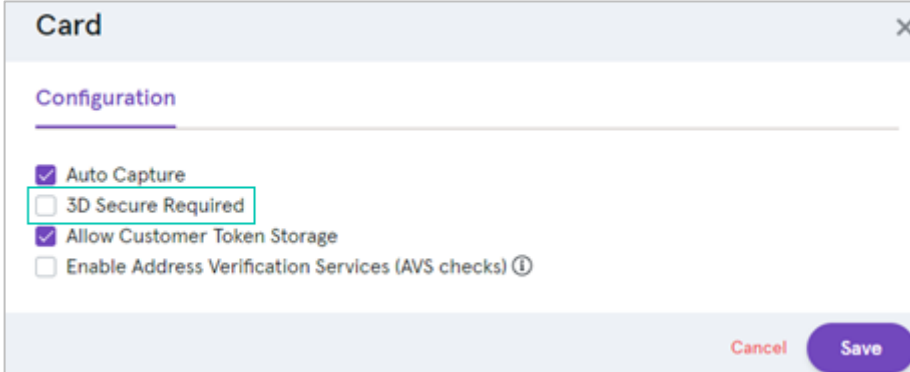
This option simulates a payment that has successfully passed all 3-D Secure checks. The payment will proceed to the authorisation stage of payment processing.

### 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**.



Card

Configuration

- Auto Capture
- 3D Secure Required
- Allow Customer Token Storage
- Enable Address Verification Services (AVS checks) ⓘ

Cancel Save

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.

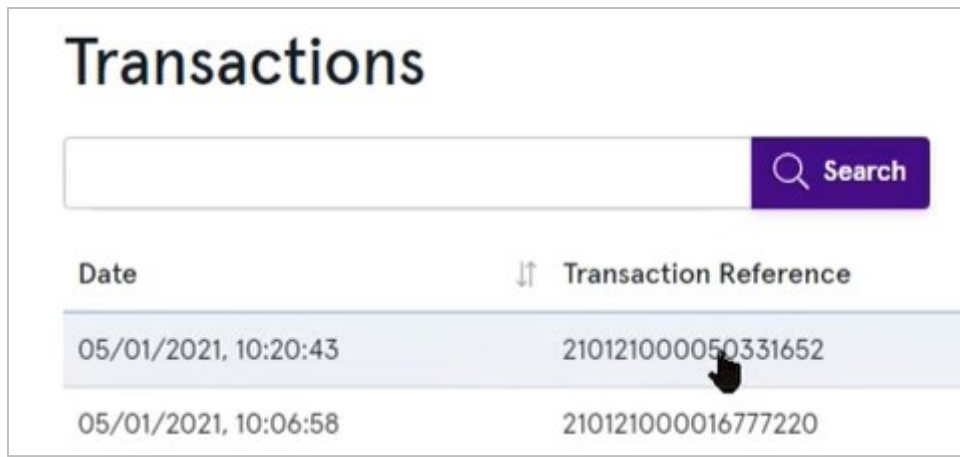
### Authentication attempted

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.

### Troubleshooting transactions

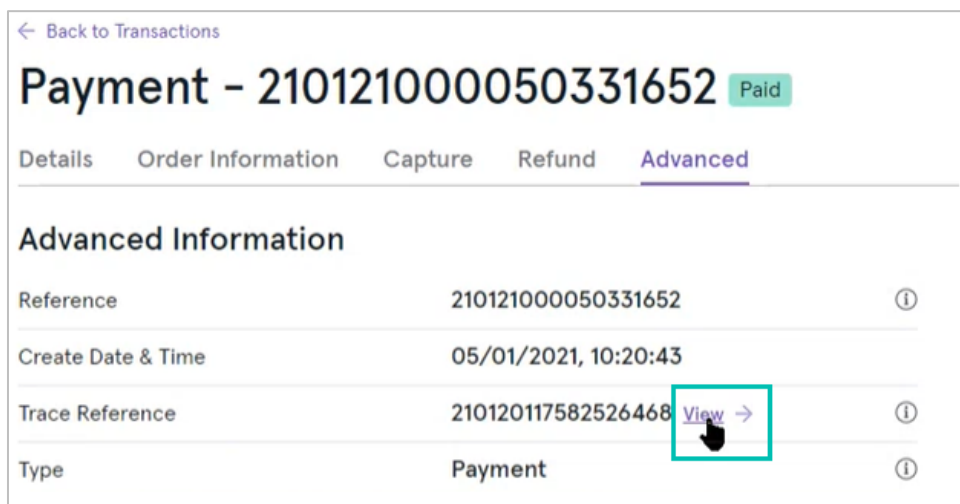
Cashflows Go includes a useful option for investigating problems with transactions. If you have Owner permissions, you can identify a transaction that needs troubleshooting, select it and drill down to find out more. For information about user permissions in Cashflows Go, refer to the [Cashflows Go Guide \(PDF\)](#) on our website.

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 **Transactions**.
3. Select a Transaction to investigate.



Date	Transaction Reference
05/01/2021, 10:20:43	210121000050331652
05/01/2021, 10:06:58	210121000016777220

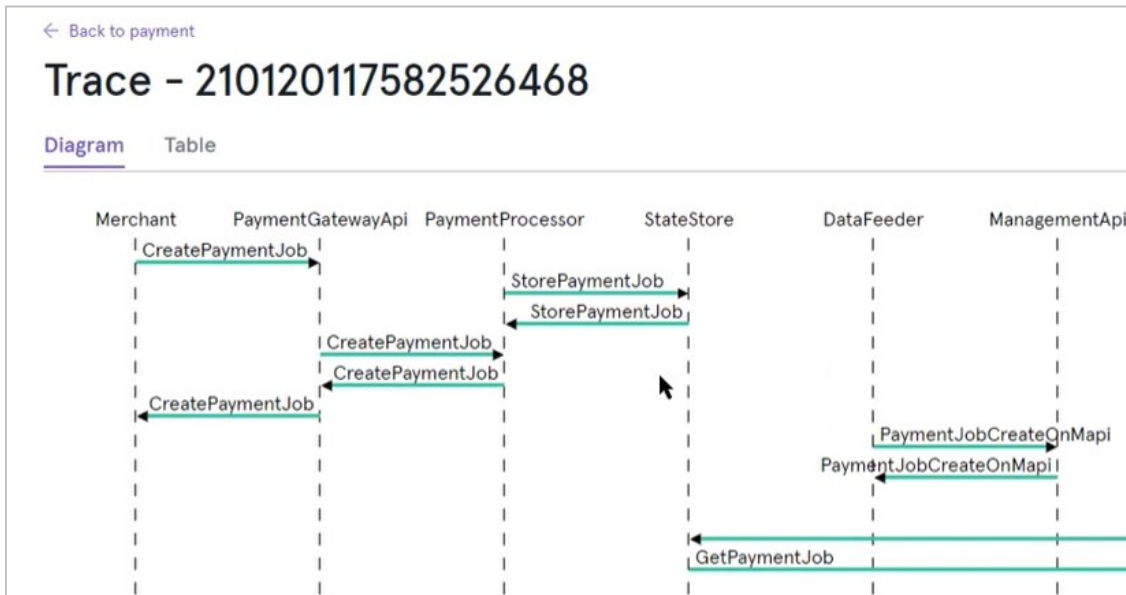
4. Select the **Advanced** tab.
5. Next to the Trace reference, select View.



Advanced Information	
Reference	210121000050331652
Create Date & Time	05/01/2021, 10:20:43
Trace Reference	210120117582526468 <a href="#">View →</a>
Type	Payment

You can see a snapshot that show all of the actions that took place during the processing of the selected payment. You can view the payment actions in diagram format or as a table. Here is an example of the same transaction in each view format.

### Diagram format



### Table format

← Back to payment

## Trace - 210120117582526468

Diagram Table

Show advanced

Trace table Columns

Date & Time	State	From	To	Success	IP Address
05/01/2021, 10:20:43	CreatePaymentJob	Merchant	PaymentGatewayApi	True	81.106.197.200, 95.101.129.207
05/01/2021, 10:20:44	StorePaymentJob	PaymentProcessor	StateStore	True	
05/01/2021, 10:20:44	StorePaymentJob	StateStore	PaymentProcessor	True	
05/01/2021, 10:20:44	CreatePaymentJob	PaymentGatewayApi	PaymentProcessor	True	
05/01/2021, 10:20:44	CreatePaymentJob	PaymentProcessor	PaymentGatewayApi	True	
05/01/2021, 10:20:44	CreatePaymentJob	PaymentGatewayApi	Merchant	True	81.106.197.200, 95.101.129.207
05/01/2021, 10:20:44	PaymentJobCreateOnMapi	DataFeeder	ManagementApi	True	
05/01/2021, 10:20:44	PaymentJobCreateOnMapi	ManagementApi	DataFeeder	True	
05/01/2021, 10:21:01	ShowPaymentPage	ClientBrowser	PaymentPage	True	81.106.197.200, 95.101.129.207

If an action that needs investigating, the Success column says False and is displayed in red. Here is an example of a Notification that was not successfully sent:

05/01/2021, 10:23:12	PaymentJobUpdateOnMapi	ManagementApi	DataFeeder	True
05/01/2021, 10:23:17	Notification	Notifier	Notifier	False

You can select the transaction to display the underlying code:

05/01/2021, 10:23:17	Notification	Notifier	Notifier	False
----------------------	--------------	----------	----------	-------

```

There is no SystemNotificationsEmail configured for domain (cashflows.com) and configurationId (200426117314086912)
    
```

In this example, the notification URL hasn't been set up in Cashflows Go. For information, see [Where should we send payment status updates?](#)





## 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](mailto: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.

# Cashflows



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