

AfterPay[®]

Technical White Paper

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Introduction

AfterPay is a payment-after-delivery service developed by Arvato Financial Solutions to enable omni-channel businesses to offer shoppers a convenient way of separating checkout from the actual payment. This is typically attractive for consumers on the go, frequent shoppers and consumers who want to first experience the goods before paying.

At its core, AfterPay offers an invoice that is open to be paid within 14 days. AfterPay also supports part payment options to support merchants with sales financing and consumers with the possibility of evening out their expenditure.

AfterPay covers the risk of consumers not paying, thus eliminating credit and fraud risk for merchants. AfterPay settles the invoice amount to the merchants independent of when consumers pay their invoice.

This technical white paper explains the structure of AfterPay and the resources available for the AfterPay integration. Target reading groups are e-commerce managers and developers with foundational e-commerce and payment knowledge. Readers can find the latest version of this technical white paper on the AfterPay Developer Portal (<https://developer.afterpay.io/whitepaper>).

Product Overview

More shoppers than ever before shop on their mobile devices, and making the checkout experience as easy as possible continues to be a top priority. Pay-after-delivery services facilitate just that and allow shoppers to separate the checkout from the execution of the actual payment.

AfterPay gives shoppers the freedom to pay whenever and however they find it most convenient. AfterPay consists of two fundamental payment alternatives: invoice and part payment. Each alternative offers various options, as illustrated in the Figure 1.

The merchant can choose when the options, as well as which options, are available during the checkout process. The shopper can also switch an invoice to a part payment scheme after the purchase has been made. A more detailed explanation of how to display the different payment options can be found in our Display Guidelines.

Invoice			Part payment	
14-day invoice	Campaign invoice	Consolidated invoice	Fixed instalments	Flex payment

Figure 1: AfterPay product structure

Invoice

Shoppers who chose AfterPay's invoice are subject to predefined payment terms to pay the invoice and shall pay the full purchase amount on the invoice due date. The due date is always calculated based on the dispatch date of the goods, not the purchase date.

14-day invoice

The most common terms of payment are within 14 days after the purchase, which gives shoppers enough time to experience the goods before paying. The full purchase amount is to be paid by the due date.

Campaign invoice

During peak seasons, such as Christmas, merchants may use campaign invoicing, which allows shoppers extended payment terms per purchase or a fixed due date.

AfterPay offers standard campaigns depending on the season. Merchants are able to set up specific campaigns through separate agreements. All campaigns can be retrieved by calling the AfterPay API.

For example, Christmas campaign A would be displayed at checkout as “Buy now, pay after Christmas” and payment is due by January 31, regardless of the actual purchase date, as seen in Figure 2.

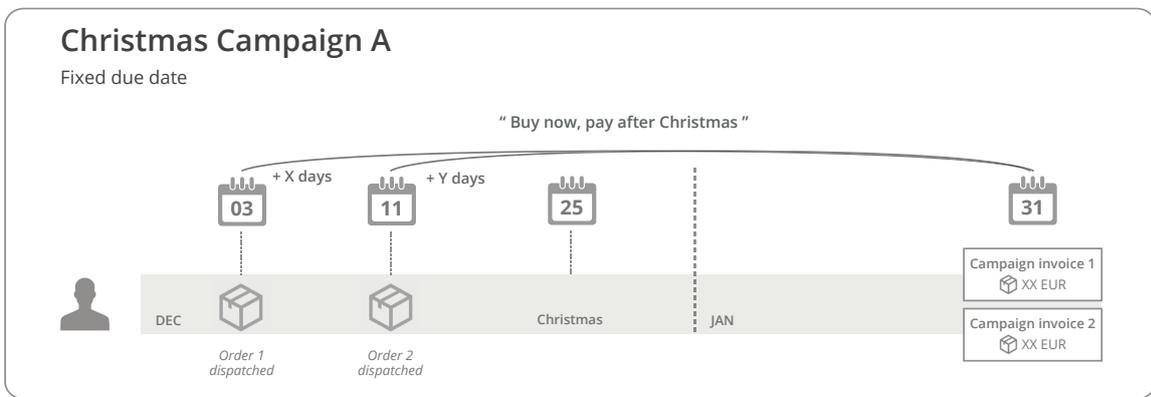


Figure 2: Christmas campaign A timeline

In contrast, Christmas campaign B would be displayed at checkout as “Buy now, pay in 30 days” and payment is due within 30 days from dispatch, as shown in the Figure 3.

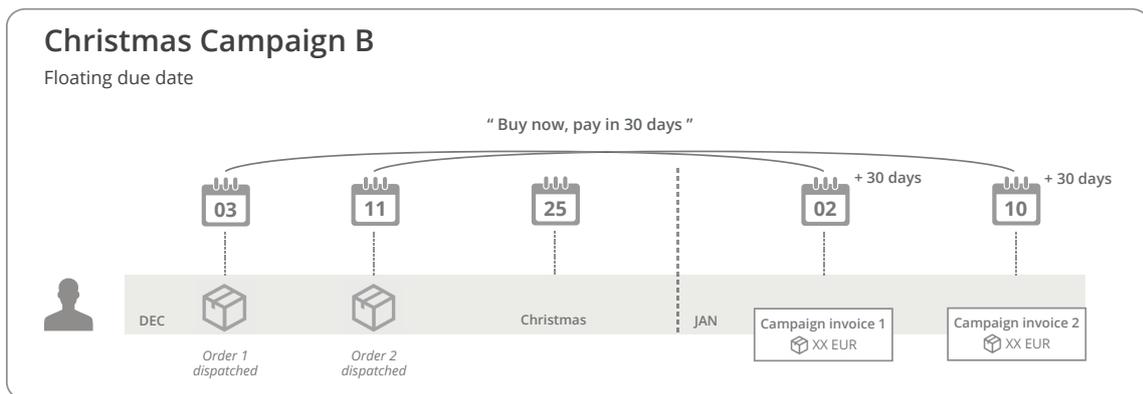


Figure 3: Christmas campaign B timeline

Consolidated invoice

Providing convenience for shoppers who frequently make small purchases, AfterPay can consolidate all these purchases into a single invoice. The most common use case is a monthly invoice, which is typically suitable for transportation tickets or digital streaming services, but the frequency of the invoicing can be agreed separately. While the actual purchases are made on different dates and AfterPay sends out confirmations upon purchase, the payment terms of 14 days start from the date on which the consolidated invoice is issued. An example of a consolidated invoice is illustrated in Figure 4.

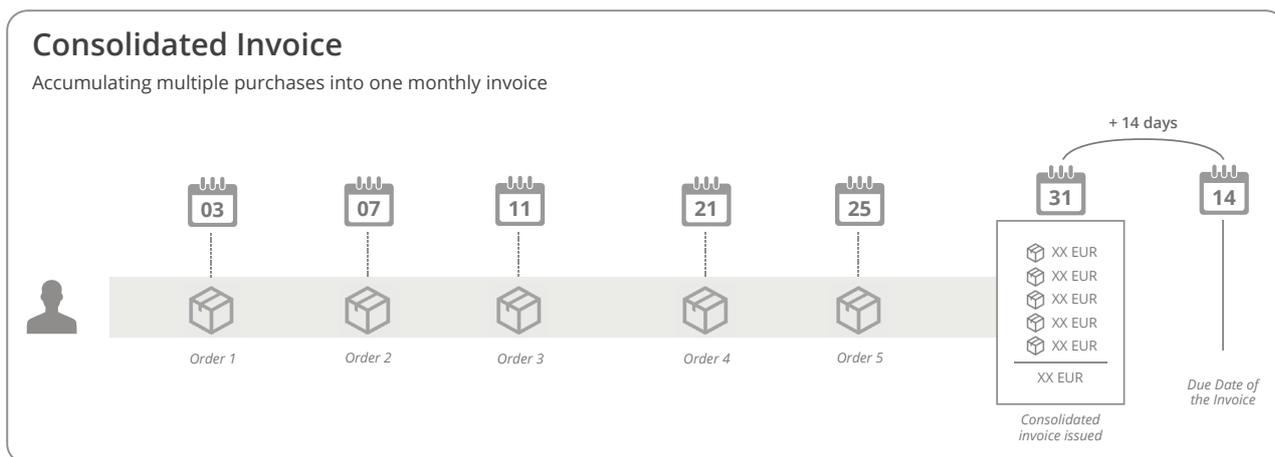


Figure 4: Consolidated invoice timeline

Part payment

Through its part payment option, AfterPay allows shoppers to pay a particular purchase over time, enabling them to make higher order value purchases while limiting their monthly spending.

Fixed instalments

AfterPay offers fixed instalment plans with predefined maturities of 3, 6, 12, 24, or 36 months. The Payment API determines which of these instalment plans can be offered. The monthly amount to be paid in a fixed instalment plan is the same during the entire plan.

In order for shoppers to initiate a part payment, they need to both select the part payment option at checkout and sign a credit agreement within 14 days after receiving the first invoice. If the shopper does not sign the credit agreement, AfterPay treats the payment as a regular 14-day invoice. The credit agreement can be signed in AfterPay's customer portal. In addition, shoppers in Sweden or Norway must also sign KALP.

The account notice is sent on country-specific dates (e.g. the 18th of the month in Sweden), and has payment terms of 12 days.

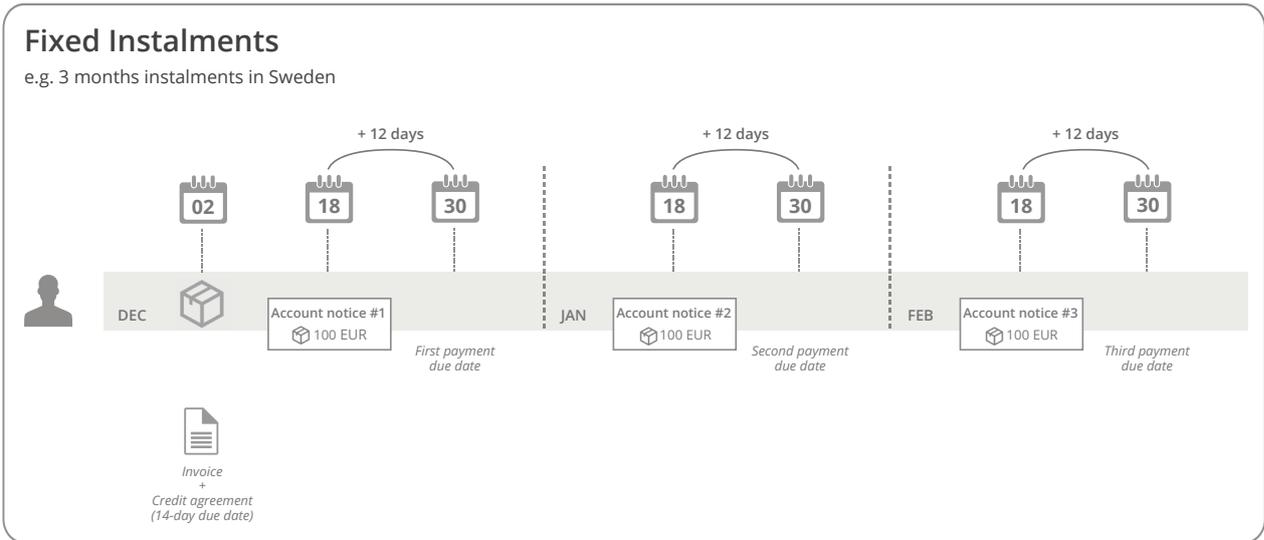


Figure 5: Fixed instalments timeline

Flex payment

Merchants can provide shoppers with a more flexible payment option at checkout by allowing them to control the amount they are willing to pay per month, which means there is no set maturity. However, shoppers are obliged to pay a monthly minimum as defined by AfterPay. Shoppers can alter the amount they are willing to pay every month in AfterPay's customer portal. Additional orders can be added at any time as long as the amount does not exceed the credit limit set by AfterPay.

To use the Flex payment options, shoppers must sign a credit agreement within 14 days after receiving the first invoice, and shoppers in Sweden or Norway must also sign KALP.

The account notice is sent on country-specific dates (e.g. the 18th of the month in Sweden), and has payment terms of 12 days like the fixed instalments.

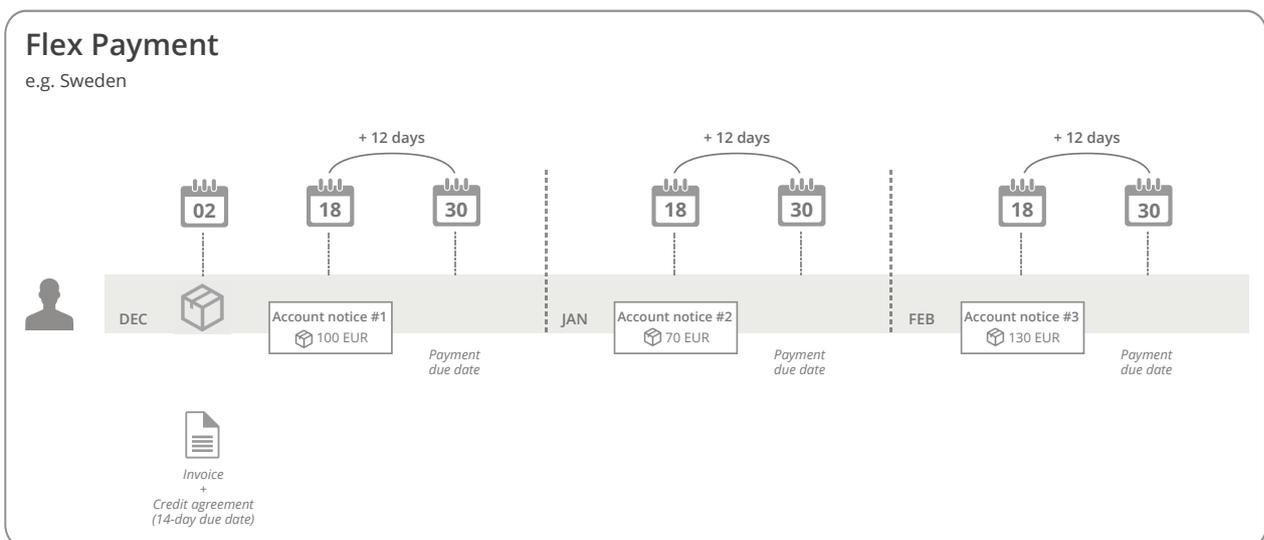


Figure 6: Flex payment timeline

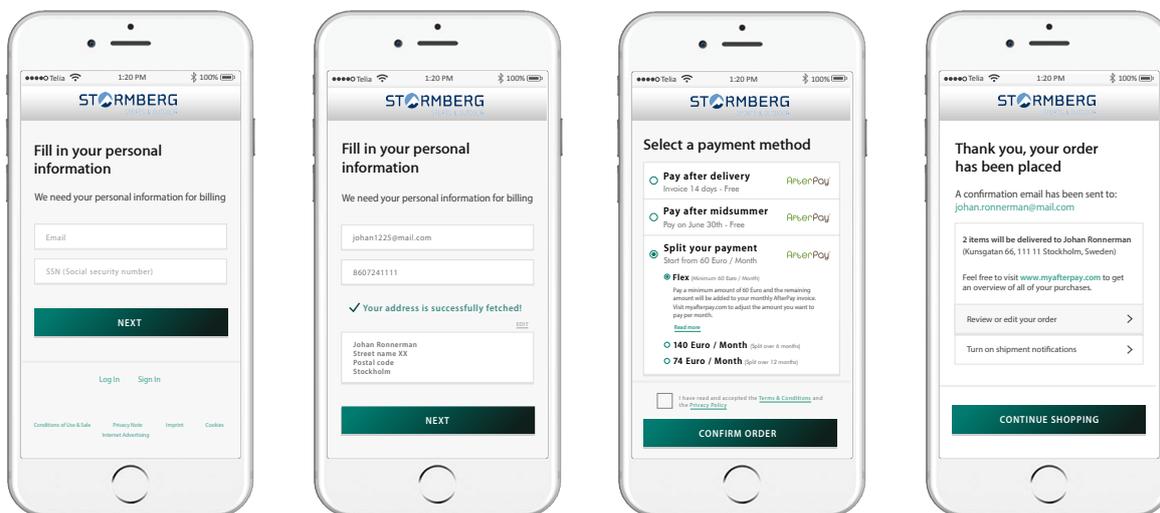
Customer Experience

AfterPay supports consumers in purchasing the items they desire by providing them with the freedom to pay whenever and however they find it most convenient. This is achieved by separating the purchase from the payment. Consequently, AfterPay distinguishes between the checkout and the post-purchase experience.

Checkout

After shoppers add items to their shopping basket in the web shop, they proceed to checkout to complete the purchase. Checkout can be designed in various ways. It typically contains the following information blocks that are relevant for payment: personal information about the shopper, invoice and delivery address, payment method selection and payment confirmation. Find useful information here: <https://developer.afterpay.io/guidelines/prepare-check-out>

The first step is the identification step, during which shoppers are required to enter their personal details and the invoice and delivery address. In order to provide shoppers with an easy checkout experience, it is important to minimise the amount of data they need to enter. AfterPay therefore provides several look-up services as well as an address validation service. After having entered the required data, shoppers then proceed to the payment method selection.



Data entry A

Data entry B (Lookup service)

Payment method selection

Payment confirmation

Shoppers fill in identification data. Required data fields depend on the shopper's country.

AfterPay's look-up services in Sweden, Norway and Finland minimize the data input required from the shopper.

Shoppers are shown a list of payment options based on their basket value, credit rating and preference. All payment options are pay-after-delivery, so no actual transaction takes place at checkout.

Merchant displays a confirmation message after the shopper's selection is processed and confirmed.

Figure 7: AfterPay customer journey (checkout at merchant's webshop)

AfterPay offers several different payment options that can be displayed at the payment selection step: 14-day invoice, campaign invoice, fixed instalments, and flex payment. After having selected a payment method, shoppers receive either a payment confirmation or a message that the payment option has been declined. A declined message always redirects the shopper back to the payment method selection page. To illustrate a generic checkout, see Figure 7.

For more detailed instructions on how to display the AfterPay payment methods, please refer to the AfterPay Developer Portal (<https://developer.afterpay.io/documents>).

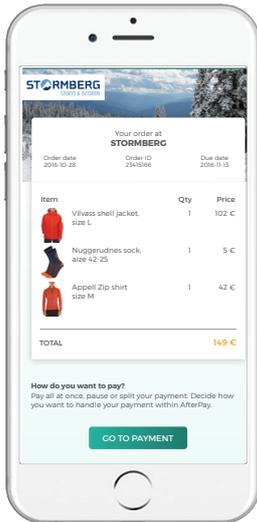
Post purchase

Shoppers' post-purchase experience starts after they have completed the checkout process. This experience consists of two primary interfaces: invoice communication (email/text messages) and the AfterPay's customer portal, "MyAfterPay". Shoppers can experience a merchant-branded journey throughout these touch-points. Brand hero images and product images strengthen a merchant's brand communication and campaign messaging.

The invoice communication is triggered once the merchant dispatches the goods. This communication is normally synchronised with the 'capture' API request.

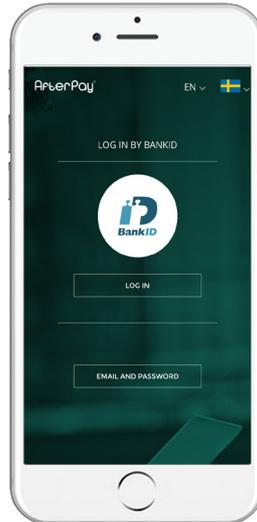
In MyAfterPay, shoppers can see an overview of and control all purchases and payments. After logging in to MyAfterPay shoppers instantly see currently outstanding invoices and can choose how these invoices will be paid: bank transfer, direct debit, or any other local payment methods. In MyAfterPay the shopper can choose to partially pay an invoice. By going to the 'Purchase history', shoppers can see an overview of all purchases/returns.

After making a purchase via MyAfterPay, shoppers can save the payment method information in order to later make convenient purchases with a one-click payment function within the portal.



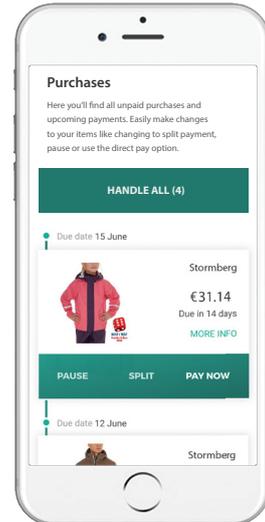
Email invoice

Once the merchant confirms the order with AfterPay, an email is sent to the shopper confirming the purchase's registration, content and payment due date.



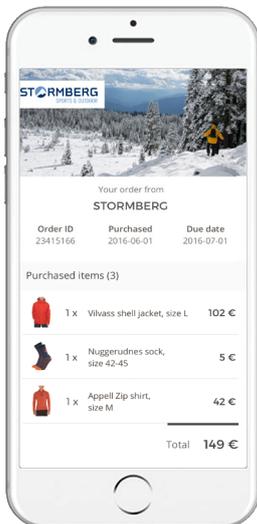
MyAfterPay login

AfterPay has a quick and easy sign-in process in the Nordics that uses BankID. This ensures both a high level of security and ease of use.



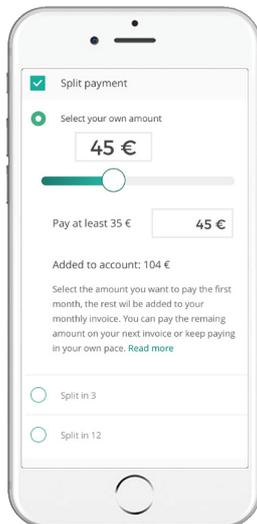
MyAfterPay purchase overview

Once logged in to MyAfterPay, the shopper is presented with an overview of all on-going and previous purchases / returns and their payment status. Product images enable easy identification of individual purchases.



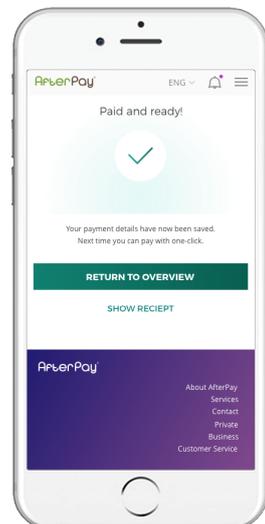
MyAfterPay purchase page A

In MyAfterPay, shoppers can easily access and find all relevant information about their purchases.



MyAfterPay purchase page B

Shoppers can also see the different options for making payment, pausing payments or splitting payments into smaller installments over time.



Purchase confirmation

Shoppers will see a purchase confirmation message if AfterPay approves their chosen method of payment.

Figure 8: AfterPay customer journey (post-purchase)

Service Offering

AfterPay is currently present in nine markets: Sweden, Norway, Finland, Denmark, Germany, Austria, Switzerland, the Netherlands and Belgium. Due to differences in consumer behaviour and legal restrictions, the service offering and functionalities vary across the countries. These differences are described below.

Please check if the figures in the chapter are the latest version by referring to the AfterPay Developer Portal (<https://developer.afterpay.io/whitepaper>).

Payment support per country

Available payment options

While AfterPay offers a broad portfolio of payment options, not every option is available in every country. Available payment options per country are described below; however, each option's full availability depends on the merchants' web shop settings.

	Invoice			Part payment	
	14 day invoice	Campaign invoice	Consolidated invoice	Fixed instalments	Flex payment
Germany	<input type="radio"/>				
Austria	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Switzerland	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		
Netherlands	<input type="radio"/>				
Belgium	<input type="radio"/>				
Sweden	<input type="radio"/>				
Norway	<input type="radio"/>				
Finland	<input type="radio"/>				
Denmark	<input type="radio"/>				

Figure 9: Available payment options per country

Available payment methods

Every purchase is followed up by an email, in which shoppers are informed about how the payment should be made. Shoppers sign in to MyAfterPay to conveniently settle their account balance and pay via the following payment methods:

	Payment methods			
	Bank transfer	Credit card	Direct debit	Others
Germany	○		○	
Austria	○		○	
Switzerland	○			
Netherlands	○			IDEAL
Belgium	○			Bancontact
Sweden	○	○	○	SWISH
Norway	○	○		
Finland	○	○		
Denmark	○	○		

Figure 10: Available payment methods per country

Additional services

Customer lookup

AfterPay provides several localized look-up services to fetch the shoppers' address. Look-up services minimize the amount of data that shoppers need to enter. The following information is needed to perform look-up services:

	Information required for lookup
Sweden	SSN
Norway	Mobile number, postal code
Finland	SSN, postal code

Figure 11: Minimum information required for lookup service

Please provide these country specific parameters in the POST request against `/api/v3/lookup/customer`. We will return an array of addresses that are available. If the shoppers data is not found, or if the customer look-up service is not being used, the shopper will be asked to enter all required information. Please refer to the Developer Portal (<https://developer.afterpay.io/api/method/checkoutcustomer>) to see what information needs to be provided in this case.

Risk and fraud check

AfterPay assesses the credit and fraud risk of every transaction. AfterPay guarantees payment to the merchant if a transaction passes this assessment. Risk and fraud checks are very important, especially for higher-value goods or product categories that are exposed to fraud. The additional data points required for higher-risk objects allows for higher approval rates in more demanding verticals such as travel or consumer electronics. Please refer to the Developer Portal for a more thorough introduction to the order (<https://developer.afterpay.io/api/method/order>) and consumer risk (<https://developer.afterpay.io/api/method/orderrisk>) objects.

Google analytics

AfterPay is the first payment-after-delivery service to integrate data into Google Analytics. Once Google Analytics integration is configured for a merchant, the Payment API enables merchants to add a Google Analytics client ID, as well as Google Analytics user ID at the order object of checkout request (<https://developer.afterpay.io/api/method/checkout/authorizepayment/authorizepaymentrequest/order>). Data from order payments and order refunds are tracked in a merchant's Google Analytics account using measurement protocol requests.

AfterPay currently provides tracking of consumers on the following dimensions and metrics:

- How consumers choose to pay their invoice: direct or part payment
- The number of monthly instalments consumers select: 3, 6, 12, 24 or 36 months
- Which items consumers order and return
- The total number of items consumers bought from merchants' stores
- Consumers' total lifetime value to a merchant's business

Integration

Depending on the merchant's digital ecosystem, there are various ways of integrating AfterPay: direct API integration, integration through a payment service provider (PSP, and integration via a plug-in to an E-commerce platform. Please check out the integration section of the AfterPay Developer Portal to find the latest available integrations (<https://developer.afterpay.io/integration>).

Direct integration

Direct integration through AfterPay's Payment API allows merchants to tailor the way they enable AfterPay. Direct integration provides access to full functionality and makes it possible to use the rich meta data supported by the API.

Payment API

The REST-based Payment API lets merchants integrate AfterPay into their shopping experience. The Payment API displays methods for checkout services as well as order management using a familiar structure that is similar to traditional processing of card transactions, with requests to authorize and capture an order. In addition, the AfterPay API supports more meta data than a conventional Payment API. In order to support a better shopper experience, AfterPay API helps merchants to maintain consistent branding throughout the full payment experience by using the product and invoice header images (hero images). Moreover, AfterPay makes it possible for merchants to leverage data in their analytics and digital marketing by supporting Google Analytics integration as well as adding structured data as Google Shopping Feed information.

1) Authorize payment

Approves the payment for a specific shopper and basket, including full fraud and credit scoring. If the shopper's address in the request is incorrect, a suggestion for a corrected address is delivered in the response.

```

POST /checkout/authorize
{
  "payment": {"type": "invoice"},
  "customer": {
    "identificationNumber": "XXXXXXXXXXXX",
    "email": "name.name@mail.com",
    "customerCategory": "Person"
  },
  "order": {
    "totalGrossAmount": 200.00,
    "totalNetAmount": 160.00,
    "Currency": "EUR",
    "googleAnalyticsClientId": "1369119838.1525256542"
    "googleAnalyticsUserId"
    "items": [{
      "productId": "0001",
      "description": "Product A",
      "quantity": 2,
      "grossUnitPrice": 100.00,
      "netUnitPrice": 80.00,
      "vatAmount": 20.00,
      "vatPercent": 25.00,
      "imageUrl": "https://img.url/proda.jpg",
      "googleProductCategory": "Apparel & Accessories > Shoes",
      "merchantProductType": "Sneakers",
      "productUrl": "https://product.url/proda/"
    }],
  }
}

```

2) Capture payment

Capture the authorized payment. This is done when the merchant has dispatched the goods. The capture triggers the distribution of the invoice to the shopper. A capture can be on the full order amount.

```

POST /order/{orderNumber}/captures

```

Or a partial capture in the typical case of partial delivery. A partial delivery results in one invoice per capture. A partial capture is executed by including the order items being shipped.

```

POST /orders/{orderNumber}/captures
{
  "orderDetails": {
    "totalGrossAmount": 100.00,
    "totalNetAmount": 80.00,
    "Currency": EUR,
    "items": [{
      "productId": "0001",
      "description": "Product A",
      "quantity": 1,
      "grossUnitPrice": 100.00,
      "netUnitPrice": 80.00,
      "vatAmount": 20.00,
      "vatPercent": 25.00
    }],
  }
}

```

3) Void authorization

Cancel an authorization that will not be captured. Either a cancelation of the full amount authorized

```

POST /order/{orderNumber}/voids

```

or a cancelation of an order item not being captured. This typically applies when a partial delivery is done and where the out of stock items are cancelled.

```

POST /orders/{orderNumber}/voids
{
  "cancellationDetails": {
    "totalGrossAmount": 100.00,
    "totalNetAmount": 80.00,
    "items": [{
      "productId": "0001",
      "description": "Product A",
      "quantity": 1,
      "grossUnitPrice": 100.00,
      "netUnitPrice": 80.00,
      "vatAmount": 20.00,
      "vatPercent": 25.00
    }]
  }
}

```

4) Refund payment

If a shopper returns an order or the merchant wants to compensate the shopper for an order related issue. A refund can be either for the full payment

```

POST /order/{orderNumber}/refunds

```

Or for part of the payment. A partial refund is typically issued by order line items and amount.

```

POST /orders/{orderNumber}/refunds
{
  "captureNumber": "XXXXXXXXXXXXXXXX",
  "orderItems": [{
    "productId": "0001",
    "description": "Product A",
    "grossUnitPrice": 100.00,
    "netUnitPrice": 80.00,
    "quantity": 1,
    "vatAmount": 20.00,
    "vatPercent": 25.00
  }]
}

```

Developer portal

AfterPay API is documented on the AfterPay Developer Portal (<https://developer.afterpay.io/api>). The Developer Portal contains full API documentation with guidelines, release notes, and the ability to create a sandbox account for test purposes. Pre-set Postman test cases are available in order for merchants to explore how AfterPay works and check its behaviour. Depending on the technology platform, there are more SDKs and tools available.

Integration via partners

The fastest way to integrate AfterPay at checkout is through a payment service provider or a plug-in to an e-commerce platform, which allows the AfterPay invoice to simply configure an additional payment method. Currently, merchants can leverage AfterPay integration with the following PSPs and e-commerce platforms.

Integration via payment service provider

AfterPay can be consumed via several Payment Service Providers (PSP). Following list will indicate which countries are supported by which PSP.

PSP	Supported Integration	Supported Countries								
		SE	NO	FI	DK	DE	CH	AT	NL	BE
Acapture	AfterPay Benelux API								○	○
Adyen	AfterPay Benelux API								○	○
Buckaroo	AfterPay Benelux API					○			○	○
Cardgate	AfterPay Benelux API								○	○
CheckOut Finland	AfterPay Global API	○	○	○	○					
Computop	AfterPay Global API	○	○	○	○	○	○	○	○	○
DIBS	AFSService API V.2	○	○	○	○					
CM Payments	AfterPay Benelux API								○	○
IcePay	AfterPay Global API	○	○	○	○	○	○	○	○	
ING Bank	AfterPay Benelux API								○	○
Ingenico	AfterPay Global API	○	○	○	○	○	○	○	○	○
	AfterPay Benelux API								○	○
MultiSafepay	AfterPay Global API					○			○	○
NETS	AFSService API V.2	○	○	○	○					
Nordea Connect	AfterPay Global API	○	○	○	○					
PayNext	AfterPay Global API	○	○	○	○	○	○	○	○	○
Pay.nl	AfterPay Benelux API								○	○
PayOn - ACI Worldwide	AfterPay Benelux API								○	○
PayPro	AfterPay Benelux API								○	
Paysquare / Worldline	AfterPay Benelux API								○	○
Rabobank	AfterPay Benelux API								○	
Sisow	AfterPay Benelux API								○	○
TargetPay	AfterPay Benelux API								○	○
Valitor	AfterPay Global API	○	○	○	○	○	○	○	○	○
Verifone	AFSService API V.2	○	○	○	○				○	○

Figure 12. PSPs that support AfterPay integration

Integration via ecommerce platform & plugins

Also, AfterPay offers an integration into a variety of shop system providers. Following list will indicate which countries are supported. Also download plugin files here: <https://developer.afterpay.io/integration#plugins>

Ecommerce Platform	Version	Supported Integration	Supported Countries									
			SE	NO	FI	DK	DE	CH	AT	NL	BE	
O50 Media		AfterPay Benelux API V.2									○	
Askås		AFSService API V.2	○	○	○							
CCV Shop		AfterPay Benelux API V.2									○	○
Cloudcommerce		AfterPay Benelux API V.2									○	
Digitroll		AfterPay Global API	○	○	○	○						
Divide		AfterPay Benelux API V.2									○	
Epinova		AfterPay Global API	○	○	○	○						
Lightspeed (SEO Shop)		AfterPay Benelux API V.2									○	○
Logic4		AfterPay Benelux API V.2									○	○
Magento	M1.9, M2	AfterPay Global API	○	○	○	○	○	○	○	○	○	○
Mijnwebwinkel		AfterPay Benelux API V.2									○	
Myshop.com		AfterPay Benelux API V.2									○	○
NextChapter		AfterPay Benelux API V.2									○	○
NopCommerce		AFSService API	○									
One Stop Shop		AfterPay Benelux API V.2									○	○
Oxid		AfterPay Global API	○	○	○	○	○	○	○	○	○	○
Plentimarkets		AfterPay Global API	○	○	○	○	○	○	○	○	○	○
Prestashop	V2 - V1.6	AfterPay Global API	○	○	○	○						
	V2 - V1.6	AfterPay Benelux API V.2									○	○
Shoppagina.nl		AfterPay Benelux API V.1									○	○
Shoptrader		AfterPay Benelux API V.2									○	○
Shopware		AfterPay Global API					○	○	○	○	○	○
Spryker		AfterPay Global API	○	○	○	○	○	○	○	○	○	○
Trollweb		AfterPay Global API	○	○	○	○	○	○				
Webmercys		AfterPay Global API	○	○	○	○						
WooCommerce / Wordpress	V3.0	AfterPay Global API	○	○	○	○	○	○	○			
	V3.1.1	AfterPay Benelux API V.2									○	○
xtcommerce		AfterPay Global API	○									
ZenCart		AFSService API	○									

Figure 13. Ecommerce platforms that support AfterPay integration

