

# COPECART IPN DOCUMENTATION

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## Executive Summary

IPN stands for „instant payment notification“ and allows a vendor to connect his billing system, membership system, email-marketing software, or other third party software with CopeCart.

The vendor’s system will be notified through an automated http-request about payments, chargebacks and refunds, in order to give the vendor the option to maintain the customers’ order data in their own data base and keep track of payments, chargebacks and refunds.

This IPN documentation is meant to be a guideline and reference for developers, system administrators and everyone who want to connect a system or software to CopeCart.

## Clarification of the used terms

Term	Description
buyer	The buyer is the person who orders the product of a vendor.
vendor	The vendor is the product owner who uses CopeCart to sell the product online.
order	If a buyer buys one or more products using one order form, this is one order. Also if the buyer buys some upsell products after the initial sale, these are items of the same order and are called „order items“. An order can consist of one initial sale and up to a few upsells.
order id	There is one order id for each order (e.g. M6B5zL7i). Each order id is unique and is not used for any other order.
product id	Each product has a unique product id (e.g. 2df15941). Each order of the same product has the same product id (e.g. 2df15941).
transaction id	There is a transaction id for each transaction.
transaction	A transaction could be a payment (one-time payment, installment payment or subscription), a refund or a chargeback. At CopeCart, we process one transaction for each order item. (Buyer buys initial product and one upsell product. Then there are two payments and two transactions.)

## UTF-8-encoding only

We only support UTF-8 encoding. All data that we provide is in UTF-8. We also only accept data in UTF-8.

## IPN Call

The IPN Call is the instant payment notification (IPN) that CopeCart sends to your server. For each transaction, there is one IPN Call. If a buyer buys two products, there will be two IPN calls (one IPN Call for each payment of the two products).

The IPN message is delivered by HTTP POST in request body. The data comes in JSON format.

There are few headers provided with request:

```
{  
  'Content-Type' => 'application/json',  
  'User-Agent' => 'Copecart', 'Accept-  
Encoding' => '*',  
  'X-Copecart-Signature' => 'CopeCart IPN message signature'  
}
```

The IPN message can be verified using corresponding secret key which is set in IPN settings in the CopeCart of the vendor.

In order to verify an IPN message you need to use data from 'X-Copecart-Signature' header and compare it with the result of

HMAC hash of message data and a secret key.

## Ruby:

```
copecart_signature = request.env['HTTP_X_COPECART_SIGNATURE']

generated_signature =
Base64.strict_encode64(OpenSSL::HMAC.digest('sha256', shared_secret,
message))

if copecart_signature == generated_signature

  # IPN message isvarified

end
```

## PHP:

```
<?php

$scopecart_signature = $_SERVER['X-Copecart-Signature'];

$generated_signature = base64_encode(hash_hmac('sha256',
$message, $shared_secret, TRUE));

if($scopecart_signature == $generated_signature) {

  // IPN message is varified

}
```

More information for the PHP-function you will find here:

<http://php.net/manual/en/function.hash-hmac.php>

Here you can download an example script for demonstration of the basic CopeCart IPN message protocol flow:

<https://drive.google.com/file/d/1n-ouN82fLRD1sp6YhrAF2FW5tCAjli5m>

## IPN Events

For each transaction, failed payment, cancellation and some other conditions one IPN event is sent. Each IPN call sends one of these event notifications:

Event	Description
payment.made	The buyer makes a successful payment.
payment.failed	A payment was failed. The reason may be, that the payment failed (after some tries) because bank account is not chargeable or the rebilling was cancelled by the buyer.
payment.pending	A payment has not yet been processed.
payment.refunded	The vendor or CopeCart has initiated a refund, which has been successfully processed.
payment.charged_back	The creditcard company or bank of the buyer processed a chargeback.
payment.recurring.cancelled	The buyer has requested a cancellation of his rebilling purchase (abonement or payment installments). This event is sent immediately. As soon as the next payment is due, but not completed (because of the cancellation), a ‚payment.failed‘ event is sent.
payment.recurring.upcoming	This event is sent with second and next payments for recurring payments (payment installments or subscriptions).
payment.trial	A payment that is charged from buyer not when the order is confirmed but when the product trial period ends.

## IPN Parameters

With each IPN request, we send a set of these parameters:

Parameter name	Type	Description	Example Value
affiliate	String	Affiliate Nickname	maxmustermann
buyer_address	String	Address of the buyer.	Teststraße 3
buyer_city	String	City of the buyer.	Berlin
buyer_company_name	String	Name of buyer's company.	Mueller Inc.
buyer_country	String	Country of the buyer.	Deutschland
buyer_country_code	String	Buyer's country code.	DE
buyer_email	String	Email-address of the buyer.	<u>maxmueller@gmx.de</u>

Parameter name	Type	Description	Example Value
buyer_firstname	String	First name of the buyer.	Max
buyer_id	String	Unique id of the buyer.	b929ca1e498bbd68
buyer_lastname	String	Last name of the buyer.	Mueller
buyer_phone_number	String	Phone number of the buyer.	0176123456
buyer_vat_number	String	VAT number of the buyer.	DE315024481
buyer_zipcode	String	Buyer's postal code.	10115
category_name	String	Name of category for product. For example: Size, Color, Location, etc	Location
category_option_name	String	Chosen category value, for example: Red, XI, Berlin	Berlin
earned_amount	Decimal	Vendor's net income per line item in the order.	255.25
first_payment	Decimal	Amount of the first payment, in case of recurring payments.	29.00
frequency	String	Value can be: - weekly - biweekly - monthly - semiannual - yearly	monthly
is_cancelled_for	Date	If given, the order is cancelled for this date. The access to the product should stop on this day.	2018-06-30
is_upsell	Boolean	Indicates whether it is an upsell or usual order.  If true, it is an upsell.	false
is_addon	Boolean	If true, the order includes an addon.  If false, no addon products or order bumps were added to order.	true
next_payment_at	Date	Date of the next payment, in case of recurring payments.	2019-06-08
next_payments	Decimal	Amount of next payments, in case of recurring payments.	99.00
order_date	Date	Date of the order.	2018-06-08
order_id	String	Unique id of the order. Multiple transactions of the same order have the same order id.	M6B5zL7i
order_time	Time	Time of the order.	2018-06-08T14:28:00.000+00:00

Parameter name	Type	Description	Example Value
order_source_identifier	String	Identifies where the order was made from: shopping cart, phone offer, or checkout page (null). Values can be: <ul style="list-style-type: none"> <li>- null</li> <li>- shopping_cart</li> <li>- phone_offer</li> </ul>	null
payment_method	String	Payment method which the buyer chose to pay for their order. Value can be: <ul style="list-style-type: none"> <li>- credit_card</li> <li>- test</li> <li>- sepa</li> <li>- sofort</li> <li>- paypal invoice</li> </ul>	credit_card
payment_plan	String	Type of payment plan. Value can be: <ul style="list-style-type: none"> <li>- one_time_payment</li> <li>- break_down_payment</li> <li>- abonement</li> </ul> <p>(„break_down_payment“ stands for „payment installments“; „abonement“ stands for „subscription“)</p>	one_time_payment
payment_status	String	Possible values: <ul style="list-style-type: none"> <li>• pending</li> <li>• upcoming</li> <li>• trial</li> <li>• chargeback_failed</li> <li>• test_paid</li> <li>• failed</li> <li>• test_succeeded_refunded</li> <li>• succeeded_refunded</li> <li>• failed_as_chargeback</li> <li>• paid</li> <li>• chargeback_succeeded</li> <li>• testtrial</li> <li>failed_refunded</li> </ul>	paid
product_id	String	Unique id of the product.	2df15941
product_name	String	Name of the product.	Success Guide

Parameter name	Type	Description	Example Value
product_type	String	Type of product. Value can be: <ul style="list-style-type: none"> <li>- digital</li> <li>- electronic_book</li> <li>- event</li> <li>- physical</li> <li>- printed_book</li> <li>- services</li> </ul>	digital
quantity	Decimal	Quantity of ordered products.	5
rate_number	Integer	For single payments this value is 0. For payment installments and subscriptions only: Number of payment (e.g. 1 for the first payment, 2 for the second and so on).	2
shipping_price	Decimal	Shipping cost.	4.99
tags	Array	Array of product tags.	[„first", "second"]
test_payment	Boolean	Type of payment. Whether it is a test payment or real payment. Value can be: <ul style="list-style-type: none"> <li>- true</li> <li>- false</li> </ul>	false
total_number_of_payments	Integer	Total number of payments including the first payment.	3
transaction_amount	Decimal	Gross amount of the transaction.	355.81
transaction_earned_amount	Decimal	Net amount earned per given transaction.	255.25
transaction_currency	String	Currency code of the transaction.	EUR
transaction_date	DateTime	Date of the transaction (e.g. of the payment). Is often the same as order_date, but may be different (e.g. for payment installments).	2018-06-08T14:28:18.320+02:00
transaction_id	String	Unique id of the transaction.	53703f91bb7ab490
transaction_processed_at	DateTime	Date and time when the transaction was processed	2018-05-30 12:35:24



Parameter name	Type	Description	Example Value
transaction_type	String	Possible values: <ul style="list-style-type: none"> <li>• sale</li> <li>• refund</li> <li>• chargeback</li> </ul>	sale
buyer_subscribed_for_newsletter	Boolean	Shows whether a customer has subscribed for the newsletter, or not. Values can be: <ul style="list-style-type: none"> <li>- True</li> <li>- False</li> </ul>	true
line_item_amount	Decimal	Total amount paid for all the purchased items of one product type.	150.45
line_item_vat_amount	Decimal	Total VAT amount calculated for all the purchased items of one product type.	48.75
event_type	String	Type of the event. Values can be: <ul style="list-style-type: none"> <li>- payment.pending</li> <li>- payment.trial</li> <li>- payment.made</li> <li>- payment.failed</li> <li>- payment.refunded</li> <li>- payment.charged_back</li> <li>- payment.recurring.cancelled</li> <li>- payment.recurring.upcoming</li> </ul>	payment.made

## Parameters based on IPN Events

Based on the events, the IPN request will include different parameters. The following table shows which parameter is sent with which event:

Included in...	description
each IPN request	order_id
	order_date
	order_time
	order_source_identifier
	category_name
	category_option_name
	earned_amount
	quantity
	total_number_of_payments
	payment_plan
	payment_status
	payment_method
	is_cancelled_for
	is_upsell
	is_addon
	product_id
	product_name
	product_type
	buyer_id
	buyer_firstname
buyer_lastname	
buyer_email	
buyer_phone_number	
buyer_country	
buyer_address	
buyer_country_code	

Included in...	description
	buyer_city
	buyer_company_name
	buyer_zipcode
	buyer_vat_number
	affiliate
	shipping_price
	event_type
recurring payment events only	first_payment
	next_payments
	next_payment_at
	frequency
regular payment events only	transaction_date
	transaction_id
	transaction_amount
	transaction_currency
	transaction_type
	rate_number
	test_payment

## Privacy settings - Data for fulfilling the contract

On product creation data privacy settings are available. In these settings vendor can choose which data he needs for fulfilling the contract and these are sent via IPN. Chosen fields become required on checkout page for selected product.

### E-Mail-Marketing integrations:

Upon creation of IPN integration for E-Mail-Marketing software vendor will have two options to choose: “Integration zur Vertragserfüllung” and “Newsletter”.

If “Integration zur Vertragserfüllung” (integration for fulfilling the contract) is chosen – all data selected as required on product page will be sent to corresponding IPN.

If “Newsletter” is chosen and buyer during checkout will check “Hiermit bestelle ich widerruflich den Email-Newsletter vom Autor des Produkts.” – all data selected as required on product page will be sent to corresponding IPN.

If “Newsletter” is chosen and buyer during checkout will NOT check “Hiermit bestelle ich widerruflich den Email-Newsletter vom Autor des Produkts.” - no data will be sent to corresponding IPN.

## IPN failures

An IPN call is considered a success, if the CopeCart server receives the text “OK” (upper case, without quotes) from your server.

If an IPN call fails, the CopeCart server **will retry for at least 10 times over the next 3 days every 8 hours.**

- *3 attempts with 5 seconds interval*
- *18 attempts with exponentially increasing interval (retry\_count \*\* 4) It will make up to 21 attempts within 3 days.*

## Further information & help

If you have questions about the integration of your system via the Instant Payment Notification or if you need further information or help, don't hesitate to contact us: [support@copecart.com](mailto:support@copecart.com)