NextUp Integration for OpenCart 2.3.0.x

User's manual

- version 1.0.0 -

Introduction

This extension is built for merchants using NextUp ERP for stock-keeping and accounting, who also wish to integrate the features provided by NextUp ERP with their online OpenCart store.

Features

Core features

- Connecting OpenCart products to NextUp ERP articles:
 - single and bulk product stocks sync;
 - single and bulk product prices sync;
 - o single and bulk product tax information sync.
- Connecting OpenCart customers to NextUp ERP partners:
 - customers are sent to NextUp whenever an OpenCart order is exported to a NextUp Document (sale order or sale invoice);
 - ANAF data validation for company-type customers.
- Export OpenCart orders as NextUp ERP documents (using either valid or temporary status, either manually or automated):
 - sale orders;
 - o sale invoices.
- o Detailed logging of regular and unusual events (such as errors).

Tools

 If you are currently using OpenCart Romania's NextUp integration module, this extension provides a tool for you

to extract existing product associations from its internal data store;

- If you are new to NextUp ERP, this extension provides a tool
 for you to export your store products in a format understood by NextUp ERP's importer;
- If you recently added a considerable amount of new products in NextUp ERP, this extension provides a tool for you

to bring those products quickly in your OpenCart store.

Widgets

• Sidebar widget showing the NextUp ERP order export progress.



Requirements

OpenCart Compatibility

Tested with versions 2.3.0.0 to 2.3.0.2.

General requirements

- o PHP 7.4.0 or newer;
- NextUp ERP with Server component activated (8.38.0 or newer suggested);
- Required PHP extensions:
 - Reflection
 - o Curl
 - o Json
 - MbString
 - Mysqli
 - o Pcre
 - Spl
 - o Zlib

Required NextUp ERP Server methods

- AddPartner;
- AddSaleInvoice:
- AddSaleOrder;
- o DeleteDocument:
- GetAllArticles;
- GetAllPartners;
- GetAllStocksForArticles;
- GetAllWarehouses;
- GetArticleByCode;
- GetArticleById;
- GetPartnerByCode;
- GetPartnerById;
- SelectFromView;
- UpdatePartner.

NextUp Server Authentication Notes

If you are accessing the web services exposed by the NextUp ERP server you need to understand that, regardless of what application you are using to consume them (this extension included), you need to use a separate NextUp ERP user account for each application.

This is not a strict technical requirement but, if you share a user account between applications, you will end up with one authentication token overriding a previous one for that account, which, in turn, will lead to web service method calls for that all token failing.

Other Notes

- Integration with OpenCart Romania's extension is provided as a best-effort implementation: there are no hard guarantees for correctness or that it will work at all.
- Compatibility with other OpenCart modules is not guaranteed,
 although this extension does not rely on any 3rd party module.



Limitations

- 1. There is no automatic stock update feature;
- 2. Migrating connected products from OpenCart Romania's extension is done on a best-effort basis: if the expected structure differs from the actual one, results may differ;
- 3. Due to the way OpenCart stores order and order item costs and prices, this extension needs to deduce some costs and prices that NextUp ERP expects, the result being that there may be differences between the OpenCart order costs and prices and NextUp ERP document costs and prices;
- 4. Since OpenCart product options don't have reference/SKU codes, they cannot be mapped to NextUp ERP articles/products.

Sidebar artefacts

This extension adds a new top level menu item to OpenCart's sidebar, as well as a new widget to OpenCart's existing sidebar progress widget.

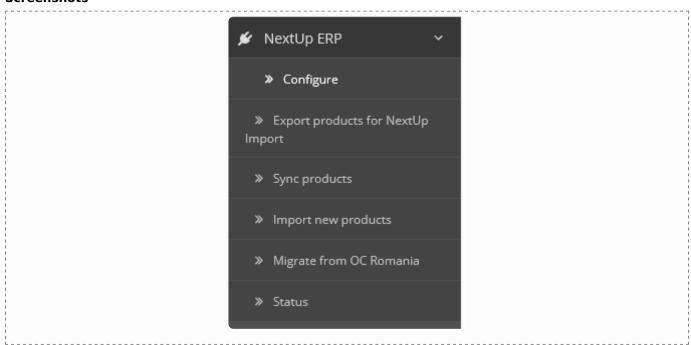
See below for more details.

Menu description

The top level menu entry for this extension is Nextup ERP, which has the following items:

- o Configure navigate to extension configuration panel;
- Export products for NextUp Import navigate to the tool that allows you to export your store products in a format that understood by the NextUp ERP importer tool;
- o Sync products navigate to the tool that allows you to sync all your product information from NextUp ERP;
- Import new products navigate to the tool that allows you to import products that you have recently added to NextUp ERP but not in your store;
- Migrate from OC Romania navigate to the tool that allows you to import product connections from OpenCart Romania's NextUp integration module;
- **Status** navigate to the tool that allows you to view the extensions status: basic information, error log and debug log.

Screenshots

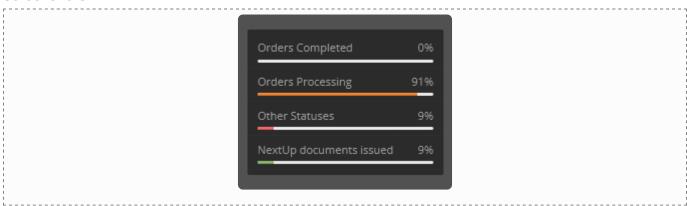




Sidebar widgets

Sidebar widget showing the NextUp ERP order export progress: what is the percentage of your OpenCart orders that have been exported to NextUp.

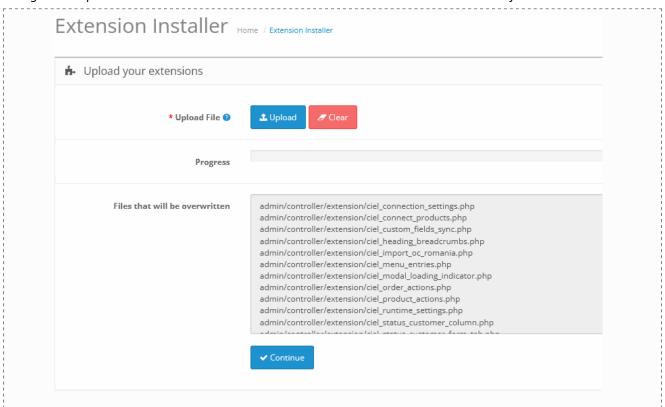
Screenshots



Installation

Install using the OpenCart interface

1. Navigate to OpenCart's extension installer via Extensions - Installer menu entry:



- 2. Click the Upload button;
- 3. Choose the extension archive file (nextup-opencart-integration.ocmod.zip);
- 4. After installation, navigate to Extensions Modifications and click refresh to fully enable the extension's features:



5. Navigate to Extensions - Extensions and Chose Modules in the Choose extension type drop-down selector:



6. Scroll down to the extension's entry - Nextup ERP Integration - and click the Install button.



Configure Extension

To configure the extension, navigate to Nextup ERP - Configure. There are three sections:

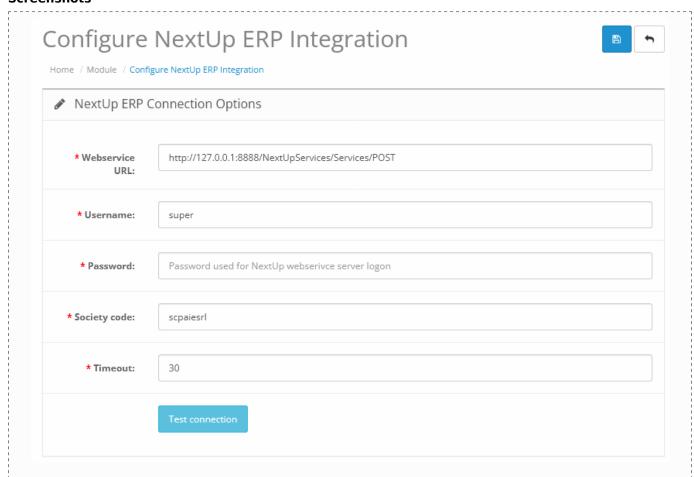
- \circ NextUp ERP Connection Options specify the NextUp ERP server address and credentials;
- ∘ NextUp ERP Integration Options specify integration options;
- \circ NextUp ERP OpenCart Workflow Options specify workflow options.

NextUp ERP Connection Options

In this section, you specify the NextUp ERP server address and credentials. The following fields are available:

Field	Туре	Description	
Web service URL	URL	The URL for which NextUp ERP server is configured to listen	
Username	String	The username used for authentication with the NextUp ERP server	
Password	String	The password used for authentication with the NextUp ERP server	
Society code	String	The society code to which the store will be bound to operate	
Timeout Number		The maximum duration, in seconds, for which any call to NextUp ERP server will be allowed to run	

Screenshots





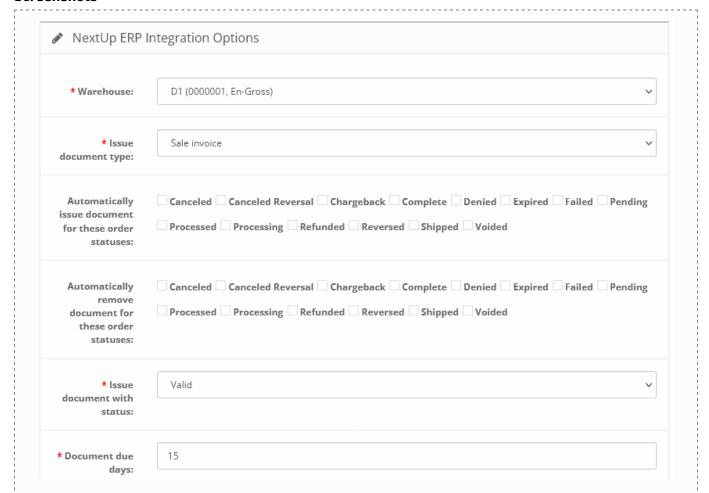
NextUp ERP Integration Options

In this section, you specify the main integration options, such as what warehouse to use. The following fields are available:

Field	Туре	Description
Warehouse	Option	The warehouse to which this store will be bound to operate
Issue document type	Option	What document to issue for each OpenCart order
Automatically issue document for these order statuses	Multiple Option	When an OpenCart order transitions into one of the selected statuses, a document will be automatically issued in NextUp ERP
Automatically remove document for these order statuses	Multiple Option	When an OpenCart order transitions into one of the selected statuses, the document will be automatically removed from NextUp ERP, if previously issued
Issue document with status	Option	When a document is issued in NextUp ERP from the store, use this status
Document due days	Number	When a document is issued in NextUp ERP from the store, use this number of days for calculating the due date, starting from the moment the document is issued
Shipping VAT Quota	Option	Use this VAT quota for ALL shipping methods in your store. When saved, the extension will attempt to reconfigure all your shipping methods to use this VAT quota. This is necessary to match NextUp ERP vat quotas when adding shipping to documents.



Screenshots



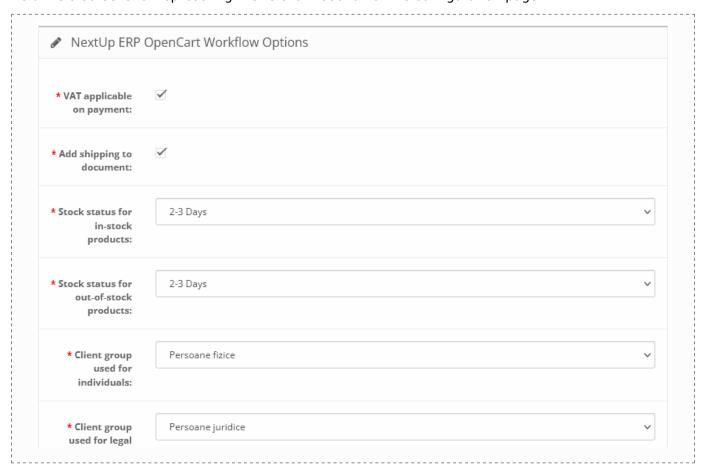
NextUp ERP OpenCart Workflow Options

In this section, you specify additional workflow integration options, mostly OpenCart-specific. The following fields are available:

Field	Туре	Description
VAT applicable on payment	Yes/No	Whether or not to send the "is vat applicable on payment" flag to NextUp ERP when issuing a document. If not sent, then NextUp will use its default settings.
Add shipping to document	Yes/No	Whether or not to add shipping cost to the document issued to NextUp ERP.
Stock status for in- stock products	Option	When the stock quantities are updated from NextUp ERP and some products are found to be in-stock, use this status when updating the product stock status.
Stock status for out- of-stock products	Option	When the stock quantities are updated from NextUp ERP and some products are found to be out-of-stock, use this status when updating the product stock status.
Client group used for individuals	Option	OpenCart client group used for customers that are billed as individuals. If there is not per-billing type segregation, then set this to None. You need to creat this customer group yourself.
Client group used for legal persons	Option	OpenCart client group used for customers that are billed as legal persons/companies. If there is not per-billing type segregation, then set this to None. You need to creat this customer group yourself.
Custom field used for VAT Code entry	Option	OpenCart custom field used for VAT code entry. The extension will use this when looking up the customer's VAT code. If you don't have any need for this, then set it to None. If You need to creat this field yourself.
Custom field used for reg. com. number entry	Option	OpenCart custom field used for reg. com. number entry. The extension will use this when looking up the customer's reg. com. number. If you don't have any need for this, then set it to None. If You need to creat this field yourself.
Custom field used for bank account (IBAN) entry	Option	OpenCart custom field used for bank account number entry. The extension will use this when looking up the customer's bank account number. If you don't have any need for this, then set it to None. If You need to creat this field yourself.
Custom field used for bank name entry	Option	OpenCart custom field used for bank name entry. The extension will use this when looking up the customer's bank name. If you don't have any need for this, then set it to None. If You need to creat this field yourself.

Field	Туре	Description
Customer group used for NextUp-imported new tax rates	Option	When importing tax rates from NextUp, assign them to this customer group by default. Mandatory.
Geozone used for NextUp-imported new tax rates	Option	When importing tax rates from NextUp, assign them to this geozone by default. Mandatory.
Weight class used for NextUp-imported new products	Option	When importing product from NextUp, assign them to this weight class by default. Mandatory.
Length class used for NextUp-imported new products	Option	When importing product from NextUp, assign them to this length class by default. Mandatory.

Below is a screenshot represeting the relevant section of the configuration page:



Product synchronization

The products in your OpenCart store and the products in your NextUp ERP instance you currently operate are connected based on the product SKU:

the SKU code in your store must match the product code in your NextUp ERP instance.

Introduction

An explicit connection between the products in your store and the products in your NextUp ERP instance must be established before the products can:

- be updated from NextUp ERP;
- be added to documents issued to NextUp ERP from OpenCart orders.

This explicit connection is required for the following reasons:

- because NextUp does not automatically create products when issuing documents (sale invoice or sale order)
 so this is a way to insure that only OpenCart orders for which a document can actually be issued
 are allowed to be exported to NextUp ERP;
- o to allow you to have products in your store that are not present in NextUp ERP, and viceversa;
- as an optimization, because only connected products are synchronized, so, if not all your store products are also creaded in NextUp ERP, then only the ones that are will be updated.

Once this connection is established, the following product information will be extracted from NextUp ERP.

Stock quantity

For storable NextUp ERP products, the stock quantity will be read, for the warehouse you selected in the extension configuration page.

If the product is out-of-stock, then the out-of-stock status you configured will also be set. if the product is in-stock, the in-stock status you configured will also be set.

Price

The product price will be read from NextUp ERP, for the warehouse you selected in the extension configuration page, according to the following rules:

- the price actually assigned to the store product will not include any tax;
- \circ if the warehouse you selected does have a price for the product, then that price will be extracted;
- o otherwise:
 - o if you selected an en-gross warehouse, then the generic en-gross price will be extracted;
 - o if you selected an en-detail warehouse, then the generic en-detail price will be extracted.
- if needed, the sale price without VAT will be calculated and will be rounded to 4 digit decimal precision.

Tax information

The product tax information will be read from Nextup ERP and the following actions will be taken:

- a tax class will be created for the product's VAT quota value,
 if one does not already exist;
- $_{\circ}$ a percentage-type tax rate will be created for the products' VAT quota value,
 - if one does not already exist and it will be assigned to the above mentioned tax class, based on the payment address
 - and associated with the customer groups and geo zone selected in the extension configuration page;
- the above mentioned tax class will be assigned to the store product.

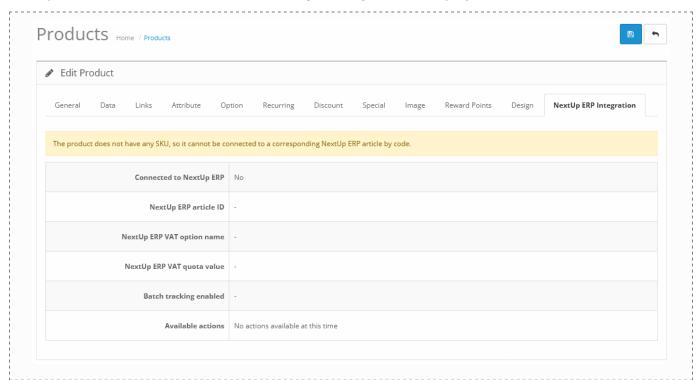


Connecting products

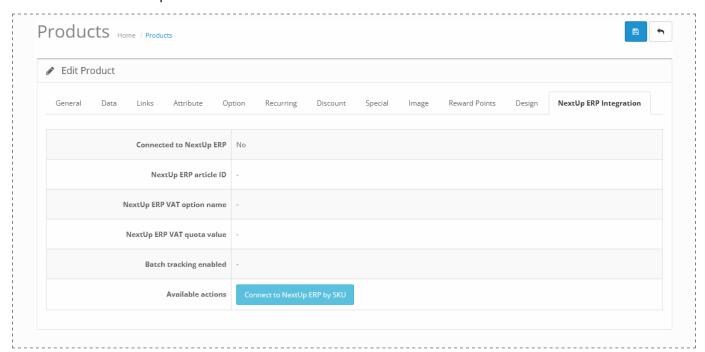
Individually

To connect a single product, navigate to that product's editor page, then to the Nextup ERP Integration tab.

If the product cannot be connected, a warning message will be displayed:



If the product can be connected, then the connect to Nextup ERP by SKU button will be shown. Click it to connect the product.



If the operation has been successful, then a confirmation message will be displayed and the page will automatically reload in 5 seconds.



In bulk

To connect products in bulk, navigate to Catalog - Products, check the desired products in the product list

and then use the right-most button in the header button bar, the on with the plug icon:



For each selected product, the operation result will be shown below that product's row.



Consulting product connected status

To see which products are connected to NextUp ERP navigate to catalog - Products, and check the value of the Connected to NextUp ERP Column:

Image	Product Name >	Model	Price	Quantity	Status	Connected to NextUp ERP	Action
~	Art 0008	0000008	11.0000	1111	Enabled	Yes	/
~	Art 0009		22.0000	2222	Disabled	Yes	/
~	ART1		93.2773	5	Disabled	Yes	/
	ART2		186.5546	191	Disabled	Yes	

Consulting NextUp ERP-related product information

To view NextUP ERP-related product information for a product that has previously been connected to NextUp ERP,

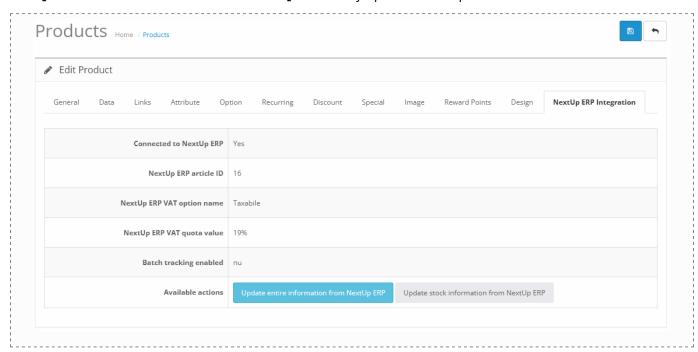
navigate to that product's editor page, then to the Nextup ERP Integration tab.

The following information is displayed:

- Oconnected to NextUp ERP whether or not the product is connected to NextUp ERP;
- NextUp ERP article ID the internal NextUp ERP product ID;
- O NextUp ERP VAT option name the VAT option name assigned to the product in NextUp ERP;
- O NextUp ERP VAT quota value the VAT quota value assigned to the product in NextUp ERP;
- Batch tracking enabled whether or not batch tracking is enabled in NextUp ERP for the product.

The following actions are available for connected products:

- Update entire information from NextUp ERP Updates both stock quantities and prices;
- O Update stock information from NextUp ERP Only updates stock quantities.



Customer synchronization

This extension establishes a connection between the customers in your store and the customers in your NextUp ERP instance,

first by searching them in NextUp ERP and then, when found, by retaining the NextUp ERP customer code.

If the search yields no result, then the extension automatically creates a customer in your NextUp ERP instance,

along with a corresponding adress and then retains the newly created customer's code for further reference.

The extension searches for NextUp ERP customers when attempting to issue a document from your store to NextUp ERP

and does so by using the following criteria, in this order:

- 1. Billing financial data: Tax attribute and Tax code;
- 2. Billing e-mail address;
- 3. Billing phone.

Names are not used as a search criteria, since they can overlap between two different persons or customers.

Customer data mapping

- o the customer's e-mail or customer's billing address e-mail maps to NextUp ERP customer address e-mail;
- the customer's first name (or billing first name) and customer's last name (or billing last name) maps to NextUp ERP customer name;
- the customer's company name maps to NextUp ERP customer name (if present, takes precedence over first name and last name);
- o if the customer's VAT code contains a tax attribute (eg. RO), then it is mapped to the NextUp ERP customer tax attribute;
- the remainder of the customer's VAT code is mapped to the NextUp ERP customer tax code;
- the customer's country is mapped to the NextUp ERP customer address country (match is automatically done by name by NextUp ERP, so duplicates may appear if names differ for the same country);
- the customer's county is mapped to the NextUp ERP customer address county (match is automatically done by name by NextUp ERP, so duplicates may appear if names differ for the same county);
- the customer's city is mapped to the NextUp ERP customer address city (match is automatically done by name by NextUp ERP, so duplicates may appear if names differ for the same city);
- the customer's entire remaining address (address line 1, address line 2) is mapped to the NextUp ERP customer address street.

Exported addresses

NextUp ERP supports, for each customer address, an external key.

This external key can be used to establish a correspondence betweem a NextUp ERP customer address and an address from an external system.

So this extension uses the external address key to map between a customer's billing address and a NextUp ERP customer address.

It uses the following fields to compute the external address key:

- country;
- county;
- o city;



- postal code;
- e-mail address;
- o phone number.

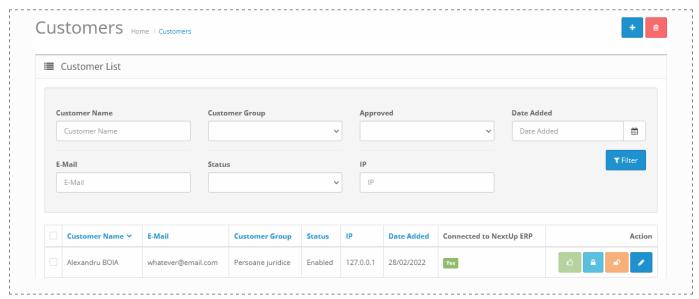
So, if any of these fields change, it will result in a new NextUp ERP customer address for the same customer (that has already been mapped).

Managing customer synchronization

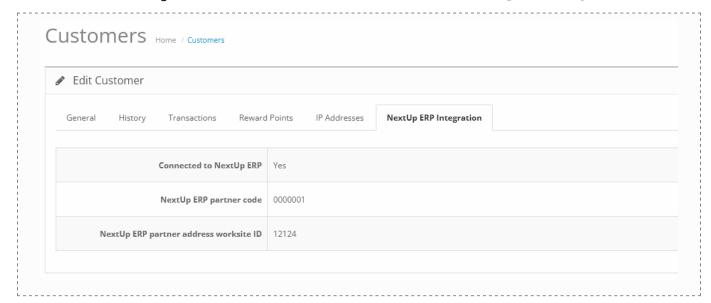
There is no direct way to synchronize a store customer to a NextUp ERP customer: the extension does so automatically when a document is issued from the store to NextUp ERP, either as a sale order or a sale invoice.

You can, however, check the status, if a synchronization has been performed for a customer.

To do so, navigate to Customers - Customers and consult the column Connected to Nextup ERP:



For more details, navigate to the customer's edit form and check the Nextup ERP Integration tab:



Order synchronization

This extension supports issuing and removing the following NextUp ERP document types (for OpenCart orders):

- ∘ Sale invoice (for En-Gross and En-Detail warehouses);
- Sale order (for **En-Gross** warehouses only).

These are strictly bound to your OpenCart store orders, which means:

- One cannot issue NextUp ERP documents independent of OpenCart orders using this extension;
- o One cannot list or remove NextUp ERP documents that were not issued using this extension.

Both issuing and removing NextUp ERP documents can be carried out:

- Manually, using the order view widget box provided by this extension;
- Automatically, when the OpenCart order transitions from one state to another (which is configured using this extension's configuration page).

Order eligibility

In order to be able to issue NextUp ERP documents for a given order, that order needs to satisfy the following conditions:

- The customer that placed the order needs to be connected to a NextUp ERP customer (the extension attempts this automatically when issuing an order);
- All the order products need to be connected each to a corresponding NextUp ERP product (this you need to carry out yourself).

Discount handling

Discounts applied to OpenCart orders are added to NextUp ERP documents as separate lines, one line for each VAT quota value present in the order's items.

For instance, if there is a discount applied and the order has two items - one with 9% VAT quota value and one with 19% percent VAT quota value,

then there will be two discount lines: one that corresponds to the 9% VAT quota value and one that corresponds to the 19% VAT quota value.

To this end, the extension automatically creates a service-type product in NextUp ERP for each discount line type.

The NextUp ERP product created this has the following pattern: CES_DISCOUNT_[quota_value].

Shipping cost handling

Shipping cost for an order is added to NextUp ERP document issued using this extension as a separate line.

The VAT quota used is the one you selected in the extension configuration page.

In the same page you can opt to prevent the extension from adding shipping costs to the NextUp ERP document.

As is the case with discount handling, the extension creates a service-type product in NextUp ERP, with the following pattern: CES_SHIPPING.

Additional NextUp ERP document flags



In the extension configuration page you can opt to have the extension instruct NextUp ERP to mark the document as having VAT applicable on payment.

Notes on order item-related price calculation

Due to the way OpenCar stores order information this extension needs to perform additional calculations when issuing NextUp ERP documents:

- only final, discounted price is stored, so we need to lookup the product itself to see if there is any productsale type of discount;
- stored tax is calculated per-unit price, so we need to multiply it by quantity to obtain the total tax due for a product.

In some cases this may result in differences beween what you might expect to see in your NextUp ERP documents

issued using this extension and what has actually been exported.

Additionally, the following issues also need to be considered, also due to the way OpenCart stores order information:

- product SKU is not stored;
- o product tax class id is not stored.

Obviously, since neither the SKU, neither the tax class are stored, the extension needs to look them up and, in turn, this means that the values exported to NextUp ERP may not be the same as they were when the order as placed.

Rounding issues

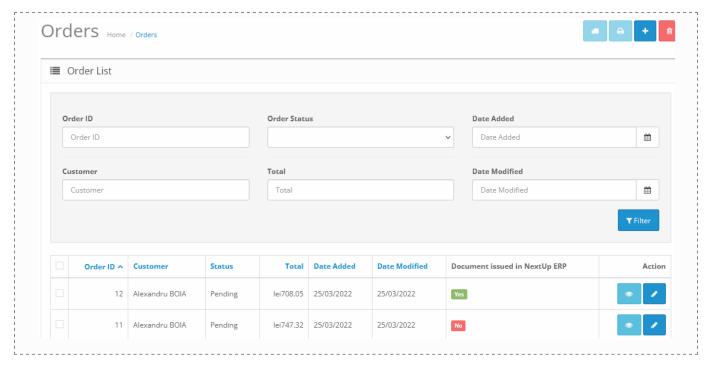
Finally, you need to understand that, when receiving data for a new document,
NextUp ERP also performs its own calculations and rounding operations,
so rounding differences may occur between your store order and the corresponding NextUp ERP
document.

Notes on document removal

- o If a sale invoice has been issued for an order, then the sale invoice is removed, not cancelled.
- If a sale order has been issued for an order, then the sale order is neither removed, nor cancelled, since the NextUp ERP webservice API does not support removal for sale orders.

Consulting which orders have NextUp ERP document issued

To see which orders have NextUp ERP documents issued for them, navigate to sales - orders and check the value of the Document issued in NextUp ERP column:



Consulting NextUp ERP-related order information

To view NextUp ERP-related order information, navigate to an order's details view page, then scroll down to the NextUp ERP Integration box.

The following information is displayed:

- o Document issued in NextUp ERP whether or not a document is issued in NextUp ERP;
- NextUp ERP issued document type the type of document that has been issued (sale invoice or sale order).

The following actions are available for orders that don't have documents issued for them:

o Issue NextUp ERP document.



The following actions are available for orders that have documents issued for them:

O Remove NextUp ERP document.



Sync product information in bulk

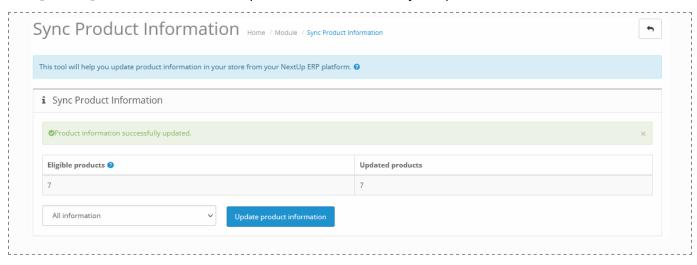
In order to sync product information for all connected products, navigate to Nextup ERP - Sync products.

You have the following options:

- sync all the product information (both stock quantities and prices) choose All information from the available dropdown;
- o sync product stock quantities only choose stocks only from the available dropdown.

Click the updated product information button and wait for the operation to finish. When the operation is completed, a report will be displayed with:

- Eligible products then number of products that have been connected to NextUp ERP;
- Updated products the number of products that have actually be updated.





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