

MSI Improved Import & Export Add-On

guide and manual



Magento version 2.3 came out with the long awaited Multi-Source Inventory (MSI) support. The feature is available right after installing the MSI extension.

In this blog post you will learn how to import and export all Magento 2 MSI entities: sources and quantity of the products per source

What is Magento 2.3 MSI

Magento 2 MSI - is a multi-source inventory management system. This system allows you to allocate product stock per warehouse, decide from which warehouse the product should be shipped to the customer. Basically, if you are using multiple warehouses to store your products - this feature is a must for your Magento 2 store.

Installing MSI Add-On for Improved Import and Export

NOTE: Before installing MSI Add-On make sure you have [installed Improved Import and Export extension](#).

1. Navigate to your store root folder in the SSH console of your server:
`cd path_to_the_store_root_folder`
2. Install MSI Add-On by running command:
`composer require firebear/importexport-msi`
3. Enable MSI Add-On by running:
`php bin/magento module:enable Firebear_ImportExportMsi`
4. Deploy content and flush store cache, log out from the backend and log in again. Run:
`php bin/magento setup:static-content:deploy -f`
And:
`php -f bin/magento cache:clean`

Congratulations, you have installed MSI Add-On for Improved Import and Export extension.

What do you need to import/export MSI entities

To import and export MSI sources and product quantity you will require [Improved Import and Export extension](#) with MSI Add-On installed. Improved Import and Export is a full-featured magento extension operational from both administrator panel and command line.

The extension covers almost all Magento 2 entities import and export and comes with the following features:

- Import and export of products, categories, CMS blocks and pages, orders, cart price rules, customers, product attributes, advanced pricing.
- Import and export of all Magento 2 B2B entities: companies, shared catalogs, requisition lists, quotes and negotiable quotes.
- Support multiple file formats including CSV, XML (with XSLT templates), Excel XLSX, OpenOffice ODS, Json.
- Support of Google Sheets - import CSV files by pasting a Google Sheet links.
- Support of REST and SOAP API connections to different software.
- Price adjustments.
- Category mapping.
- Custom logic and many more.

That's pretty much it, you only need to have Improved Import and Export extension installed. The extension comes with explicit user manual, sample files and extensive guides on every entity. Additionally, Firebear team composed sample [Google Sheet Master Table](#) and [B2B Master table](#) for you with every attribute described and sample values assigned.

Use all the information you can to master import and export procedures of your store and create required integrations with CRM, ERP or supplier services.

Table formatting of MSI entities

There are two MSI entities available for import and export: Stock Sources and Stock Sources Qty.

- **Stock Sources** are the warehouses. For warehouses you specify the addresses, location, name and code. [See Stock Source sample table.](#)
- **Stock Sources Qty** is the product quantity assigned to a particular warehouse. [See Stock Source Qty sample table.](#)

As you can see, these entities are pretty simple and, if you have ever worked with MSI functionality, should be easy to get into. Anyways, before you proceed we advise reading through the attributes of both entities to understand which values required and can be used for different settings.

Stock Sources MSI table

Stock Sources are the warehouses you create at **Stores > Inventory > Sources**.

Manage Sources

🔍   testing ▾

[Add New Source](#)

Search by keyword



Filters



Default View ▾



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3 records found

20

per page



1

of 1



| <input type="checkbox"/> | Code | Name | Is Enabled | Action |
|--------------------------|---------------|----------------|------------|----------------------|
| <input type="checkbox"/> | default | Default Source | Enabled | Edit |
| <input type="checkbox"/> | new-warehouse | New Warehouse | Enabled | Edit |
| <input type="checkbox"/> | old-warehouse | Old Warehouse | Enabled | Edit |

Here you can add new Magento 2 Sources. The required attributes include:

- **Name** - the name of the warehouse;
- **Code** - the code of the warehouse used for internal identification purposes and serves as a reference when assigning product quantity;
- **Country** - the country of the warehouse location;
- **Postcode** - the postcode of the warehouse region.

The rest of the attributes are optional. When creating warehouses using the import procedure make sure to at least provide information for these attributes, otherwise your Magento 2 store won't be able to create a warehouse.

Having explored warehouse creation from the administrator panel gives a better understanding of all the attributes in the import and export tables. Before proceeding to compose an import table or gathering data for it make sure to experience manual warehouse creation.

Below you will find all Stock Sources attributes available for import and export. For reference we suggest opening an [MSI Stock Sources sample table](#) in a separate tab of your browser.



| Attribute name | Reference | Values | Value example |
|----------------|---|---|-----------------------------------|
| source_code | Code of the warehouse. Is used for identification purposes. | Can be up to 64 latin characters in length, without spaces, can contain "-", "_". | <i>my_warehouse</i> |
| name | Name of the source | Can be any value | <i>My First Warehouse</i> |
| enabled | Defines if the source is enabled | 1 - enabled 0 - disabled | <i>1</i> |
| description | Description of the source | Can be any value | <i>This is my first warehouse</i> |
| latitude | Latitude of the source location | Can only be geographic latitude value | <i>123.12</i> |
| longitude | Longitude of the source location | Can only be geographic longitude value | <i>321.32</i> |
| country_id | ID of the Country of the source Address Data | Can be only country code ID of Magento variant of ISO 3166-1 | <i>AT</i> |
| region_id | ID of the Region of the source Address Data | Can be only Region code ID of Magento region codes | <i>95</i> |
| region | Region of the source Address Data | Can be any value - text field. Doesn't work with ID. | <i>Moscovia</i> |
| city | City of the source Address Data | Can be any value | <i>New York</i> |

| | | | |
|--------------------------------|---|------------------------------|---------------------|
| street | Street of the source Address Data | Can be any value | <i>Street st.</i> |
| postcode | Postcode of the source Address Data | Can contain only numerals | <i>12345</i> |
| contact_name | Contact Name of the source Contact Info | Can be any value | <i>John Doe</i> |
| email | Contact Email of the source Contact Info | Can be only email value | <i>john@doe.com</i> |
| phone | Phone of the source Contact Info | Phone number | <i>+123123123</i> |
| fax | Fax of the source Contact Info | Fax number | <i>+123123123</i> |
| use_default_carrier_c onfig | System attribute of the source with no particular use case in setting up a new source | - | - |
| carrier_links | System attribute of the source with no particular use case in setting up a new source | - | - |

NOTE: When creating Stock Sources using import jobs make sure to provide information for the attributes: *name*, *source_code*, *country_id*, *postcode*. These attributes are required by Magento 2 system to create new warehouses, without them a warehouse cannot be created.

Stock Sources Qty MSI table

Stock Sources quantity is applied at the product level once the warehouses are assigned to stocks at **Stores > Inventory > Stocks**. To check the quantity per warehouse navigate to the product of interest.

| Assign Sources | | | | | | | |
|--------------------|---------------|---------------|--------------------|-------|-----------------|-------------------------------------|---|
| Advanced Inventory | | | | | | | |
| Assigned Sources | | | | | | | |
| Source Code | Name | Source Status | Source Item Status | Qty * | Notify Quantity | Notify Quantity Use Default | Unassign |
| new-warehouse | New Warehouse | Enabled | In Stock | 122 | 1 | <input checked="" type="checkbox"/> |  |
| old-warehouse | Old Warehouse | Enabled | In Stock | 321 | 1 | <input checked="" type="checkbox"/> |  |

At the screenshot above you can see that we have two warehouses *new-warehouse* and *old-warehouse*. Both are assigned to a single product, and this very product has stock in both warehouses. When managing order shipping you will be given an opportunity to decide from which warehouse you want to send the item.

Below you will find all Stock Sources Qty attributes available for import and export. For reference we suggest opening an [MSI Stock Sources sample table](#) in a separate tab of your browser.

| Attribute name | Reference | Values | Value example |
|----------------|---|---|---------------------|
| source_code | Code of the warehouse. Is used for identification purposes. | Make sure to specify the exact code value. The code is used to tie product stock to source. | <i>my_warehouse</i> |
| sku | SKU of the product which stock is tied to a particular source (warehouse) | Can be up to 64 latin characters in length, without spaces, can contain "-", "_" | TST-01 |
| status | Source Item Status. Defines if the products in a particular source are in- or out-of-stock. | 1 - in stock 0 - out of stock | 1 |
| quantity | Quantity of products in a particular stock (warehouse) | Can only contain numerals | 123 |

NOTE: if your product belongs to several stock sources (warehouses) for every warehouse in the import table you need to have a dedicated row. For example:

| | A | B | C | D |
|----|---------------|---------|--------|----------|
| 1 | source_code | sku | status | quantity |
| 2 | new-warehouse | 24-MB01 | 1 | 122 |
| 3 | new-warehouse | 24-MB02 | 1 | 320 |
| 4 | new-warehouse | 24-MB04 | 1 | 122 |
| 5 | new-warehouse | 24-MB06 | 1 | 320 |
| 6 | old-warehouse | 24-MB01 | 1 | 321 |
| 7 | old-warehouse | 24-MB03 | 1 | 122 |
| 8 | old-warehouse | 24-MB04 | 1 | 321 |
| 9 | old-warehouse | 24-MB05 | 1 | 118 |
| 10 | default | 24-MB02 | 1 | 100 |
| 11 | default | 24-MB03 | 1 | 100 |
| 12 | default | 24-MB05 | 1 | 100 |
| 13 | default | 24-MB06 | 1 | 100 |

As you can see at the screenshot above we have three warehouses:

- *new-warehouse*
- *old-warehouse*
- *default*

And four products:

- *24-MB01*
- *24-MB02*
- *24-MB04*
- *24-MB06*

All these products belong to all three warehouses. That's why for every warehouse every product has a separate row. When importing such file the product quantities per warehouse are imported in order they appear in the file.

How MSI source import/export works

Below you will find an example of how to export MSI source from Magento 2 and how to import it back to Magento 2 with a new source included. The screenshots are taken from the Improved Import and Export extension which is different from native Magento 2 import/export tool.

Please refer to Improved Import and Export extension manual for explicit instructions on how to use every feature of the extension. The sample below is a sample to give you an idea of how Improved Import works. It doesn't cover every feature of the extension and doesn't provide step by step instructions.


For reference you can use Firebear demo store in a separate browser tab.

Exporting Magento 2 stock sources

Navigate to **System > Improved Import/Export > Export jobs**. At the export jobs grid you will see all already created jobs.

Export Jobs

🔍 🔔² 👤 testing ▾

 Firebear Improved Import / Export v. 3.1.4 [Import Jobs](#) | [Export Jobs](#) | [Extension manual](#) | [Sample files](#) | [FAQ](#) | [Support](#) | [Extension details](#) | [Download latest version](#)

Add New Job

Filters | Default View | Columns

Actions ▾ 2 records found 20 per page < 1 of 1 >

| ID | Title | Cron | Status | Frequency | Entity Type | Export Source | Action |
|----|------------------|------|----------|-----------|------------------------------|---------------|----------|
| 4 | stock source qty | | DISABLED | None | Stock Sources Qty | File | Select ▾ |
| 3 | stock sources | | DISABLED | None | Stock Sources, Stock Sources | File | Select ▾ |

To create a new export job click 'Add New Job' button. You will be redirected to the job settings screen.

General Settings

Enable Job No

Job Title *

Frequency *

Cron Schedule
Minutes Hours Days Months Days of Week

↑ Use this field if you have good cron knowledge.

In the General Settings specify the export job name and set a required frequency if you plan scheduling the job to run automatically. Scroll down to the Export Settings section.

Export Settings



Entity * -- Please Select --

Consecutive Export

Last Entity Id

Store Filter

Export Behavior

- Please Select --
- Advanced Pricing
- Products
- Customers Main File
- Customer Addresses
- Order
- Categories
- CMS Page
- CMS Block
- Attribute
- Stock Sources Qty
- Stock Sources

Select 'Stock Sources' from the **Entity** dropdown and proceed to the Export Behavior.

Export Behavior



File Format * CSV

Field Separator * ,

Multiple value separator * ,

Field Enclosure * "

Select required file format from the File Format dropdown and apply necessary mapping if required. Scroll down to specify the source where you want to export the stock sources.

Export Source



Export Source * File

File Path * /pub/firebear_stock_sources.csv

Date Format Y-m-d-hi

Select the source you want to export to from the Export Source dropdown. Specify the path to the file with the file name you want to create (don't forget the file format). If required you can also add a current timestamp to the file name automatically using HTML date format preferred.

That's it. You can now click big orange 'Save & Run' button at the top right corner of the screen to execute the export job and get a file with Magento 2 stock sources already created at your store.

Importing Magento 2 stock sources

First, let's add another stock source to the file we have just exported. If you have been exporting stock sources to the CSV format the best way to edit it is to use Google Sheets. Excel and OpenOffice have tendencies of adjusting to CSV files so it is better to use Google Sheets.

Editing import table

The export file will look something like this if you love colors:

| | A | B | C | D | E | F | G | H | I |
|---|---------------|----------------|---------|--------------------------|----------|-----------|------------|-----------|--------|
| 1 | source_code | name | enabled | description | latitude | longitude | country_id | region_id | region |
| 2 | default | Default Source | 1 | Default Source | 0 | 0 | US | | |
| 3 | old-warehouse | Old Warehouse | 1 | This is an old warehouse | 21 | 12 | AE | | State |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |

[Sample Google Sheet stock source table](#)

Looking at the columns A *source_code* and B *name* we can see that we have two sources:

- **Default Source** with code *default*
- **Old Warehouse** with code *old-warehouse*

To add a new source you will need to another row with the source information that you have.

Let's complete row 4 with the information we want. Say, we have:

- New Warehouse (name warehouse)
- In US, Texas, postcode 12345 (address)
- With contact point being John Doe, phone +123123123, email john@doe.com (contact)

Now we need to get this information into the table we have. Using the attribute table from this blog post you can find all the required attributes to fill in this information like this:

| | A | B | C | D | E | F | G | H | I |
|---|---------------|----------------|---------|--------------------------|----------|-----------|------------|-----------|--------|
| 1 | source_code | name | enabled | description | latitude | longitude | country_id | region_id | region |
| 2 | default | Default Source | 1 | Default Source | 0 | 0 | US | | |
| 3 | old-warehouse | Old Warehouse | 1 | This is an old warehouse | 21 | 12 | AE | | State |
| 4 | new-warehouse | New Warehouse | 1 | New warehouse | | | US | | 57 |
| 5 | | | | | | | | | |

The only thing we had to come up with was the *source_code* for the new warehouse. Think of it the same as product SKU, this is a unique identifier of the stock source. All other information in the row 4 is the same we had written for the warehouse.

Let's now import this very table we have edited.

Importing edited import table

To create a new import job proceed to **System > Improved Import/Export > Import jobs**. And click 'Add New Job' at the import job grid.

 Firebear Improved Import / Export v. 3.1.4 [Import Jobs](#) | [Export Jobs](#) | [Extension manual](#) | [Sample files](#) | [FAQ](#) | [Support](#) | [Extension details](#) | [Download latest version](#)

[Add New Job](#)

Filters | Default View ▾ | Columns ▾

Actions ▾ | 5 records found | 20 per page | 1 of 1

| ID | Title | Status | Cron | Frequency | Entity Type | Import Source | Action |
|----|-------------|----------|------|-----------|-------------|---------------|----------|
| 7 | Unfi test 1 | DISABLED | | None | Products | Google Sheet | Select ▾ |
| 6 | xslt | DISABLED | | None | Products | File | Select ▾ |

In the general settings of the import job specify the name and schedule if you want to run the job automatically on the regular basis.

General Settings

Enable Job No

Job Title *

Frequency *

Cron Schedule
Minutes Hours Days Months Days of Week

↑ Use this field if you have good cron knowledge.

Scroll down to the Import Settings and select the entity you want to import 'Stock Sources'.

Import Settings

Use API No

Entity *

From the **Entity** dropdown you can select the entity you want to import. When finished scroll down for Import Behavior section.

Import Behavior



Import Behavior *

Validation Strategy *

Allowed Errors Count *

Please specify number of errors to halt import process

Here you decide how do you want import to proceed. Currently there are three scenarios:

- **Add/Update** - new entities are added and existing entities are updated
- **Replace** - existing entities are replaced if the ID matches to the entities in the imported table
- **Delete** - entities from the imported table are deleted from the store

For this article purposes we go with 'Add/Update', as we want to add another stock source to the Magento 2 store. Scroll down to the Import Source section.

Import Source



Import File Type

Import Source *

Url *

The file must match import file format.

Considering you have been editing the table in the Google Sheets, you can just share this table and paste its link to the import source. The extension will get the file and import it to your store.

Import Sources include:

- File upload
- FTP/SFTP
- Dropbox
- Direct URL
- Rest and Soap APIs
- Google Sheets

Once the link to the file pasted - click 'Validate file' button and after the validation is complete click 'Save & Run' button at the top right corner of the screen.

That's it. Once the import is complete you can check your stock sources for the new source.

Manage Sources

Add New Source

Search by keyword



Filters



Default View ▾



Columns ▾

3 records found

20

per page



1

of 1



| <input type="checkbox"/> | Code | Name | Is Enabled | Action |
|--------------------------|---------------|----------------|------------|----------------------|
| <input type="checkbox"/> | default | Default Source | Enabled | Edit |
| <input type="checkbox"/> | new-warehouse | New Warehouse | Enabled | Edit |
| <input type="checkbox"/> | old-warehouse | Old Warehouse | Enabled | Edit |

This is a simple case of running both import and export jobs. Improved Import and Export extension many more settings and flexibility. To get full list of features [visit the extension product page](#) or read Improved Import and Export manual where we give explicit instructions on how to import any entity to your Magento 2.