

Elasticsearch Module V3.0.1

INTRODUCTION

With the help of this extension, you can integrate the Elasticsearch engine into your web store. Elasticsearch is a highly scalable open-source full-text search engine. It allows you to store, search, and analyze big volumes of data very quickly. It is the fastest search engine that returns the results of the entered query in real-time.

Note: Before installing this module, Elastic Search Engine v7.6 must be installed on the system and must be running.

Features Of Elasticsearch

Admin can easily replace MySQL search engine with the elastic search engine.

Admin can easily update products, categories and cms pages data to the elastic server.

The data is stored on the elastic server according to the Index Type.

Admin can also use command line tool to update website data to the elastic server.

The Admin can set Multi-Match Query or Simple Match Query as the search type for the Frontend.

If Multi-Match Query has been selected as the search type then the Customer can search data by name, SKU, description and short description of the Product.

If Simple Match Query has been selected then the Customer can only find the Products by its name or SKU.

It also has the Spell Correction Feature according to which the search engine automatically corrects the keywords even if they are typed incorrectly.

“Did you Mean” feature allows the customers to search for the products if they mistakenly entered wrong product name. So, this feature will suggest them all the products which have nearby same product name.

Admin can select character filters to replace or remove unwanted characters from search input.

The Admin can also Select Language Stemmer store wise according to the store language.

Admin Configuration

So, after the successful installation of this extension on your web store, the admin will navigate through **Stores>Configuration->Catalog->Catalog search->Search engine** and then select **“Webkul Elasticsearch”**

Catalog Search

Minimal Query Length
[store view]

3

☒ Use system value

This value must be compatible with the corresponding setting in the configured search engine. Be aware: a low query length limit may cause the performance impact.

Maximum Query Length
[store view]

128

☒ Use system value

This value must be compatible with the corresponding setting in the configured search engine.

Number of top search results to cache
[store view]

100

☒ Use system value

Number of popular search terms to be cached for faster response. Use “0” to cache all results after a term is searched for the second time.

Enable EAV Indexer
[global]

Yes

☐ Use system value

Enable/Disable Product EAV indexer to improve indexing speed. Make sure that indexer is not used by 3rd party extensions.

Search Engine
[global]

Webkul Elasticsearch

☐ Use system value

Autocomplete Limit
[store view]

8

☒ Use system value

Enable Search Recommendations
[store view]

Yes

☐ Use system value

When you enable this option your site may slow down.

General Settings

After the search engine has been selected as Webkul Elasticsearch then the Admin has to navigate through **Stores->Configuration->Webkul->Elastic Search Setting-**

>General Settings.

Configuration

Scope: Default Config ?

Save Config

WEBKUL

Elastic Search Settings

GENERAL

CATALOG

SECURITY

CUSTOMERS

SALES

YOTPO

ENGAGEMENT CLOUD

General Settings

Host

Please enter elastic host as: localhost or 127.0.0.1

Port Number

Please enter the port number

Index Prefix

index prefix will be used to create your data index unique on elastic server

Check Connection Status

Check Status

check status of the elastic server, but you need to fill host and port first

Reset Connection

Reset Connection

reset connection from elastic server

Here the Admin has to enter/Select:-

1. Elastic server host in the **Host field**.
2. **Port Number:-** In order to configure the elastic server.
3. **Index Prefix:-** As we are using elastic search server on multiple websites and if we use index prefix, then during the reindexing of that particular website data will not affect the data on other websites.
4. **Check Connection Status:-** To check the current status of the elastic server.
5. **Reset Connection:-** If you click on this option, then the current connection will be reset and the entire data will be removed from the current elastic server. The Admin needs to reindex it again by navigating to the **ElasticSearch>IndexManagement** to do it manually.

Search Settings

In the Search Settings, The Admin can select **Multi-Match Query** or **Simple Match Query** as a search type for Frontend as shown below:

Search Settings

Select Frontend Search Type
[website]

Multi Match Query

Multi Match Query

Simple Match Query

<https://www.elastic.co/guide/en/elasticsearch/reference/current/query-dsl-multi-match-query.html>

1.Multi-Match Query

If the search type selected is **Multi-Match Query** then the Customer can search the product by the attributes. It have been created by the Admin and the attribute type must be text.

Search Settings

Select Frontend Search Type
[website]

Multi Match Query

Choose best search type according to your store needs learn from here:
<https://www.elastic.co/guide/en/elasticsearch/reference/current/query-dsl-multi-match-query.html>

Select Fields For Multi Search
[website]

name

sku

description

short_description

thisistest

Select Fields For Multi Search

Select Mutli Match Type
[website]

Best Fields

Select Multi Match Type

Select Operator For Multi Search
[website]

OR

Select Operator 'AND' Or 'OR'

Minimum Should Match
[website]

75

minimum match percent to reduce low quality matches

Select Multi-Match Type

Furthermore, the Admin can select Multi-Match Type as **Best Fields, Most Fields, Cross Fields and Phrase and Phrase Prefix**. To learn more about Multi-Match Query, please go through the following link:

<https://www.elastic.co/guide/en/elasticsearch/reference/current/query-dsl-multi-match-query.html>

Select Operator For Multi Search- Admin can select “AND” or “OR” operator for Multi-Search.

Minimum Should Match- The Admin can set minimum match percent to reduce low-quality matches in the search result.

2. Simple Match Query

If the search type selected is **Simple Match Query** then the Customer can search the product only by its name and SKU.

Search Settings



Select Frontend Search Type
[website]

Simple Match Query



Choose best search type according to your store needs learn from here:
<https://www.elastic.co/guide/en/elasticsearch/reference/current/query-dsl-multi-match-query.html>

Allow Spell Correction in search
[website]

Level 2



Fuzziness allow search to auto-correct spelling mistakes

Select Search Filters
[website]

Elision Filter

Lowercase Filter

Synonym Filter

Stop Word Filter

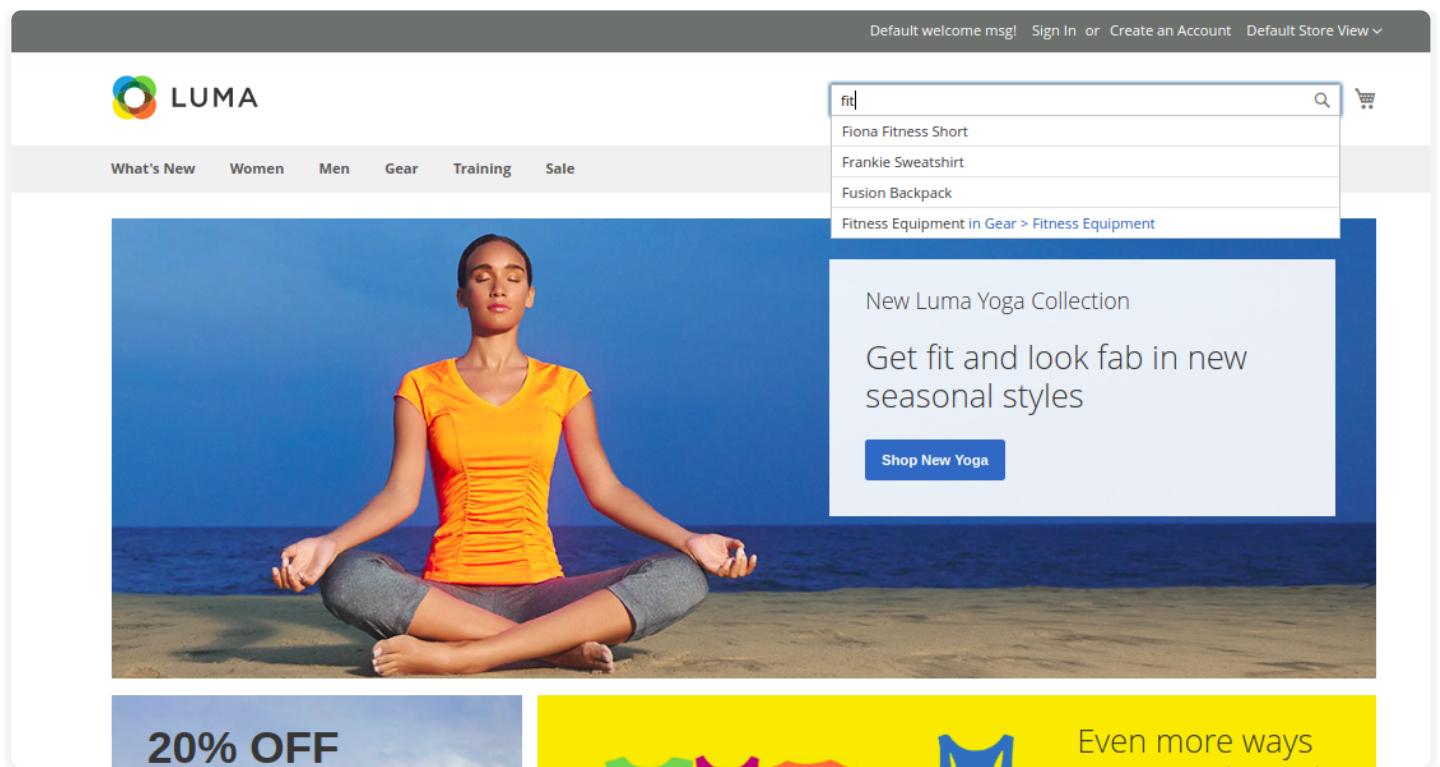
Select search filters to filter search query

Enter Comma Separated List Elisions
[store view]

enter comma separated list of elision articles, this will only work if elision filter is selected

Search Suggestion

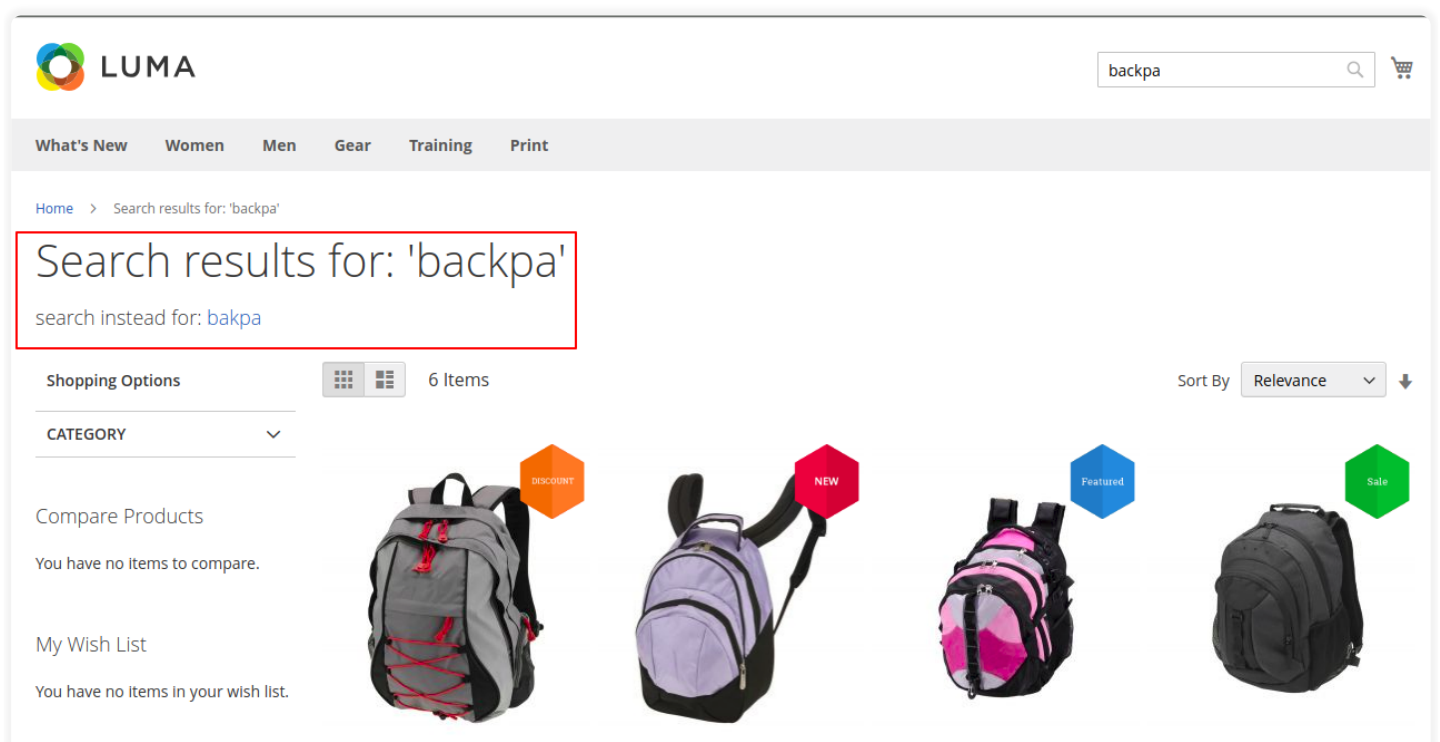
With the help of this feature, a Customer can search Categories, Pages or Products just by typing the Keywords.



Did You Mean

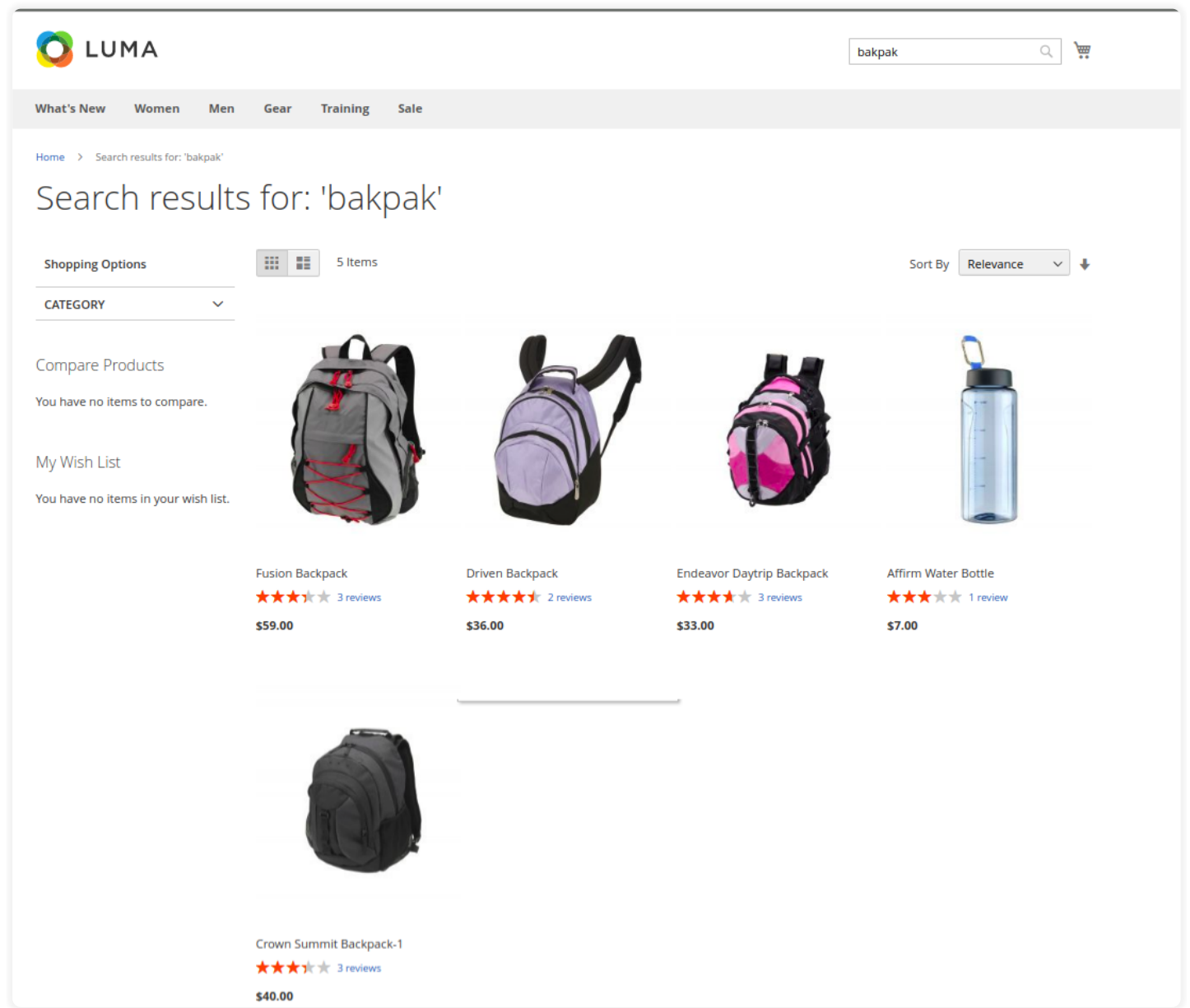
This feature allows the customers to search for the products if they mistakenly entered wrong product name. So, this feature will suggest them all the products which have nearby same product name.

Shown in below screenshot.



Allow Spell Correction In Search

The Admin can also set the spell correction at Level 1 or Level 2, according to which the Elastic Search Engine automatically corrects the keywords, even if they are typed incorrectly by the Customer.



Select Search Filters

Furthermore, the Admin can select the token filters to modify the search term provided by the Customer. There are basically 4 types of search filters:

1. Synonym Filter

The Admin has to navigate through **Marketing->Search Synonyms**.

Dashboard

Sales

Catalog

Elastic Search

Customers

Marketing

Content

Search Synonyms

New Synonym Group

Search by keyword

Filters

Default View

Columns

Export

Actions

2 records found

20 per page

1 of 1

	ID	Synonyms	Website	Store View	Action
<input type="checkbox"/>	1	test,hero hoodie,push it messenger bag	All Websites	All Store Views	Select
<input type="checkbox"/>	2	jeans,pants,pant	All Websites	All Store Views	Select

From here Admin can add a new synonym group. For example, the admin has added synonyms jeans, pants, pant.

Dashboard

Sales

Catalog

Elastic Search

Customers

Marketing

Content

New Synonym Group

Back

Reset

Save and Continue Edit

Save Synonym Group

General Information

Scope *

All Websites

?

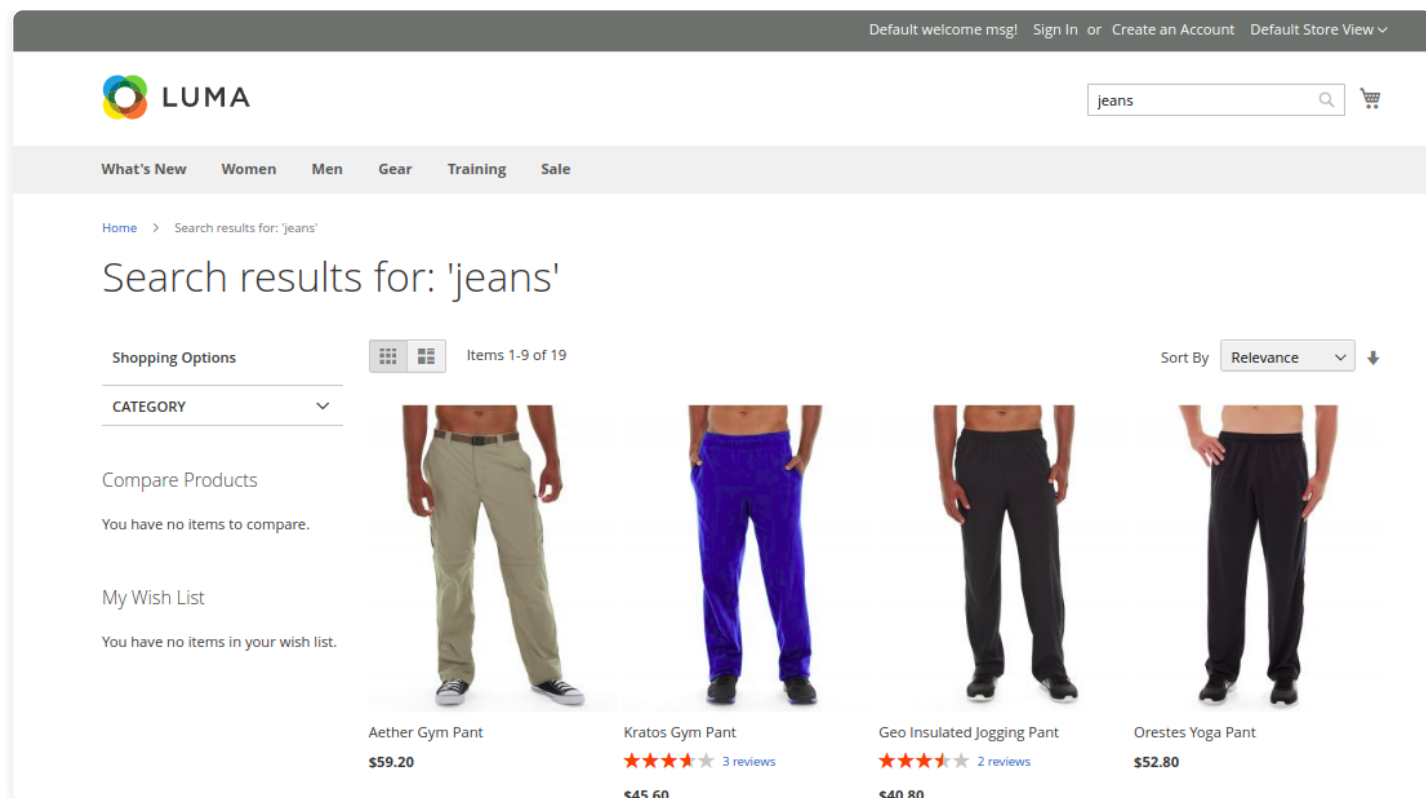
Synonyms *

?

?

Admin can add synonyms here

Now if the Customer searches for any of these words the search engine will show all the results related to these words.



2. Elision Filter- Token filter which removes elisions. For example, “l’avion” (the plane) will be tokenized as “avion” (plane).

3. Lowercase Filter- A token filter of the type lowercase that normalizes token text to lower case.

4. Stop Word Filter- This filter is used to filter Stop Words from the search query. For example and, is, to are some of Stop Words.

Learn more about token filters please go through the following Link:

<https://www.elastic.co/guide/en/elasticsearch/reference/current/analysis-tokenfilters.html>

Select Language Stemmer

The Admin needs to select correct Language Stemmer according to the store language. For Example, if Store Language has been set as English, then the Customer can only search in the English Language.

Select Search Filters

These are the **Character Filters** that are used to remove unwanted characters from the search input. There are basically three types of character filters:

Use Stop Words Filter
[store view]

No

enable stop words filtering

Select Language Stemmer
[store view]

english

select store wise language stemmer according to store language

**Enter comma seperated words to
exclude from stemming**
[store view]

Enter store wise list of comma seperated example: cats,catlike etc

Select Search Filters
[website]

Html Strip Char Filter

Mapping Filter

Pattern Replace Filter

Select search filters to filter search query

**Enter Comma Separated List Of Filter
Mappings**
[store view]

this filter will only work if mapping filter is selected, enter comma separated list of filter mapping like: · => 0, 1 => 1, 2 => 2, 3 => 3

Enter Pattern
[store view]

this filter will only work if pattern replace filter is selected, note: A badly written regular expression could run very slowly or even throw a StackOverflowError and cause the node it is running on to exit suddenly.

**Enter Pattern To Replace With Filter
Pattern**
[store view]

Works with pattern filter, used as replacement for pattern

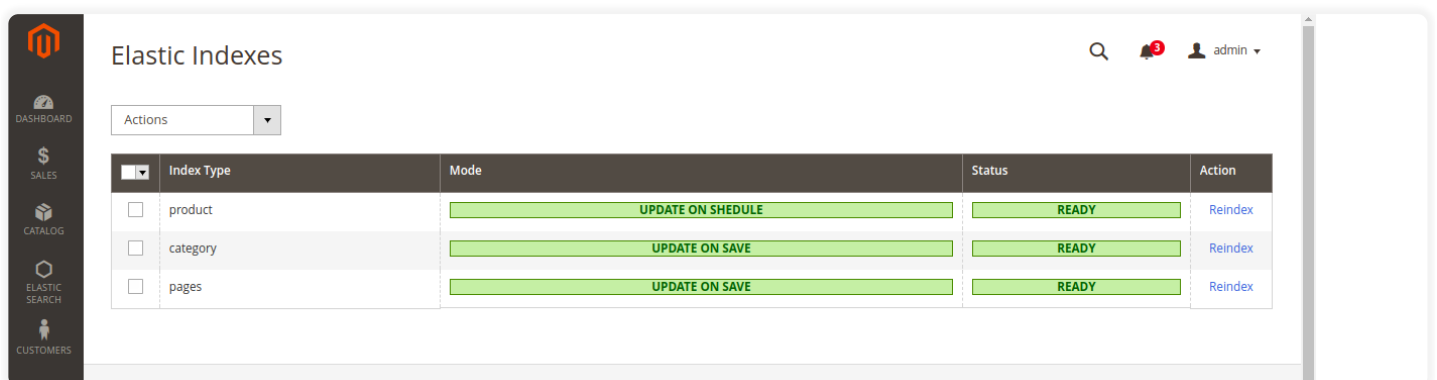
1. HTML strip char filter- The HTML strip character filter removes HTML elements with the ones selected by admin.
2. Mapping Filter- The mapping filter is used to replace mapping keys with values. So it will remove any character from the mapping.
3. Pattern Replace Filter- This filter works in the same way as Mapping Filter. The only difference is that it is used for replacing pattern instead of mapping. It uses a regular expression to replace characters.

To learn more about the Character Filters, please go through the following link:

<https://www.elastic.co/guide/en/elasticsearch/reference/current/analysis-charfilters.html>

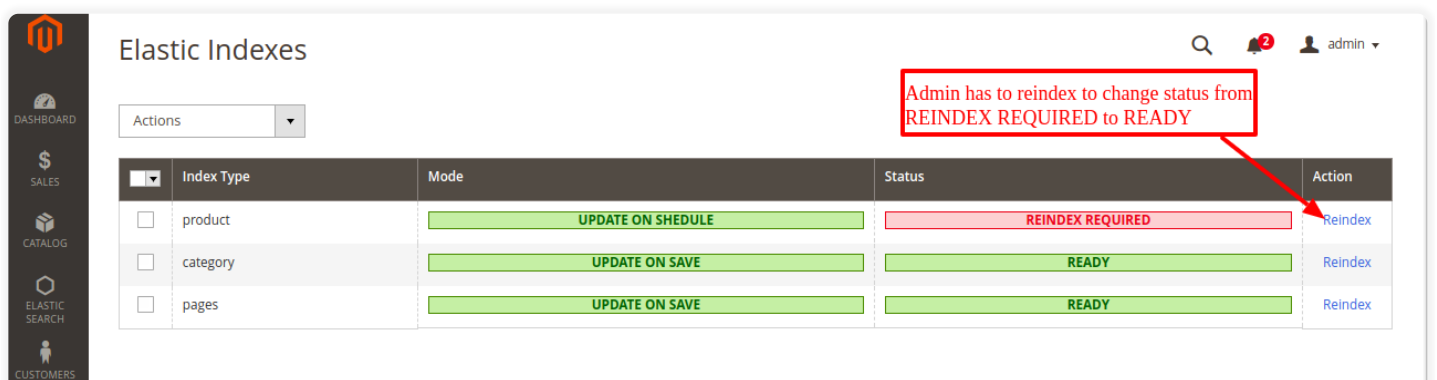
Index Management

Moreover, the Admin can navigate through **Elastic Search->Index management**.



Elastic Indexes				
Actions				
	Index Type	Mode	Status	Action
<input type="checkbox"/>	product	UPDATE ON SHEDULE	READY	Reindex
<input type="checkbox"/>	category	UPDATE ON SAVE	READY	Reindex
<input type="checkbox"/>	pages	UPDATE ON SAVE	READY	Reindex

Here, the admin can also modify the Status of Index Type. The Admin can select either **UPDATE ON SCHEDULE** or **UPDATE ON SAVE** Mode for the Index Type. For example, if the Admin adds a new product, then he has to modify Status of a Product Index Type.



Elastic Indexes				
Actions				
	Index Type	Mode	Status	Action
<input type="checkbox"/>	product	UPDATE ON SHEDULE	REINDEX REQUIRED	Reindex
<input type="checkbox"/>	category	UPDATE ON SAVE	READY	Reindex
<input type="checkbox"/>	pages	UPDATE ON SAVE	READY	Reindex

Admin has to reindex to change status from REINDEX REQUIRED to READY

So, if the admin has to modify the big volume of data, then the admin can also use command line functions in the system.

```
ashutosh045@ashutosh128:~/www/html/elastic$ php bin/magento elastic:index --helpUsage:
elastic:index [options] [--] [<index-type>]

Arguments:
  index-type                Index Type optional valid options product, category, pages, all

Options:
  -a, --index-action=INDEX-ACTION  index action required between: reindex or remove
  -s, --store-id=STORE-ID          store id optional
  -h, --help                        Display this help message
  -q, --quiet                       Do not output any message
  -V, --version                     Display this application version
      --ansi                        Force ANSI output
      --no-ansi                     Disable ANSI output
  -n, --no-interaction              Do not ask any interactive question
  -v|vv|vvv, --verbose              Increase the verbosity of messages: 1 for normal output, 2 for more verbose output and 3 for debug

Help:
Elastic Search Index Management
```

That’s all for the **Elasticsearch Module**. Still, have any issue feel free to add a ticket and let us know your views to make the module better webkul.uvdesk.com.