

# Elasticsearch Module V3.0.1

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## 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 ⌵

<b>Minimal Query Length</b> <small>[store view]</small>	<input type="text" value="3"/>	<input checked="" type="checkbox"/> Use system value
<small>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.</small>		
<b>Maximum Query Length</b> <small>[store view]</small>	<input type="text" value="128"/>	<input checked="" type="checkbox"/> Use system value
<small>This value must be compatible with the corresponding setting in the configured search engine.</small>		
<b>Number of top search results to cache</b> <small>[store view]</small>	<input type="text" value="100"/>	<input checked="" type="checkbox"/> Use system value
<small>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.</small>		
<b>Enable EAV Indexer</b> <small>[global]</small>	<input type="text" value="Yes"/> <span>⌵</span>	
<small>Enable/Disable Product EAV indexer to improve indexation speed. Make sure that indexer is not used by 3rd party extensions.</small>		
<b>Search Engine</b> <small>[global]</small>	<input type="text" value="Webkul Elasticsearch"/> <span>⌵</span>	<input type="checkbox"/> Use system value
<b>Autocomplete Limit</b> <small>[store view]</small>	<input type="text" value="8"/>	<input checked="" type="checkbox"/> Use system value
<b>Enable Search Recommendations</b> <small>[store view]</small>	<input type="text" value="Yes"/> <span>⌵</span>	
<small>When you enable this option your site may slow down.</small>		

## 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.

The screenshot shows the 'Configuration' page for 'WEBKUL'. The 'Scope' is set to 'Default Config'. A 'Save Config' button is visible in the top right. The left sidebar lists various settings categories: Elastic Search Settings (highlighted), GENERAL, CATALOG, SECURITY, CUSTOMERS, SALES, YOTPO, and ENGAGEMENT CLOUD. The main content area is titled 'General Settings' and contains the following fields and actions:

- Host** [website]: A text input field with a placeholder. Below it, a note says: 'Please enter elastic host as: localhost or 127.0.0.1'.
- Port Number** [website]: A text input field with a placeholder. Below it, a note says: 'Please enter the port number'.
- Index Prefix** [website]: A text input field containing the value 'magento'. Below it, a note says: 'index prefix will be used to create your data index unique on elastic server'.
- Check Connection Status**: A red button labeled 'Check Status'. Below it, a note says: 'check status of the elastic server, but you need to fill host and port first'.
- Reset Connection**: A red button labeled 'Reset Connection'. Below it, a note says: '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.

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## 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

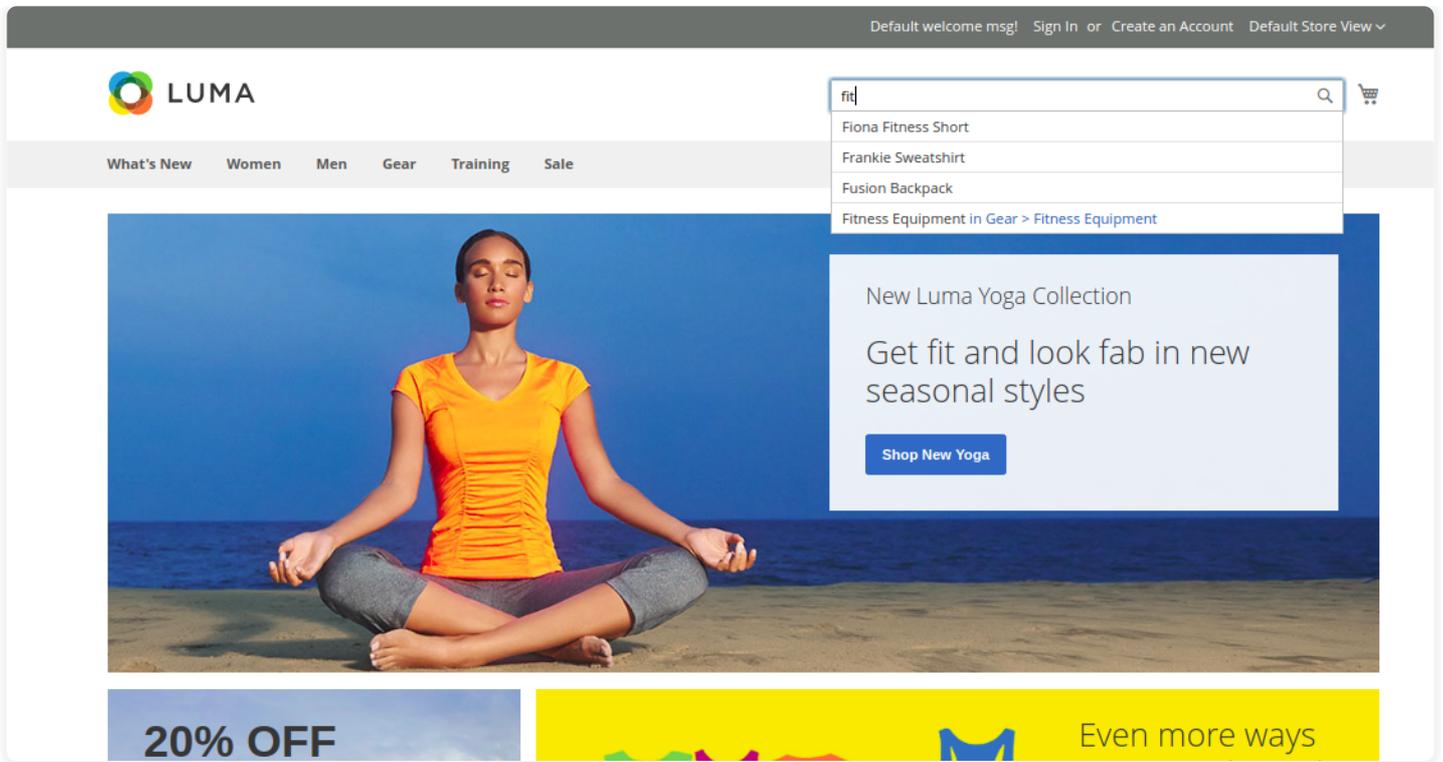
Select search filters to filter search query

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

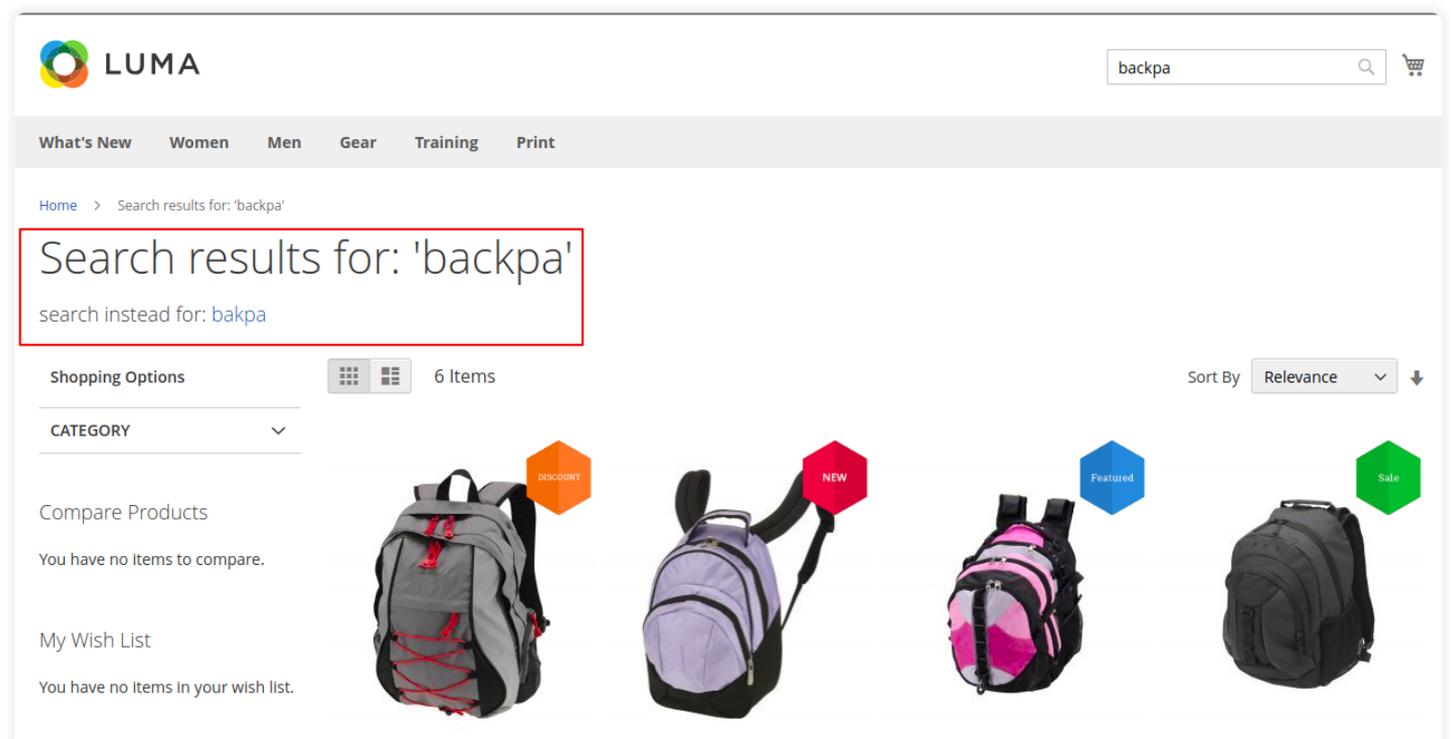
With the help of this feature, a Customer can search Categories, Pages or Products just by typing the Keywords.



## Did You Mean

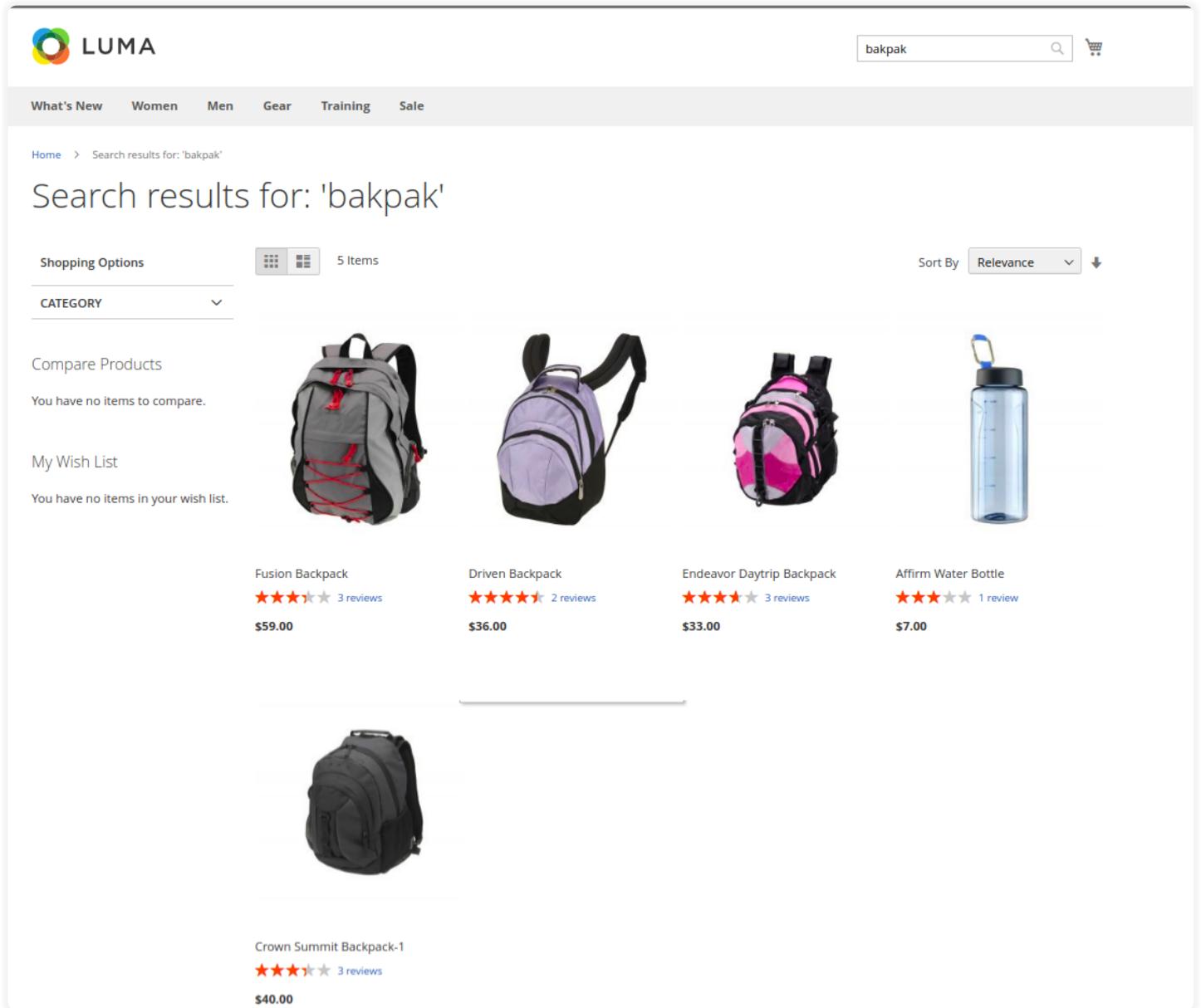
This feature allows the customers to search for the products if they mistakenly entered wrong product name. So, this feature will suggest them all the products which have nearby same product name.

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.



The screenshot displays the LUMA website interface. At the top, the LUMA logo is on the left, and a search bar with the text 'bapak' and a shopping cart icon is on the right. Below the logo, a navigation menu includes 'What's New', 'Women', 'Men', 'Gear', 'Training', and 'Sale'. The main content area shows 'Search results for: 'bapak'' with a breadcrumb 'Home > Search results for: 'bapak''. Below this, there are 'Shopping Options' (5 items), a 'Sort By' dropdown set to 'Relevance', and a 'CATEGORY' dropdown. On the left sidebar, there are sections for 'Compare Products' (no items), 'My Wish List' (no items), and 'Compare Products' (no items). The main product grid shows five items: 'Fusion Backpack' (\$59.00, 3 reviews), 'Driven Backpack' (\$36.00, 2 reviews), 'Endeavor Daytrip Backpack' (\$33.00, 3 reviews), 'Affirm Water Bottle' (\$7.00, 1 review), and 'Crown Summit Backpack-1' (\$40.00, 3 reviews). Each item has a star rating and a 'reviews' link.

## 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**.

Search Synonyms

Search by keyword

Filters | Default View | Columns | Export

Actions | 2 records found | 20 per page | 1 of 1

ID	Synonyms	Website	Store View	Action
1	test,hero hoodie,push it messenger bag	All Websites	All Store Views	Select
2	jeans,pants,pant	All Websites	All Store Views	Select

New Synonym Group

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

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.

Default welcome msg! Sign In or Create an Account Default Store View

**LUMA**

What's New Women Men Gear Training Sale

Home > Search results for: 'jeans'

## Search results for: 'jeans'

Shopping Options Items 1-9 of 19 Sort By Relevance

CATEGORY

Compare Products  
You have no items to compare.

My Wish List  
You have no items in your wish list.

Aether Gym Pant \$59.20	Kratos Gym Pant ★★★★★ 3 reviews \$45.60	Geo Insulated Jogging Pant ★★★★★ 2 reviews \$40.80	Orestes Yoga Pant \$52.80

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:

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**Use Stop Words Filter**  
[store view]

enable stop words filtering

**Select Language Stemmer**  
[store view]

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**.

Index Type	Mode	Status	Action
product	UPDATE ON SCHEDULE	READY	Reindex
category	UPDATE ON SAVE	READY	Reindex
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.

Index Type	Mode	Status	Action
product	UPDATE ON SCHEDULE	REINDEX REQUIRED	Reindex
category	UPDATE ON SAVE	READY	Reindex
pages	UPDATE ON SAVE	READY	Reindex

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-interactive              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](http://webkul.uvdesk.com).