Layer2 Knowledge Management Suite User Documentation

January 28, 2016

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Layer 2 GmbH | Eiffestraße 664b | D-20537 Hamburg
Tel.: +49 (40) 28 41 12 – 30 | Fax: +49 (40) 28 41 12 – 16
E-Mail: sales@layer2.de | Web: www.layer2solutions.com/
General Managers: Wolfgang Cords, Matthias Hupe
Hamburg District Court: HRB 81259

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Overview

The **Layer2 Knowledge Management Suite for SharePoint** closes many gaps that still exist with SharePoint's out-of-the-box metadata management, and provides additional features to implement better document management, collaboration, and knowledge management solutions with SharePoint.

This documentation offers a short introduction to get started quickly and as well as a more detailed description of the components.

Getting Started

System Requirements

The Layer2 Knowledge Management Suite requires a SharePoint on-premises installation. It is not available for SharePoint Online / Office 365. The system requirements for the Layer2 Knowledge Management Suite are directly related to the SharePoint system requirements. Please see the SharePoint documentation for detailed information about the system requirements of SharePoint.

- [SharePoint 2016 (Preview)](#)
- [SharePoint 2013](#)
- [SharePoint 2010 Foundation](#)
- [SharePoint 2010 Server](#)

The product requires some specific SharePoint services to be up and running:

- SharePoint Managed Metadata Service
- SharePoint User Profile Service
- SharePoint User Profile Synchronization Service

You can verify the system requirements using the Layer2 Knowledge Management Suite Installation Checker included in the distribution.

A SharePoint Term Store should exist and should contain Term Groups, Term Sets, and Terms. You should have SharePoint lists and libraries available that already have a column of type Managed Metadata to assign terms manually. To understand the features and benefits of the Layer2 products you should be familiar with the SharePoint default features related to Managed Metadata and search.

Installation

Execute the installation on the SharePoint Central Administration Server (CA) on your farm to ensure that all features work properly.

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Choosing an Installer Package

The Layer2 Knowledge Management Suite is provided with three different installation packages; one each for SharePoint Server 2010, SharePoint Server 2013, and SharePoint Server 2016. Which version you have to use depends on the version of SharePoint installed on your host machine or farm.

Components of the Layer2 Knowledge Management Suite

The Layer 2 Knowledge Management Suite is a collection of several components that are also available as separate products. Each of them enhances your SharePoint with useful features. Below is a listing of all products with a short description.

Product	Description
Layer2 Taxonomy Manager	Advanced features to manage the SharePoint Term Store including import, export, update, backup/restore, and deployment. Support for SKOS. Adds content classification rules to terms including rule auto-generation and verification.
Layer2 Tag Suggester	Appropriate Managed Metadata can be assigned to SharePoint items and documents using content classification rules manually-based on suggestions. Typically used to verify and improve the precision of content classification rules.
Layer2 Auto Tagger	Appropriate Managed Metadata can be assigned to SharePoint items and documents using content classification rules automatically using bulk-tagging (e.g. after migration) or real-time tagging (e.g. during document upload or change).
Layer2 Tag Navigation Web Part	The Web Part displays taxonomies of Managed Metadata, terms, enterprise keywords, or social tags right from the SharePoint Term Store as additional hierarchical, tree-style navigation with flexible style and link options.
Layer2 Tag Directory WP	The Web Part can render taxonomies of Managed Metadata and enterprise keywords right from the SharePoint Term Store, as well as social tags as flat A-Z index directory or glossary of terms with flexible style and link options.
Layer2 Tag Cloud WP	The Web Part displays terms of Managed Metadata, enterprise keywords, or social tags right from the SharePoint Term Store by its importance as tag cloud with flexible style and link options.
Layer2 Related Content Web Part	The Web Part dynamically displays related content (like what amazon.com does for related

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	products, but also related contacts, documents, links, news, etc.) based on metadata assignment using search.

Layer2 also provides additional data synchronization tools what work well together with the Knowledge Management Suite to allow you to connect over a hundred external data sources into your SharePoint Knowledge Management scenario. See the Including External Content into SharePoint Knowledge Management section for more details.

Setup

1. Extract all files from the provided .ZIP file into a folder on the Central Administration Server.
2. Using the information provided above about the three installer packages, select the correct release version for the SharePoint you are installing onto.
3. The Layer 2 Knowledge Management Suite consists of several products as you can see in the table above, and each has their own installers that you can install only the features you want to add to your SharePoint.

The following installation process is for one of the components (Auto Tagger). All others work similar to this one:

4. Run the **Install.Layer2.KnowledgeManagementSuite.AutoTagger.exe** file inside the appropriate release folder. It is recommended that you "Run as administrator" to prevent any permissions-related errors with the install.
5. Read the license agreement carefully and accept it by checking the box. If you have any questions concerning licensing, please do not hesitate to contact sales@layer2.de. Otherwise, click **Next**.

Figure 1 - Installer license agreement

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6. You can now choose the web applications where the product will be installed. The product will only available on the selected web applications. It is necessary to install the Auto Tagger and the Taxonomy Manager on the SharePoint Central Administration (CA).
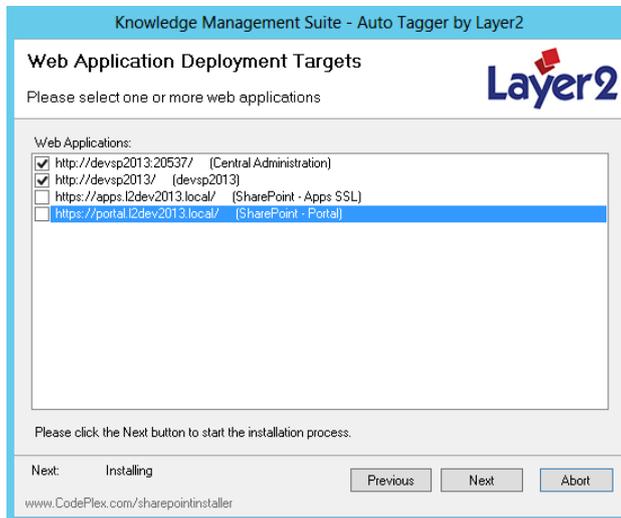

Figure 2 – Web application selection for product deployment

7. The Installer will now add and deploy the Auto Tagger solution on your SharePoint Farm. During installation, the installer restarts the SharePoint Timer Service. The application pool of your targeted web application will be restarted by the deployment job.
8. The installation will end with an "Installation Successfully Completed" window.
   Verify that there are no errors in the details. Please repeat the steps 4 to 8 for every product in the suite which you want to install.
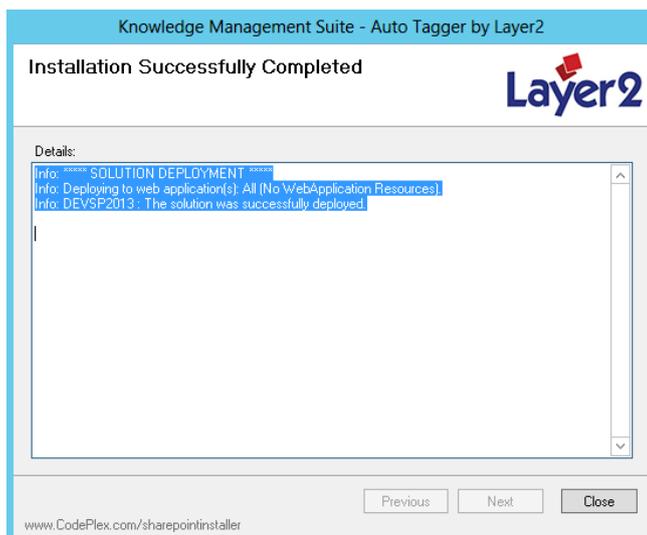

Figure 3 - Installation completed

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9. After you have installed all components of the suite that you need, you can check that all of them installed properly with the **InstallationChecker.exe**. This also checks that all services that are needed are working properly.
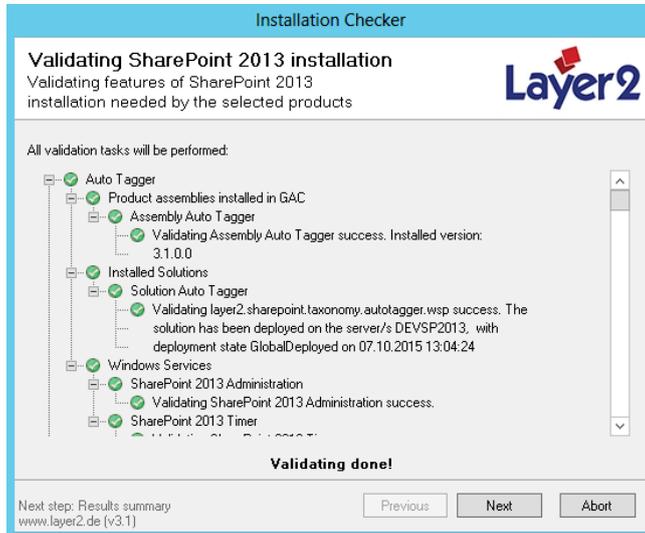
Figure 4 – Installation validated with the InstallationChecker

Please check carefully and resolve any issues with SharePoint services as reported by the InstallationChecker.

Solution Activation and Validation

After the installation, you have to check and activate some features for the products:

Auto Tagger

Go to Central Administration and verify that there is a **Layer2 - Knowledge Management Suite - AutoTagger - TimerJob for SiteCollections** timer job (you can see this under **Monitoring** -> **Review job definitions**) listed.

Title	Web Application	Schedule Type
Layer2 - Knowledge Management Suite - AutoTagger - TimerJob for SiteCollections	SharePoint Central Administration v4	Minutes

Figure 5 - Timer job listed for Auto Tagger in Central Administration

Taxonomy Manager

Go to Central Administration, click **Manage Web Application** (under **Application Management**) and select the web application where you want to use the Taxonomy Manager. After selecting the web application, click on **Manage Features** and in the pop-up dialog, activate in the **Layer2 Knowledge Management Suite - Taxonomy Manager** feature. Repeat for the other web applications you wish to

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enable the Taxonomy Manager on.
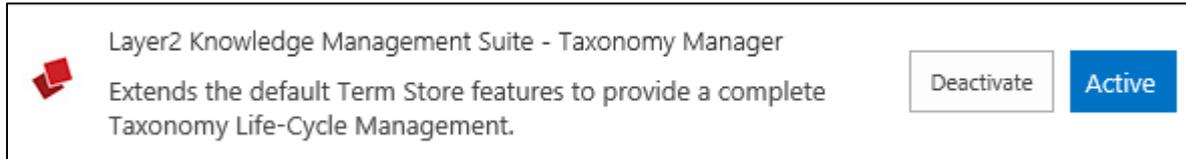
Figure 6 - Web application feature for Taxonomy Manager

For All Other Features, Except the Taxonomy Manager

After the installation, you have to activate the feature on your Site Collection.

1. Navigate to the **Site Collection Features** (not Site Features) of the site collection you wish to enable the Knowledge Management Suite features on.
2. In the list, click **Activate** for all features you want to activate on the site collection feature. All Knowledge Management Suite features start with "Layer2 Knowledge Management Suite – ".
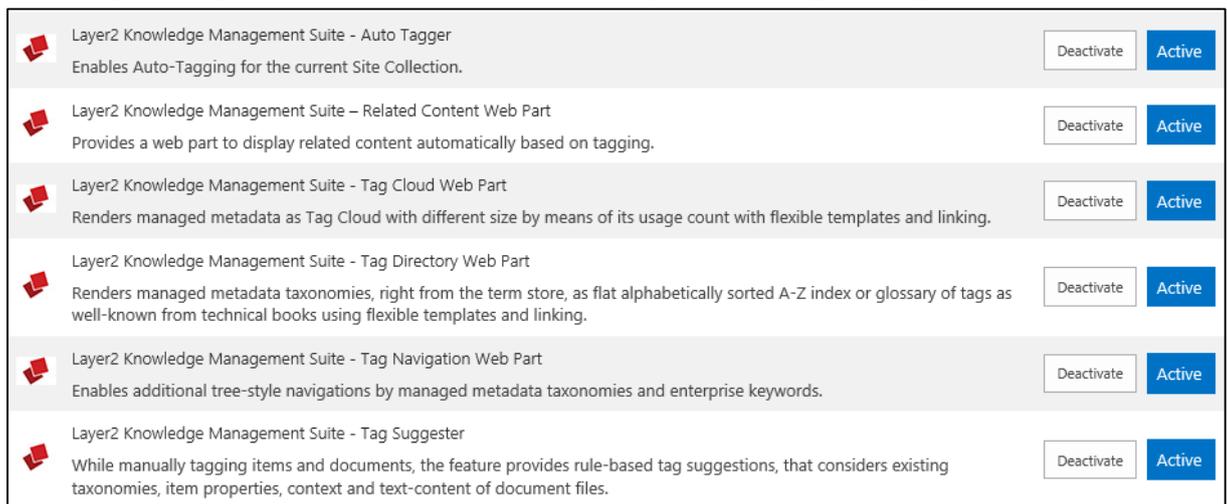
Figure 7 - Knowledge Management Suite features activated in Site Collection Features

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Advanced User's Guide/Technical Information

Layer2 Taxonomy Manager

The Layer2 Taxonomy Manager enables the simple managing of your Term Store and enhances the capability with essential functions like Term Set import, export, update, and content classification rules.

Import Term Set

If you select a Term Group (not a Term Set) inside your Term Store on a web application where the Taxonomy Manager is activated, you will notice a button **Import Term Set**.
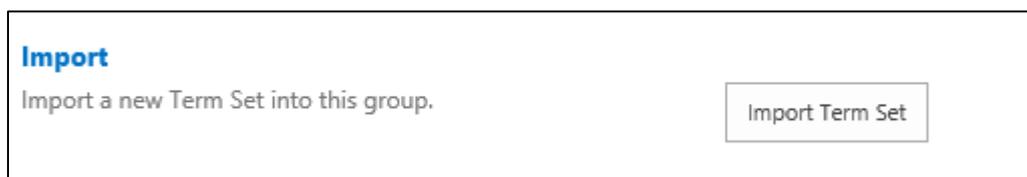
Figure 8 - Import Term Set button in UI

By clicking it, you get a dialog where you can upload a file in the SKOS Format, which will be automatically imported into the selected group as a new Term Set.
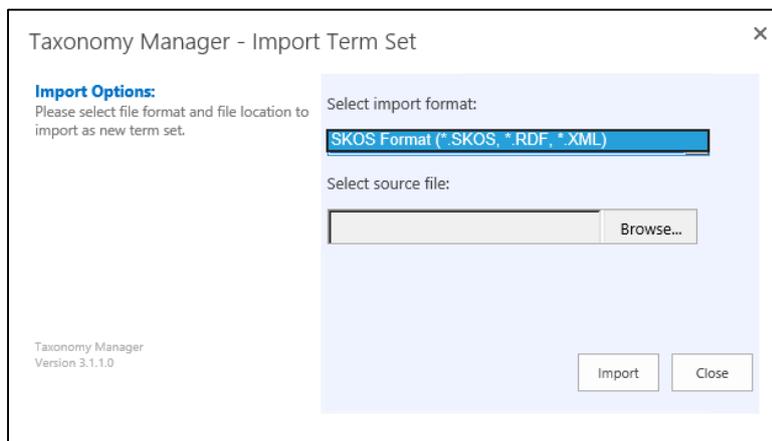

Figure 9 - Dialog to import a Term Set

By default, SharePoint only allows to import Term Sets as flat Excel files with a limited amount attributes and levels.

Update Term Set

Beside importing or exporting a Term Set, you can also update an existing Term Set from an external file. To perform this action, select the Term Set you want to update and click on **Update Term Set**.
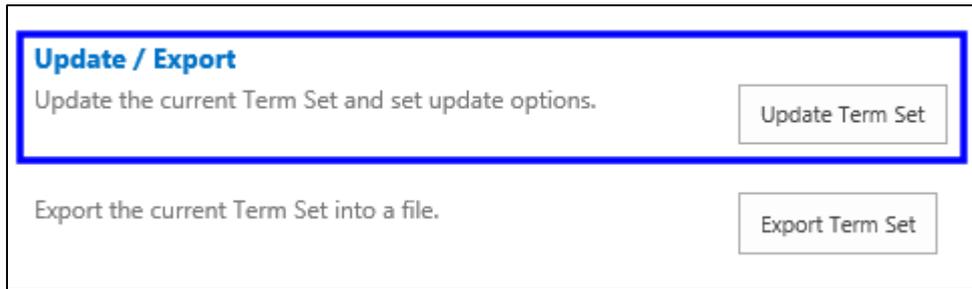
Figure 10 - Update Term Set button in UI

In the pop-up dialog, you can choose the method for how the terms should be updated. Those methods are explained below:

- **Create new terms**: which will cause every term that is missing in the current Term Set to be added if it exists in the updating Term Set.
- **Update existing terms**: will check all existing items for changes in comparison to the updating Term Set. For this purpose, the SKOS file need to contain the id of the terms to identify them. This will override the state you have in SharePoint with the one in the file.
- **Delete missing terms**: will delete all terms in your existing Term Set which are not in the file you updating with.

You can combine all three methods.
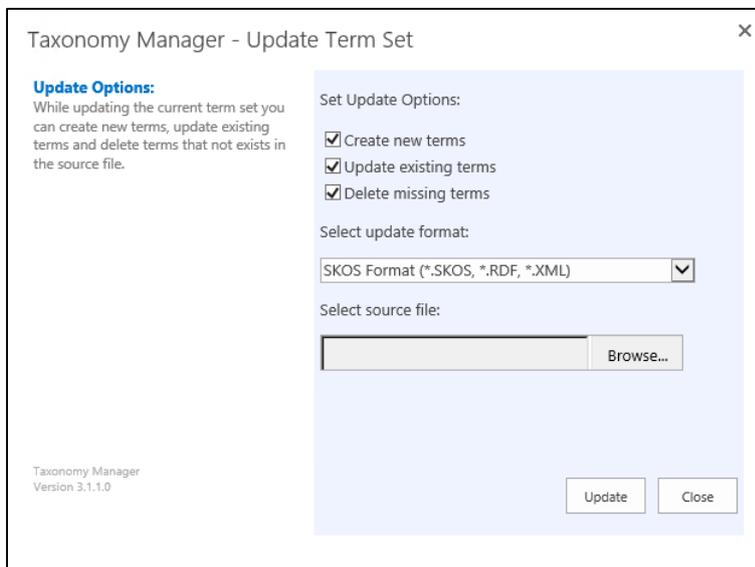
Figure 11 - Dialog for updating a Term Set

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By default, SharePoint has no option to update Term Sets from external sources. The feature is especially helpful in case you are using external applications to manage your taxonomies, or need to deploy Term Sets from QA/non-production to production environments.

Export Term Set

The **Export Term Set** feature, which is added by the Taxonomy Manager, allows you to move Term Sets between different web applications or installations, or let you backup Term Sets. The **Export Term Set** feature exports the Term Set in SKOS format.

To export a Term set, you have to select it and click on **Export Term Set**. A dialog will pop up where you start the download of the Term Set in the selected format by clicking **Export**. By default, SharePoint has no option to export Term Sets.
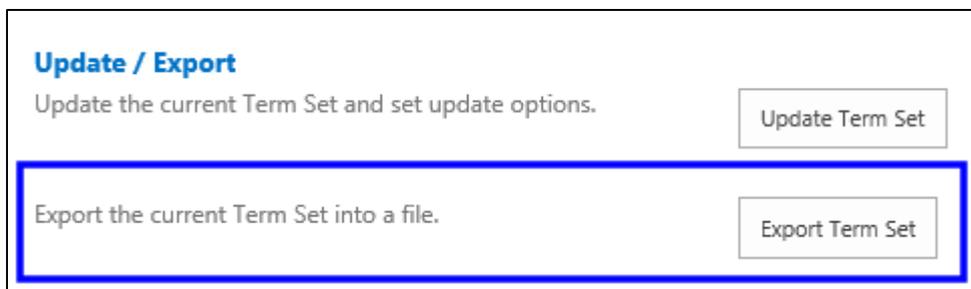

Figure 12 - Export Term Set button in UI

Content Classification Rules

With the help of the Taxonomy Manager, it is possible to add content classification rules to specific terms. If no rule is present, just the term label and synonyms are taken into account for metadata assignment. Rules can optionally be used to increase precision of metadata assignment with SharePoint. They are used by the Tag Suggester and Auto Tagger to find the right terms to assign to a given item or document.

You can **generate a rule** from existing term labels and synonyms or enter a new one. After creating a rule, you can enter or paste a sample text to **validate the rule** with the text. If the rule matches, this means that the specific term would be applied to any items or documents that would contain the sample text.

Supported Documentation Types

The text content of a document is retrieved by using the installed IFilters, very similar to the SharePoint search. By default, IFilters for Office documents as Word, Excel, and PowerPoint are already installed. IFilters for Adobe PDF need additional configuration in some cases (see FAQs for more details). More IFilters are available from several vendors on the market, e.g. for AutoCad, images like JPG, PNG, TIFF, and more to extract metadata.

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Default Content Classification Engine

The way that the default classification engine works is that it creates one joint text body from the document content (retrieved by IFilters), as well as additional SharePoint columns, the list or library name, and URL. By default, a term will be assigned to a SharePoint item or document if the term label or synonyms are found in the content.

To increase the precision of the Metadata assignment, content classification rules can be added to a term. You can define rules as logical expressions with the following keywords: OR, AND, NOT. In this way, documents and items can be found that contain some specific required tokens, but not others. You can also use regular expressions (REGEX) to include or exclude specific patterns.

For Example:

To assign the term "jdoe" to an item you can make use of the following expression.

"jdoe" OR "John Doe" OR "J.Doe"

The term "jdoe" is assigned if the expression returns "True". Please find more examples in the Layer2 FAQs.

Figure 13 - Example classification rules setting for a term

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Advanced Content Classification Engine (available in V4 and later)

The second version of the classification engine makes it possible to create checks for the value of a single items property. Below is a list of the properties which can be integrated into queries and also a list of the operators which can be used to check the value against an expected value. These expressions can be combined and concatenated with the logical operators NOT, AND and OR and encapsulated with brackets like in mathematics. Properties are identified by the internal name followed by a "Field", e.g. TitleField.

Operators:

Operator	Description
EQUALS or =	Real value must be the same as the expected value
CONTAINS	Real value must only contain the expected value

Aliases are shortcuts for some rather complex internal names and some virtual fields added by the KMS. The following aliases are currently implemented:

Property Title	Description	Internal Name
Title	The Title column	Title
Name	The Name column (with file extension, which is not shown in the default view)	FileLeafRef
AbsoluteUrl	The URL to the document	EncodedAbsUrl
RelativeUrl	The folder path relative to the root web (e.g. /mySite/myLibrary/myFolder)	FileDirRef
CreatedBy	The Created By column (e.g. 2;#myUser)	Author
Created	The Created column	Created
ModifiedBy	The Modified By column (e.g. 2;#myUser)	Editor
Modified	The Modified column	Modified
FileType	An internal field not visible in the web UI, containing the file extension (e.g. txt)	File_x0020_Type
FilePath	An internal field not visible in the web UI, containing the file path relative to the root web (e.g. /mySite/myLibrary/myFile.txt)	FileRef
WebTitle	The title of the current web	*Virtual Field*

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FileContent	The document content as retrieved by IFilters	*Virtual Field*
AllContent	The joint content of all properties (to be compatible with the default engine)	*Virtual Field*
AttachmentNames	The names of all files attached to the current item	*Virtual Field*
AttachmentsContent	The content of all files attached to the current item	*Virtual Field*

Example:

[Title] CONTAINS "By John Doe" OR [Author] CONTAINS "jdoe"

The term "jdoe" is assigned only if "By John Doe" is found in the Title column (not case-sensitive) or "jdoe" is the author. Please find more examples in the Layer2 FAQs.

Layer2 Tag Suggester

The Layer2 Tag Suggester enables an easy way to assign Managed Metadata to SharePoint items and documents manually with the help of tag suggestions based on the terms (including synonyms or rules) and the item or document content.

Before using the Tag Suggester, please make sure that you can assign Managed Metadata manually by using the SharePoint default features. To use the Tag Suggester, go to the **Edit Properties** dialog for an item. Click the **Browse for a valid choice** icon beside the Managed Metadata field of the item, and then switch to the **Suggestions** tab. In this dialog, the Tag Suggester presents the tags which match the selected item, listed in alphabetical order. Now you can choose the tags that fits best and add them manually to your item. If you cannot find the **Suggestions** tab, the Tag Suggester feature is not activated. See Setup the section for more details.
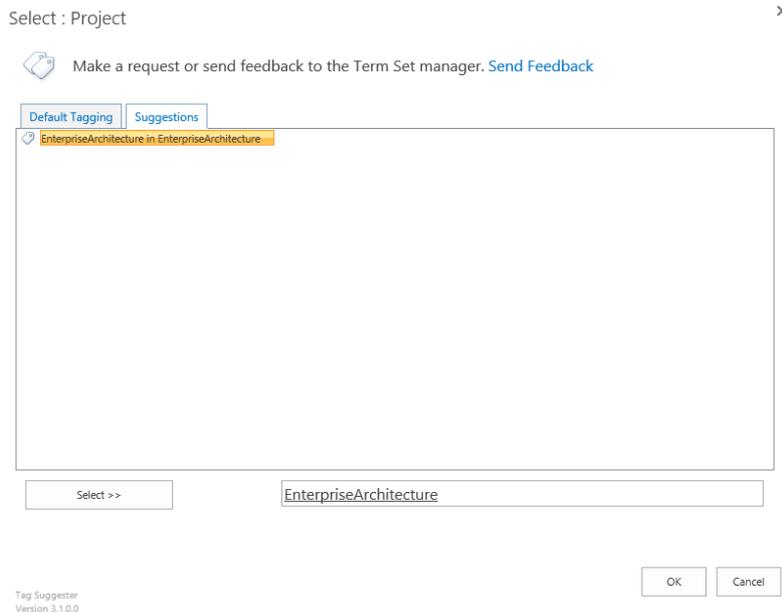
Figure 14 - Example dialog with the Suggestions tab from the Tag Suggester

The Tag Suggester is typically used to accelerate the manual tagging process and increase the precision of tagging. It is especially helpful for users that do not have any deeper subject domain knowledge or are not familiar with the detailed structure of the corporate Term Sets. By default, SharePoint just offer a search-as-you-type feature to find the specific terms. The Tag Suggester can also be used to verify and increase the precision of synonyms or content classification rules before using the Auto Tagger. If you don't get the desired Managed Metadata assigned at this step, please don't start with auto tagging – it will deliver exactly the same results.

Layer2 Auto Tagger

The Layer2 Auto Tagger enables the automatic tagging of SharePoint items and documents with very flexible scopes and settings. You can run the Auto Tagger:

- For **real-time tagging** when a document is uploaded, an item is created or changed by a user, workflow or via the SharePoint API.
- For **bulk-tagging** all items or documents in a specific list or library on-demand.
- For **scheduled tagging** on a regular basis for specific scopes like all items and documents in a specific site collection, web, site, list or library, or content type by SharePoint Timer Jobs.

All modes can be used side-by-side.

The scopes and settings for those actions are maintained in specific SharePoint lists, described below as Auto Tagger Configuration Lists. You can carefully modify the lists manually, or by using the SharePoint API, PowerShell, etc. This gives you a maximum flexibility to fulfill specific requirements.

In case of the real-time tagging or bulk-tagging you can make use of the user interface provided to configure it directly in the list or library settings. If you are unsure, please start with bulk-tagging and real-time tagging mode

Configuration of Real-Time Tagging

The Auto Tagger can be configured for real-time tagging, such as when a document is uploaded, an item is created or changed by a user, by workflow, or via the SharePoint API. The configuration is managed directly in the list settings. Open the list settings dialog of the specific list which you want to tag, and then click **Automatically Assign Metadata**.

Below is a detailed description for every property within the list configuration page.

Automatically assign metadata

No configurable options, but does list the current name and number of items in the list.

Software Version and License

No configurable options, but does list the version of the Auto Tagger and license version.

Activate Configuration

This option enables the automatically tagging of new items by adding them to a list. After activating this feature, you can simply upload or create items to your library or list and the new or modified items are automatically tagged. Default is "No".

Overwrite Mode

This option enables the Auto Tagger to remove tags which do not match any more. If overwrite is deactivated, the Auto Tagger will only ever adds tags to the specific item. Activating this setting can also lead to the remove of manually added tags. Default is "Yes".

Use System Update

With this option activated, the Auto Tagger edits the tags of an item with a system update, so the "Modified" and "Modified By" properties of the item won't be changed. In addition, this update doesn't create a new version of the document, nor start any change workflows. Default is "Yes".

Log Level

Changing the log level can be useful by investigating problems. You can also be asked by the Layer2 support to change the log level for more detailed log information to evaluate a problem. It goes from "Trace", which is the most detailed, to "None", which logs nothing. Default is "Info".

Configure Columns

You can find below a list of Managed Metadata columns of the current list and can check or uncheck them to activate or deactivate them for the Auto Tagger. After deactivating a column, it won't be filled by the Auto Tagger. This is helpful in case some columns should be excluded from auto tagging

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because they are used to manage other operations, e.g. to route documents or interact with workflows.

Figure 15 - Example of Configure Columns setting showing available Managed Metadata columns for tagging

Bulk Tagging

You can start a bulk-tagging process where all items in your list get tagged based on the configuration information above by pressing the **Start Bulk-Tagging now** button. This feature is especially useful for the initial tagging of your list or library, such as after a migration. It can also be used after changes in the Term Set so that they are quickly propagated out.

After starting the process, you will find the progress of the process listed as well as the state on the settings panel. Here is an overview of all the possible states:

State Name	Description
Starting	Setting up the context in which the process is running
Running	Processing the data
Aborting	Waiting for an exit point, which enables a safe abortion of the process
Finished	All items processed
Aborted	Process got canceled
Unknown	This can appear if the process in the background which processed the data can't be found any longer

You can cancel the process by clicking the **Cancel Bulk-Tagging now** button. After the process is finished, you will get completion statistics about the process with the following attributes:

Statistic Property	Description
Finished <message>	State in which the process currently is
Start	Date and time the process started
End	Date and time the process finished
Item Count	Count of cells the Auto Tagger processed
Tag Count	Count of tags the Auto Tagger assigned on items
Warning Count	Count of warnings that occurred while the process
Error Count	Count of errors that occurred while the process

Layer 2 GmbH | Eiffestraße 664b | D-20537 Hamburg
Tel.: +49 (40) 28 41 12 – 30 | Fax: +49 (40) 28 41 12 – 16
E-Mail: sales@layer2.de | Web: www.layer2solutions.com/
General Managers: Wolfgang Cords, Matthias Hupe
Hamburg District Court: HRB 81259

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Duration	Duration of the process
Last message	Last message emitted by the process, like an error

Bulk Tagging

To find and assign convenient managed metadata to the already existing items and documents of this list, please press the button. Your settings are applied to start this one-time action. Bulk tagging is especially helpful for the initial processing of the list, e.g. after migration.

Start Bulk-Tagging now

Bulk-Tagging Information
Finished: All 3 items bulk-tagged
Start: Wednesday, November 11, 2015 4:01:13 PM
End: Wednesday, November 11, 2015 4:01:20 PM
Item Count: 3
Tag Count: 3
Warning Count: 0
Error Count: 0
Duration: 00:00:07
Last message: The last Crawling / Tagging finished successfully.

Figure 16 - Example of a completed Bulk-Tagging run with completion statistics

Scheduled Tagging

For the configuration of a scheduled tagging process, you have to set up configurations and scopes for the timer job to execute. For the first purpose, you have to create an element inside the **Knowledge Management Suite AutoTagger Configuration List** to define how the Auto Tagger should process your scopes. You find a list of elements with a short description in the Knowledge Management Suite AutoTagger Configuration List section below.

Some of the settings are similar to the configuration of real-time tagging. Create a new element in the list for each strategy. After you created the configuration, you create the scopes on which the configuration should be applied. To define such a scope, you can add a new element to the **Knowledge Management Suite AutoTagger Scopes List** where you can define which websites with which lists, columns, and content types on these websites are included or excluded. You can also create multiple scopes and connect them with different configurations. You can find a detailed description of each column the Knowledge Management Suite AutoTagger Scopes List section below.

After creating items in both lists your scopes should get tagged as configured within the next timer job run.

Auto Tagger Configuration Lists

Several configuration lists will appear in the Site Contents of the root site of a site collection after activating the Layer 2 Auto Tagger. In these lists, all the settings relevant for the Auto Tagger to work in your site collection are stored, as well as the statistics and error logs. While an upgrade to a new version the configuration lists may be modified but there should be never a loss of these settings.

Basically there are three different lists:

- **Knowledge Management Suite AutoTagger Configuration List**: For managing different configuration settings for related scopes for Auto Tagger timer jobs. Used for scheduled auto tagging.
- **Knowledge Management Suite AutoTagger Scopes List** For defining different scopes for auto tagging, e.g., a specific content type or web site. Used for scheduled auto tagging.
- **Knowledge Management Suite AutoTagger List Settings**: For storing list specific settings. Used for bulk-tagging and real-time tagging.

Knowledge Management Suite AutoTagger Configuration List

In this list, you can create several different configurations to run the Layer2 Auto Tagger timer jobs for the related scopes with different options. For example you can setup a "Daily" configuration to run the Auto Tagger daily for some related urgent scopes and another configuration "Weekly" to run it once a week for other scopes like e.g. archives to reduce system load.

Title
Name for the current Auto Tagger configuration.

Interval
The interval for the Auto Tagger in hours, starting at next run.

Next Run
The next run, where the timer job should run. This should be only set manually initial or to force a specific run. Normally set automatically for the next run.

Crawl Method
Choosing between full and incremental crawl. An incremental crawl just processes the items that are modified since the last crawl. A full crawl tags all items in the list, changed and unchanged. That could be helpful in case of changes in the Term Set, such as labels, synonyms or classification rules.

Overwrite
If this option is set, the process only adds tags to items and don't remove existing tags, which doesn't match anymore.

Use System Update
If this option is activated, the adding of changes will be done with a system update and "Modified" and "Modified by" don't get touched from this. Additional the process doesn't create a new version of the item and no "on change" workflows will be started.

LogLevel
You can select the log level in which process information and issues should be logged.

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Notes

Description for the Auto Tagger configuration. Just for your information.

Attachments

After a tagging process is started, it will log the steps, in the log level you have selected above, into an attached file.

Knowledge Management Suite AutoTagger Scopes List

In this list you can create several different scopes to run the Layer2 Auto Tagger for all items or documents within this scope. The scopes list is related to the configuration list to execute different scopes with different configurations, e.g. more or less frequently. To define a scope, please include or exclude sites, lists, columns or content types to / from the scope.

Title

Title of the current scope.

Scope

Please select here the previously created Auto Tagger configuration to process the scope as configured.

Website

The site relative url to include or exclude from auto tagging. Use * for all web sites.

List

The list title to include or exclude from auto tagging. Use * for all lists.

Column

The column title to include or exclude from auto tagging. Use * for all columns.

Content Type

The content type name to include or exclude from auto tagging. Use * for all content types.

Include

If this setting is activated the above specified elements are included in the auto tagging. If this setting is not activated the specified elements are excluded.

Notes

Description of the Auto Tagger scope. Just for your information.

Knowledge Management Suite AutoTagger List Settings

This list is used to keep the list- or library specific settings regarding bulk-tagging and real-time tagging. This list is not related to scheduled tagging. Generally, the user interface in the list settings of a specific list should be used to modify the settings. Storing this information in a SharePoint list

Layer 2 GmbH | Eiffestraße 664b | D-20537 Hamburg
Tel.: +49 (40) 28 41 12 – 30 | Fax: +49 (40) 28 41 12 – 16
E-Mail: sales@layer2.de | Web: www.layer2solutions.com/
General Managers: Wolfgang Cords, Matthias Hupe
Hamburg District Court: HRB 81259

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opens up the option to configure Auto Tagger settings via PowerShell or the SharePoint API, if required.

Title
The name of the List where the column is related to.

WebId
The ID (GUID) of the SharePoint web containing the list.

ListId
The ID (GUID) of the SharePoint list.

Overwrite
The "Overwrite Mode"-settings you have made for this list in the settings panel.

UseSystemUpdate
The "Use System Update"-settings you have made for this list in the settings panel.

NextLogLevel
The log level you have selected inside the settings panel.

Scopes
List of the Managed Metadata columns you have selected in the settings panel.

LastBulkTagging
The date and time of the last bulk tagging process.

BulkTaggingStart
The starting date and time of last bulk tagging process.

BulkTaggingEnd
The ending date and time of last bulk tagging process.

BulkTaggingProcessId
The process id of the bulk tagging process.

BulkTaggingStatus
The status of the last bulk tagging process.

BulkTaggingLastUpdate
The date and time of the last bulk tagging process.

BulkTaggingTaggableElementsCount
The count of all items inside of the list.

BulkTaggingTaggedElementsCount

The count of the tagged cells.

BulkTaggingStatistics

In this column are the rest of the statistical data like the count of all assigned tags, count of errors and warnings and the latest error message.

Layer2 Tag Navigation Web Part

The Layer2 Tag Navigation Web Part for SharePoint displays taxonomies of Managed Metadata, terms, enterprise keywords or social tags right from the SharePoint Term Store as additional hierarchical, tree-style navigation.

Features

The Web Part offers an additional content navigation to browse the corporate knowledge hierarchically - cross site-collection and independent of the content store's structure. Terms or tags can be linked to dynamic profile pages, Wiki pages, any other custom pages or directly to the content that has the term or tag assigned via search. The output can be customized using flexible XSLT-based templates, static and dynamic (e.g. for larger taxonomies).
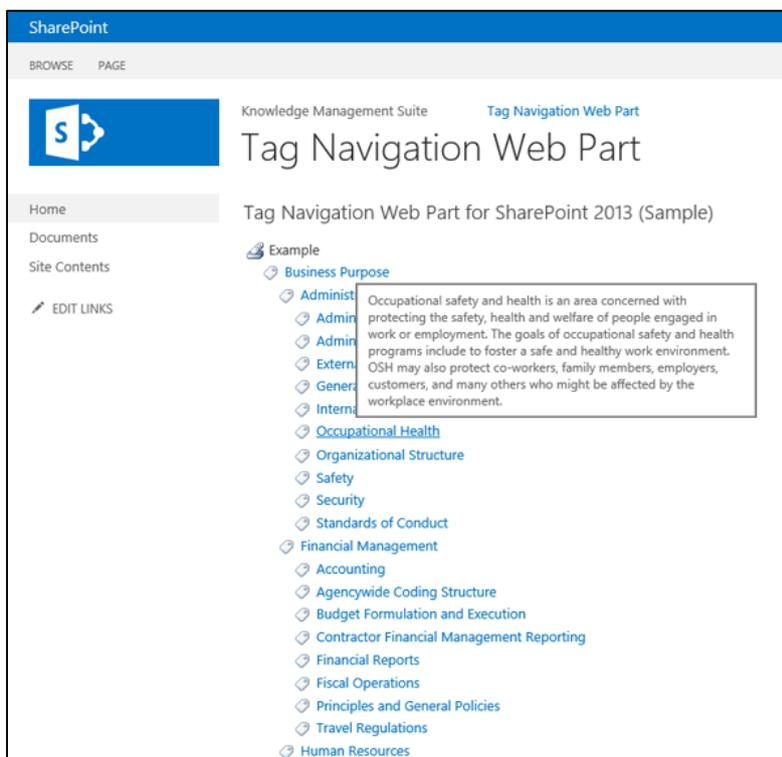
**Figure 17 - With the Tag Navigation Web Part SharePoint Term Sets can directly be used for navigation and search**

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Please note that a flat alphabetical (A-Z) Tag Directory Web Part is available as well.

Settings

After activation, the Web Part is listed in the category "Layer2" and can be placed in any Web Part Zone as usual with SharePoint. You have the following configuration options in the Web Part custom settings:

Tag Types

You can display terms or social tags, all or only used (assigned) ones.

Terms Root Node

You can choose a root node for the tags or terms to display.

Display Settings

You can limit the number of items retrieved with one call to increase performance. Please make use of the dynamic display template for large Term Sets.

Display Template

You can select templates for different styles, e.g. static and dynamic (for large taxonomies).

Result Link Template

You can configure the link target in the web part settings, e.g. link to a tag profile page, any custom page or directly to the content tagged with the current item. You can use @TermId as a placeholder for the term id.

To link to a search page with all items that have a specific term assigned you can use:
http://myserver/search/Pages/Results.aspx?k=owstaxIdMetadataAllTagsInfo:0@TermId
Please note the 0 (Null) before the @ sign.
More information see here: http://msdn.microsoft.com/de-de/library/ff625182.aspx

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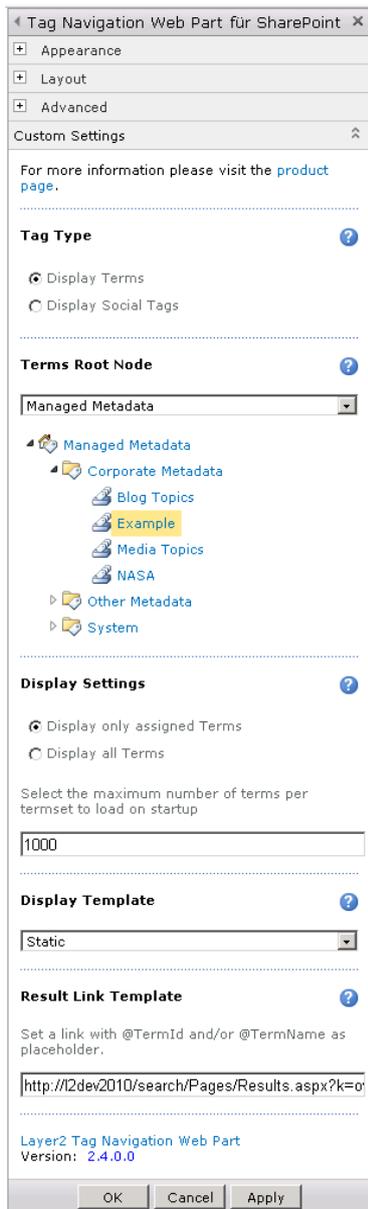
Figure 18 - Example settings to customize the features and style of the Web Part

Layer2 Tag Directory Web Part

The Layer2 Tag Directory Web Part for SharePoint can render taxonomies of Managed Metadata and enterprise keywords right from the SharePoint Term Store and also social tags as flat A-Z index directory or glossary of terms.

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Features

An alphabetical index or a glossary of terms are well known from almost any technical book. The Layer2 Tag Directory Web Part offers a similar feature for SharePoint portals. Tags or terms are retrieved automatically from the SharePoint Term Store with a given start node. They can be linked to the corresponding SharePoint Profile Pages, Wiki pages, and custom pages. Alternatively, they can be set to search the portal content directly that has already been classified with the selected term or tag.
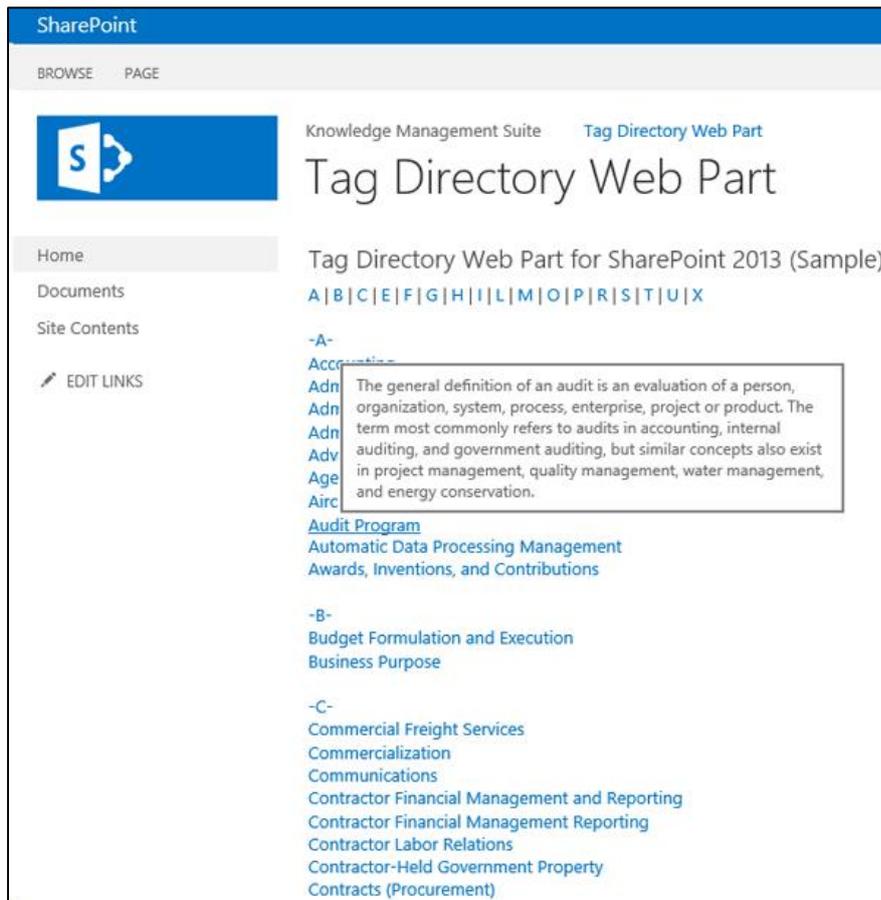
Figure 19 - Example usage of the Layer2 Tag Directory Web Part

The Tag Directory Web Part offers additional metadata navigations to browse the corporate knowledge alphabetically - cross site-collection, and independent of the content store's structure. The Web Part makes it very easy and fast to find information for users, that don't know, where the information is originally located. If used as a company-wide glossary of terms it helps to build a common corporate language and understanding.

Please note, that a hierarchical tree-style navigation is additionally available with Layer2 Tag Navigation Web Part for SharePoint.

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Settings

The Web Part has many options to customize the data source, the behavior and the display format without any coding.

- You can display Terms as well as Social Tags.
- You can display all items or alternatively only items that are already applied to content as Managed Metadata.
- You can select any Term Store, Term Group or Term Set as root node for display data.
- You can select a static or dynamic template for output or completely customize via XSLT.
- You can use a custom template for the index tabs.
- You can customize the link to point to any Tag Profile page, Wiki page, or custom page, or directly to the content that was classified with the selected tag or term.

Display Templates

The option "Display Template" allows a selection of different pre-configured output styles:

- Static: All items are displayed at once for all registers (backward compatible with earlier versions).
- Dynamic: Only items that belong to the selected tab, e.g. "A", are displayed. This option makes especially sense for large taxonomies.
- Custom: You can fully customize the output via XSLT based on the static template.

Linking

You can use the auto-generated links or you can fully customize the links as follows:

- To link to the tagged content:
  http://myserver/search/Pages/Results.aspx?k=SocialTagId:"@SocialTagId"
- To link to content with assigned terms:
  http://myserver/search/Pages/Results.aspx?k=owstaxIdMetadataAllTagsInfo:0@TermId
  Please note the 0 (Null) before the @ sign.
  More information see here: http://msdn.microsoft.com/de-de/library/ff625182.aspx

Figure 20 - Example settings to customize the features and style of the Web Part

Layer2 Tag Cloud Web Part

Users can navigate the portal content by its importance using this familiar, but now taxonomy-based, Tag Cloud Web Part. The app offers flexible link building, e.g. link to the profile pages or to a search-driven content result list. Optionally, additional information, such as tag descriptions and usage counts can be displayed. Customer-specific branding is fully supported by a template-based design.

Features

The features are similar to the standard SharePoint Tag Cloud Web Part, but with more flexible options regarding, data source, linking and style.

Settings

The Web Part has many options to customize the data source, the behavior and the display format without any coding. Terms can be used instead of tags as a data source. But in case of terms SharePoint does not provide any usage count to scale the terms.

Layer2 Related Content Web Part

This Web Part automatically displays related content in a given context that is tagged with specific terms. The "Related Content" feature is well known from the internet (like used at Amazon.com), and is now available for SharePoint portals as well. This app offers flexible settings and output formatting to support customer-specific branding.

Features

Depending on settings the Web Part can be used to:

- Dynamically display content that is tagged with specific Managed Metadata, e.g. by given logical expressions of terms, for example:
  - "Marketing OR Sales"
  - Marketing AND Sales.
- Dynamically display content that is related to the SharePoint page that hosts the Web Part. The content is automatically selected using the terms the page is tagged with. For example if the page is tagged with "Sales" the Web Part automatically displays content that is also tagged with "Sales". The Web Part can be placed on the page multiple times with different search scopes, e.g. by content type, to link to related contacts, documents, and news in different areas of the page.

Typical use cases are:

- Displaying contact information related to specific web pages.
- Displaying documents related to a specific product page.
- Displaying more links and news for a specific topic page.

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- Dynamically link external content connected by Layer2 integration tools (see below).

Settings

The Web Part has many options to customize the data source or search scope, the behavior and the display format without any coding.

Tag Types to Search

Generally, the web part is able to use social tags, terms (centrally managed in the Term Store) or both. Please select, which way to go.

Search Settings

The web part uses SharePoint search to find related content. You can specify any certain provider or leave blank for default.

Search Scope

The web part searches related content with defined scope, e.g. people only to display contact persons or specific documents for related documentation. Please select from the list of previously defined search scopes.

Terms Settings

There are three different operation modes.

To display related content dynamically, please leave the terms / tags settings of the web part blank. In this case the terms assigned to the page that hosts the web part are used to retrieve the terms for the related content to display. Please note that the pages library needs to have one or more Managed Metadata columns in case terms are used. Pages can be automatically tagged as documents, e.g. in real-time during save using the Auto Tagger.

Alternatively you can select one or more defined terms from a given Term Set to display specific content, that is related to this selected terms (not to the page that hosts the web part).

Additionally you can combine your own selected tags with the tags that are set at the parent page. This gives you even more flexibility to display related content of a given category.

Matching Options

In case several terms are selected you have to select matching options to combine the terms, e.g. AND / OR.

Max Item Count

To display only a defined number of related content items, please enter maximal item count to display here.

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Item Order

You can specify defined orders to display the items, e.g. by search result relevance, alphabetically by title or by creation date desc (to display the most current content).

XSLT settings

To completely adapt the output to your web site style enter XSLT formatting code here optionally.

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Related Content Web Part for SharePoint ✕

[+] Appearance

[+] Layout

[+] Advanced

Custom Settings ⌃

For more information please visit the product page.

....

Search Tag Type ❓

◉ Search Terms
◯ Search SocialTags
◯ Search Terms and SocialTags

....

Search Settings ❓

Optionally enter the Search Service Applications name or leave blank for default.

[   ]

Search Scope

[All Sites   ▼]

☐ Use managed property for search

....

Terms Settings ❓

The web part displays related content for current page by default.

Set your own Terms

▷ 🗺 Managed Metadata

☐ Combine selected terms with page terms

....

Combine Terms ❓

How to handle term combination?

◉ OR – one or more terms must match
◯ AND – all terms must match

....

Related Results ❓

Max. number of results

[10   ]

Select the item order of the search query

[Default (Relevance Desc)   ▼]

....

Display Template ❓

[Default   ▼]

....

Layer2 Related Content Web Part
Version: 2.4.0.0

[OK] [Cancel] [Apply]

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Including External Content into SharePoint Knowledge Management

While including external content in the tagging process is not included in the suite it can easily be done by additionally available Layer2 products, such as the Layer2 Business Data List Connector or Cloud Connector. Both tools can synchronize content from 100+ external data sources, e.g. SQL databases, ERP/CRM systems, text/CSV files, documents from a file server, data from web services etc. with native SharePoint lists or libraries and keep it up-to-date. During the synchronization, the content can be automatically tagged as described above, and included in navigation, search and relationships by the web parts. Please learn more about the products on the Layer2 web site or product's user's guides.

Logging and Alerting

The Layer2 Knowledge Management Suite will log most of upcoming errors and a limited amount of status logs into the SharePoint ULS (Unified Logging System).

Error logs appear if something unexpected happens or an input causes a failure. The log message can be really important by investigating the fault. If you contact the Layer2 Support, please send all directly related error logs with your support request (SharePoint ULS and any other error messages reported by KMS). This will enable the support team to evaluate your problem as fast as possible.

Licensing

The licensing model of the Layer2 Knowledge Management Suite provides two different product editions, which are explained in more detail below. The product is licensed per local installation; each server that is running the Layer2 Knowledge Management Suite requires its own license key.

- **Web Frontend Server:** Each WFE needs to be licensed.
- **Application Server:** The application server running the Timer Job needs to be licensed. Note that SharePoint should configure this server automatically in a farm configuration.
- **Index Server, Search Server, SQL Server:** No licensing needed.

Technically, all servers that the KMS is running on must be licensed. The license file has to be stored in the feature directory of each KMS product and this location is explained in the Installing a License section below. KMS tries to read the license file on the server where the KMS process is currently running.

Free Shareware Edition

This license will automatically be applied if there is no license file found inside of the License directory or if a previous license is invalid for any reason.
It restricts:

- Layer 2 Auto Tagger will only process items that have a title or name that start with "A".
- Layer 2 Taxonomy Manager will only import and export only 25 items of the Term Set.

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- Layer 2 Tag Suggester has a 10 seconds waiting screen before showing the tags.
- Layer 2 Web Parts links randomly to the Layer 2 product page instead to the items.

Note: If you have an active KMS license and upgrade KMS to a newer version that is not covered by your active license, KMS will fall back into Shareware Mode. Please contact sales@layer2.de for additional support and license upgrades.

Licensed Edition

With this license, the Layer2 Knowledge Management Suite can be used without any limitations.

Installing a License

To install a license key for the Layer2 Knowledge Management Suite you have to manually placing the file into the root folder of each product.

1. The license XML file (productkey.xml) will be provided by the Layer2 Sales team by email.
   IMPORTANT: Do not modify the signed file in any way. It will invalidate it.
2. Copy (do NOT move) the attached file into the License folder in the feature directory of each feature.
   > **SP13:** ..\15\TEMPLATE\FEATURES\Layer2.SharePoint.Taxonomy.*
   > **SP10:** .. \14\TEMPLATE\FEATURES\Layer2.SharePoint.Taxonomy.*
3. Restart IIS and verify the version has been updated to the correct license that was purchased. If it still says "Shareware", and/or the limitations are not gone, then the license was not recognized. Some possible reasons why the license was not recognized are that the license does not match the installed software version, the server name is incorrect, that the file was modified, or file corruption. Please contact sales@layer2.de for more assistance.

Full list of product feature directories:

- Layer2.SharePoint.Taxonomy.AutoTagger_AutoTaggerMain
- Layer2.SharePoint.Taxonomy.RelatedContent.Main
- Layer2.SharePoint.Taxonomy.TagCloud_TagCloudWebPart
- Layer2.SharePoint.Taxonomy.TagDirectory_TagDirWebPart
- Layer2.SharePoint.Taxonomy.TagNavigation_TagNavWebPart
- Layer2.SharePoint.Taxonomy.TagSuggester_TaggingActionFeature
- Layer2.SharePoint.Taxonomy.TaxonomyManager_TaxonomyManagerDelegate

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Support

General Product Information

For general product information, please see the [product and component home pages.](#)

Online FAQs

You can find answers to frequently asked questions in these locations on the Layer2 website:

http://www.layer2solutions.com/en/community/FAQs/general/Pages/default.aspx

http://www.layer2solutions.com/en/community/FAQs/KMS/Pages/default.aspx

Trial and Evaluation

Please visit the [product home page](#) to register for trial. You will then receive instructions on how to download and install a Shareware Edition. Please notice that the trial is limited. For details visit the licensing section. If you are interested in evaluating the application with full features, please contact [sales@layer2.de](#) to receive a time-limited license key.

Ordering

Please visit the [product and component home pages](#) to order online. For specialty orders (such as volume packages or discounts for non-profits), please contact [sales@layer2.de](#) for a detailed quote.

Software Assurance

License holders who optionally acquire Software Assurance (SA) benefit from future improvements and new features of the licensed product. Software Assurance enables you to migrate your software from a lower-level software version to a higher-level version or from one server to another. It also makes available maintenance, updates and upgrades, and minor and major releases for higher SharePoint patch levels and product versions.

Software Assurance must be ordered together with the license.

The Software Assurance is valid per one license for one year from the date of the product license purchase. It can be renewed after expiring. Additional services, which may be required for updating or upgrading, are not included.

Upgrades

When a new version of Layer2 Knowledge Management Suite is released, we will announce the changes in the change log on the [Release Notes](#) page. Please take a look at the release notes online before installation. Contact [sales@layer2.de](#) to request a license upgrade, if required.

The installer will update the existing components. During the upgrade, all existing configuration-settings and connected data sets will be preserved.

Layer 2 GmbH | Eiffestraße 664b | D-20537 Hamburg
Tel.: +49 (40) 28 41 12 – 30 | Fax: +49 (40) 28 41 12 – 16
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General Managers: Wolfgang Cords, Matthias Hupe
Hamburg District Court: HRB 81259

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Contact

In case of general questions about the Layer2 Knowledge Management Suite, contact sales@layer2.de. If you have detailed issues or errors, please contact support@layer2.de.

Layer 2 GmbH | Eiffestraße 664b | D-20537 Hamburg
Tel.: +49 (40) 28 41 12 – 30 | Fax: +49 (40) 28 41 12 – 16
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