



# **ELO for Microsoft**

ELO for Microsoft SharePoint



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# ELO for Microsoft SharePoint

## Introduction and requirements

ELO for Microsoft SharePoint (ELOsp) enables you to archive documents from Microsoft SharePoint libraries to ELO. You complete this task using jobs, which you create in the configuration interface. A job allows you to connect a SharePoint library to a folder in ELO. In the process, you can transfer information from the SharePoint columns to the metadata in ELO. You can also set filters, such as if you only want to archive documents that are older than a certain age.

The jobs can be processed at scheduled intervals or manually. A document is only archived once and no other versions are transferred. It is only possible to archive from SharePoint to ELO.

The ELO Integration Client enables you to view folders and documents from ELO in SharePoint. ELO for Microsoft SharePoint simplifies the configuration and provides web parts for Microsoft SharePoint 2019 and Microsoft SharePoint Online.

ELO for Microsoft SharePoint is a Windows service and can be installed on a Windows server independently of Microsoft SharePoint and the ELO Indexserver. Microsoft .NET Framework 4.7.2 must be installed.

ELO for Microsoft SharePoint supports the ELO Indexserver version 12 and higher.

ELO for Microsoft SharePoint is compatible with both SharePoint On-Premises version 2013 and higher (Service Pack 1) and Office 365 (SharePoint Online). SharePoint 2019 must be configured for apps.

The configuration interface works with most browsers, including the latest versions of Google Chrome, Mozilla Firefox, Microsoft Edge, and Apple Safari.

### App registration in Azure

If you are using SharePoint Online, you must have an app registration for ELOsp. This app registration requires the following rights:

- Microsoft Graph:
  - User.Read (Delegated)
- SharePoint:
  - Sites.FullControl.All (Application)

The client ID (also called app ID) obtained through the app registration, as well as the tenant ID, is subsequently required for the SharePoint connection in ELOsp.

## Installation

To begin installation, extract the contents of the installation package to an empty directory.

In the file "appsettings.json", you can set the HTTP binding component, which is the URL for accessing the configuration interface. To do so, change the value

```
"urls": "http://localhost:5000"
```

The file "appsettings.json" is automatically created at startup if it does not exist. You can test ELO for Microsoft SharePoint with the command

```
ELOsp.exe -console
```

To use SSL, you must have a valid certificate that is registered for the port. For example

```
netsh http add sslcert ipport=0.0.0.0:5000 certhash=e9fafc58a98e3d5ddc0ab971eff53e5a82136255  
appid="{9432ee86-c21b-4eb8-bd89-f670fbf44931}"
```

"certhash" is the fingerprint of the certificate and "appid" is any GUID. For more information, see:

<https://docs.microsoft.com/en-us/dotnet/framework/wcf/feature-details/how-to-configure-a-port-with-an-ssl-certificate>

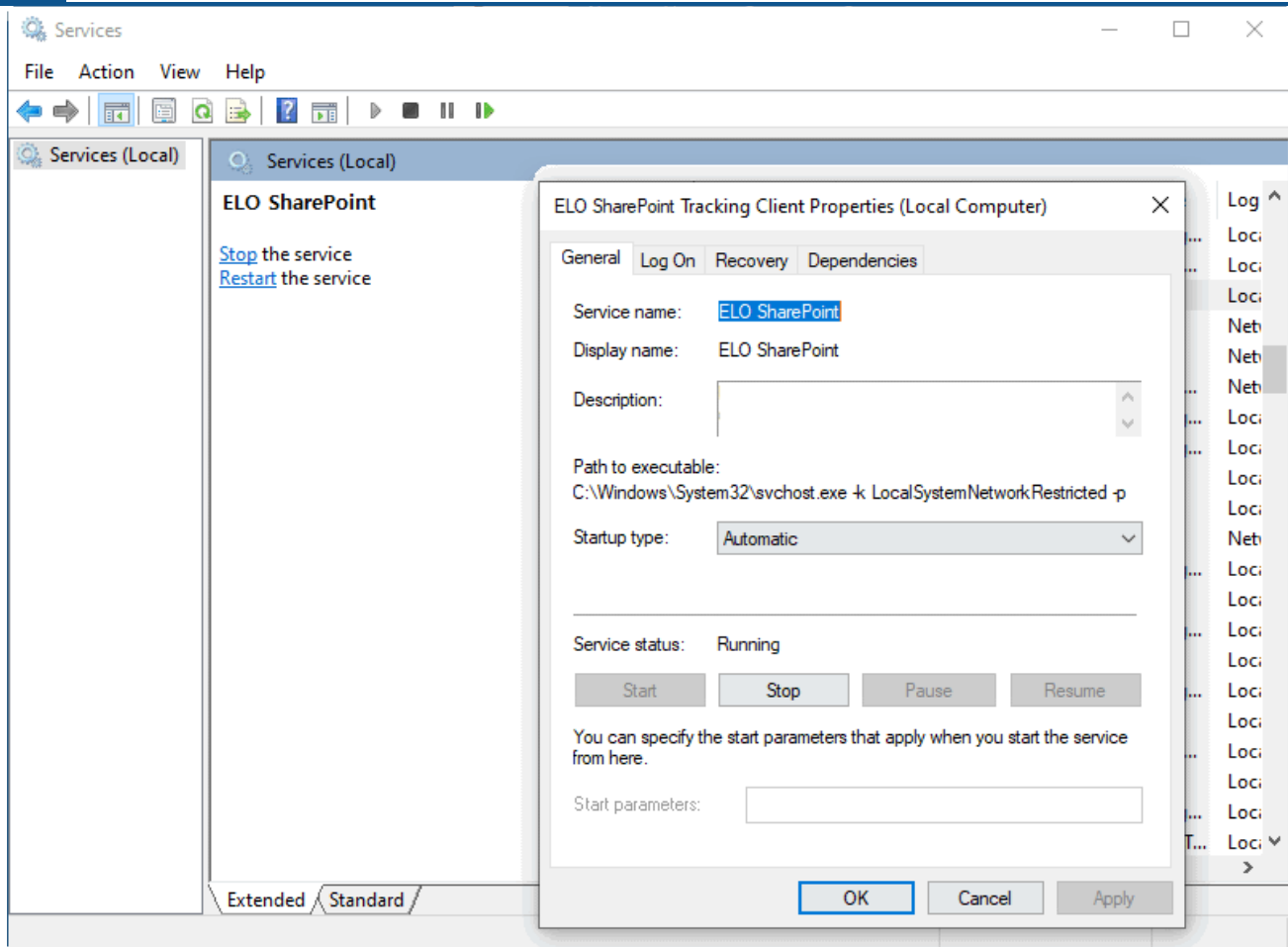
As a Windows service, you can register ELO for Microsoft SharePoint in Windows PowerShell using the following command:

```
New-Service -Name "ELO SharePoint" -BinaryPathName E:\Publish\ELOsp\ELOsp.exe
```

Start the service with:

```
Start-Service -Name "ELO SharePoint"
```

Check the installation of the service and make sure that you select *Automatic* as the startup type.



## Authentication

You can access the interface through the URL or URLs that you configured as the HTTP binding component. When the page is requested, you are asked to log on to an ELO Indexserver, which you can do with any administration account.



The screenshot shows a web-based authentication form for the ELO Indexserver. It features four input fields: a URL field containing 'https://[redacted]/ix-elo12/ix', a username field containing 'ELOspAdmin', a password field represented by ten black dots with a blue eye icon for toggling visibility, and a 'Remember me' checkbox which is currently checked. Each input field is separated by a horizontal line.

https://[redacted]/ix-elo12/ix

ELOspAdmin

●●●●●●●●●● 

☒ Remember me

## Settings

After you have logged on, you need to specify an administrative account for authentication with the ELO Indexserver. ELO for Microsoft SharePoint connects to the ELO server with this account. It can be the same server used to log on to ELO for Microsoft SharePoint. We recommend that you create a dedicated account for this.

You must also specify a name for the configuration or select an existing configuration. These are stored on the ELO server in the directory *//Administration//ELOsp* in a folder with the specified name. Only one configuration is valid for each ELOsp instance. All settings that are not in the file "appsettings.json" are stored in the instance. Keep in mind that you must confirm a new entry with the Enter key.

Configurations can only be deleted if they are currently not connected to the instance. To delete the active configuration, you must first disconnect it using the *Disconnect* button.

The screenshot displays the ELOsp settings interface. At the top, a dark blue navigation bar contains the text 'ELOsp' and four icons: a person, a gear, and an information icon. Below this, a horizontal menu has four items: 'Progress', 'Log', 'Integration Client', and 'ELOsp' (which is highlighted). On the left side, a vertical sidebar lists four categories: 'General', 'ELO Connection' (highlighted with a blue bar), 'SharePoint Connection', and 'Log'. The main content area is divided into two sections. The top section contains four labeled input fields: 'IX Server URL' with the value 'http://[redacted]/ix-ELO20/ix', 'User name' with the value 'ELOsp', 'Password' with masked characters '.....' and a toggle icon, and 'Configuration' with a dropdown menu showing 'Config'. The bottom section contains three buttons: a blue 'CONNECT' button, a greyed-out 'DISCONNECT' button, and a red 'DELETE CONFIG' button.

Next, you configure the SharePoint connection. The account used to log on should have administrative rights to all site collections that are to be archived. The URL can be any site collection on the SharePoint server.

The screenshot shows the 'SharePoint Connection' configuration page. The left sidebar has tabs for 'General', 'ELO Connection', 'SharePoint Connection' (selected), and 'Log'. The top navigation bar includes 'ELOsp', 'Progress', 'Log', 'Integration Client', and user information 'Administrator'. The main form area is titled 'SharePoint Connection' and contains the following fields:

- 'URL of a site collection' with a text input containing 'https://...'. A tooltip is visible over the input.
- 'SharePoint Online (Office 365)' checkbox, which is checked.
- 'App-ID' with a text input containing '...'. A tooltip is visible over the input.
- 'Tenant-ID' with a text input containing '...'. A tooltip is visible over the input.
- 'Private Key File' with a button 'Datei auswählen' and a text input containing 'ELO.pfx'.
- 'Certificate Password' with a password input field.
- A 'SAVE' button at the bottom.

To support authentication via app ID and certificate, you can check or uncheck the *SharePoint Online (Office 365)* box in the form.

This screenshot shows the same 'SharePoint Connection' configuration page, but with the 'SharePoint Online (Office 365)' checkbox unchecked. The form fields are:

- 'URL of a site collection' with a text input containing 'https://...'. A tooltip is visible over the input.
- 'SharePoint Online (Office 365)' checkbox, which is unchecked.
- 'User name' with a text input containing 'sdas'.
- 'Password' with a password input field.
- A 'SAVE' button at the bottom.

Specify the service URL in the *General* area for interactive archiving and possible future features. This is usually the same URL as the one used to access the configuration interface. ELOsp extensions of the SharePoint interface address the ELOsp service through the service URL.



The screenshot displays the ELOsp Administration interface. The top navigation bar includes 'ELOsp', 'Progress', 'Log', 'Integration Client', 'Administrator', and settings/info icons. The left sidebar lists 'General' (selected), 'ELO Connection', 'SharePoint Connection', and 'Log'. The main content area shows a warning message: 'Changes to this URL after job configuration can result in unexpected behavior'. Below this, the 'Service URL' is set to 'http://localhost:5000'. Under 'Default options for Integration Client', 'Single sign-on' is checked. The 'ELOauth config name' is set to 'azure'. A 'SAVE' button is at the bottom.

**ELOsp** Progress Log Integration Client Administrator

**General** ELO Connection SharePoint Connection Log

⚠ Changes to this URL after job configuration can result in unexpected behavior ✕

Service URL http://localhost:5000 ✕ ▼

Default options for Integration Client

☒ Single sign-on

ELOauth config name azure

**SAVE**

You can also define the settings for the ELO Integration Client here. Single sign-on must be enabled. For SharePoint Online, you also need to specify the configuration ID for ELOauth. Refer to the *ELO Integration Client* chapter for more information.

## Jobs

This chapter explains how to [configure](#) and [manage](#) jobs in ELO for Microsoft SharePoint.

### Job configuration

You can now start to configure the individual jobs. You can access the *Job Configuration* via the overview page of ELO for Microsoft SharePoint.

#### Required settings

Click the *New* button to configure a job.

The following screenshot illustrates an example of a job configuration.

## Job Configuration

Name	Demo
Storage path in ELO	SharePoint1Demo
URL of the site collection	https://[redacted].sharepoint.com/sites/home <sup>x</sup>
URL of the website	https://[redacted].sharepoint.com/sites/Home/Demo
Library	Documents
Final action	<input checked="" type="radio"/> Replace document with link <input type="radio"/> Mark only <input type="radio"/> Delete document
Execution mode	Manual
Document form	SharePoint1
Folder form	ELosp Ordner

> Document field mappings

> Folder field mappings

> Filters

> Additional markers

⚠ ELOsp customizations needs to deploy to this site collection/list

DEPLOY

SAVE

CANCEL

The name must be unique and as self-explanatory as possible so that the job can be found quickly on the start page.

The path in ELO should be an empty directory. ELO for Microsoft SharePoint will create the directory if it doesn't exist.

You can select the URL of the site collections from a drop-down menu. It is possible that the site collection you want is not displayed. This may be because the SharePoint search has not been configured or has not been executed. Click the X to enter a different URL and press Enter to confirm.

URL of the site  
collection

http://sp2010farm.up.local/sites/h  

Add item "http://sp2010farm.up.local/sites/h"


You also need to select the URL you want from the web pages and then the document library.

At the end of the archiving job, you can choose between three options:

1. Archived documents are replaced by an ELO link and denoted with an ELO icon in a new column.
2. Archived documents are only denoted with an ELO icon in a new column.
3. Archived documents are deleted.




In execution mode, you can choose between a manual or scheduled start. If you select *Timer*, you will see additional options for scheduling the execution interval. The minimum interval is currently one hour.



Execution mode

Timer 

Schedule

Hourly Daily Weekly

☐ Every 1  day(s) at 10  0 

☒ Every working day at 3  0 

To ensure that the configuration is valid, you also need to select the metadata form that is used to store documents and folders.

## Deploy SharePoint customizations

To ensure that archived documents are marked as such and to improve the visual experience, you need to do some customizations in the website collection. The web part for the ELO Integration Client is also installed here. If this has not been done for the web site collection or library, a red warning icon is displayed. Click *Deploy* to open the dialog box.

Deploy ELO customisations for site collection and list

CANCEL

START

To ensure there are no errors, all steps must be completed successfully (see following screenshot).

## Deploy ELO customisations for site collection and list



OK

The type and number of steps can vary slightly depending on the SharePoint version. If the job is successful, you will see the following green message.

You can use the *Rerun* button to execute the job again, such as to enable interactive archiving.

✓ ELO customisations are up to date.

RERUN

### Metadata mapping

The default fields of the metadata form are completed automatically. For the other fields, you can select the appropriate SharePoint columns. It is always possible to convert into an ELO text field, and conversion is available for some combinations of ELO and SharePoint types.

When you enter text, the columns are filtered, searching the title, internal name, and type. If a SharePoint type cannot be converted to the metadata field type, a message appears.

Document mask	Sh	Name (Internal Name)	Type
Folder mask	EL	Created (Created)	DateTime
		Created (Created_x0020_Date)	Lookup
		ELO ArchivedTime (EloArchivedTime)	DateTime
		Last Modified Date (SMLastModifiedDate)	Lookup
		Modified (Modified)	DateTime

Document Field Mapping		
Datum	date	▼
Nummer	Unique Id	▼
Can not convert from Lookup to Fixed2Decimal		
Textfeld1	Approval Status	▼

> Folder Field Mappings

## Filters

It is also possible to specify up to three filters to restrict the selection of documents to be archived. The filters are linked with AND. This means that only the documents that meet all filter criteria are archived.

Filters

Type

☒ CAML Query
 ☐ RegEx

REMOVE

SharePoint Field

Content Type

Comparison

Eq

Value

Document

Type

☒ CAML Query
 ☐ RegEx

REMOVE

SharePoint Field

Created

Comparison

Gt

Age

1

in

☒ Years
 ☐ Months
 ☐ Days
 ☐ Hours

Type

☐ CAML Query
 ☒ RegEx

REMOVE

SharePoint Field

Modified By

Options

☐ No match
 ☒ Case Insensitive

Pattern

\w\.

ADD

WHAT IF

There are two types of filters available:

#### CAML:

This filter represents a subset of the SharePoint query language CAML. For more information, especially about the operators, go to:

<https://docs.microsoft.com/en-us/sharepoint/dev/schema/query-schema>





#### RegEx:

This creates a filter with regular expressions (RegEx). You can get an editor here, for example:

<https://regex101.com>

You can use the button *What If* to perform a test run. No documents are archived in the test run; you only see the results.


## SharePoint items that match current configuration

Id	Title	Author	Editor	Modified
8	Simple invoice	 User	 User	Thu Jan 09 2020 10:07:23...
9	Textdokument	 User	 User	Thu Jan 09 2020 10:07:23...
7	Flyer	 User	 User	Thu Jan 09 2020 10:07:24...

### Additional marking

You can use the additional marking option to specify a value that is written to the specified field when archiving is complete.

Additional Marking

 The use of the function can cause unintended consequences. Please read the documentation.

SharePoint Field
Content Type ID

Value
Ox0101



ADD REMOVE

As shown in the figure, this can be used to change the content type, for example.

Since it is possible to write any value to the selected column, this can lead to loss of data under certain circumstances. You should test the configuration first on a test system.

### Job administration

The start page shows a list of the configured jobs. If you enabled processing at scheduled intervals, the next execution time is shown. While a job is running, the corresponding buttons are disabled.

Jobs				
Test	 timer deactivated	EDIT	DELETE	RUN
Demo	 Jan 10, 2020, 10:00:00 AM	EDIT	DELETE	RUN
NEW				

Under *Progress* in the header area of ELO for Microsoft SharePoint, you can view the current job status and the results of past jobs.



ELOsp

Progress

Log

Integration Client

 ELOsp

Service start time: Jan 9, 2020, 11:29:03 AM Current status: Idle

Imports in queue: 0

Imports running: 0

Finished imports: 4

Test: 18 items processed at Thu Jan 09 2020 14:03:12 GMT+0100 (Central European Standard Time)

> Textdokument

> Flyer

> Grüne Welle

> Report

## SharePoint customizations

This chapter addresses customizations in ELO for Microsoft SharePoint.

### Structural customizations

ELO for Microsoft SharePoint creates site columns and a content type. They contain information about archiving and enable you to view content in the SharePoint interface. You must not change these under any circumstances.

### App

Starting with Microsoft SharePoint 2019, an app is installed and enabled for the site collections for which a job exists.

#### Apps for SharePoint



The screenshot shows the 'Apps for SharePoint' interface. At the top, there are tabs for 'All Apps', 'Featured Apps', and 'Unavailable Apps'. Below the tabs is a search bar labeled 'Find a file'. The main area displays a table of installed apps. The table has columns for Title, Name, App Version, Edit, Product ID, Metadata Language, Default Metadata Language, Modified, Enabled, Valid App Package, Deployed, and App Package Error Message. One app is listed: 'ELO UI modifications for modern pages' with a version of 0.8.0.73, installed yesterday at 6:20 AM, and no errors.

✓	Title	Name	App Version	Edit	Product ID	Metadata Language	Default Metadata Language	Modified	Enabled	Valid App Package	Deployed	App Package Error Message
Product ID : [585BE67B-5260-4AC5-8D37-2A05443F975D] (1)												
	ELO UI modifications for modern pages	elo-sp	0.8.0.73		[585BE67B-5260-4AC5-8D37-2A05443F975D]	English - 1033	Yes	Yesterday at 6:20 AM	Yes	Yes	Yes	No errors.

### List view

In *Link* and *Mark only* mode, an ELO icon appears for archived documents in the additional *Web Client* column. This is automatically added to the view. The icon contains a link to the document in the ELO Web Client. Due to restrictions in SharePoint Online, ELOsp customizations are not made in the standard view. The document icons are white and the link to the ELO Web Client is a text.

You can also display the columns of ELO for Microsoft SharePoint in a list view, if required.


In *Link* mode, the document is replaced by an ELO link. This allows users to open the document from other clients.

The standard SharePoint view looks like this:

Classic

EDIT LINKS








# Documents

 New
  Upload
  Sync
  Share
 More 

All Documents ...








Find a file



















✓		Name		Modified	Modified By	Web Client
		Flyer	...	9 minutes ago	<input type="checkbox"/> spadmin	
		Resume	...	11 minutes ago	<input type="checkbox"/> spadmin	
		Simple invoice	...	11 minutes ago	<input type="checkbox"/> spadmin	
		ThankYou	...	9 minutes ago	<input type="checkbox"/> spadmin	

Drag files here to upload

The modern SharePoint view looks like this:

 New 
 Upload 
 Quick edit
  Sync
  Export to Excel
 ...

## Documents

	Name 	Modified 	Modified By 	Web Client 
	ThankYou.pub	 A few seconds ago	spadmin	
	Flyer.docx	 A few seconds ago	spadmin	
	 Resume.docx	 About a minute ago	spadmin	
	Simple invoice.xlsx	 A few seconds ago	spadmin	

## Result in ELO

After successful archiving, the documents are stored in ELO with the configured metadata.

Metadata	
Form	Basis    Extra text    Options    Permissions
NummernFelder	Short name * <input type="text" value="Flyer"/>
Offline Datensatz	Date <input type="text" value="02/29/2020 08:01"/>
Photo12	Filing date <input type="text" value="02/29/2020 09:19"/>
Rechnung	Datum <input type="text" value="02/29/2020 08:01"/>
Revisionsicher	Nummer <input type="text" value="6.00"/>
SharePoint1	Textfeld1 <input type="text" value="Document"/>

## ELO Integration Client

This chapter addresses the ELO Integration Client in ELO for Microsoft SharePoint.

### Function

The ELO Integration Client is a root entry from the ELO repository depending on the parameters and configuration. A document view component is used. If the root entry is a folder, users can navigate within this folder and view all child entries of the folder.

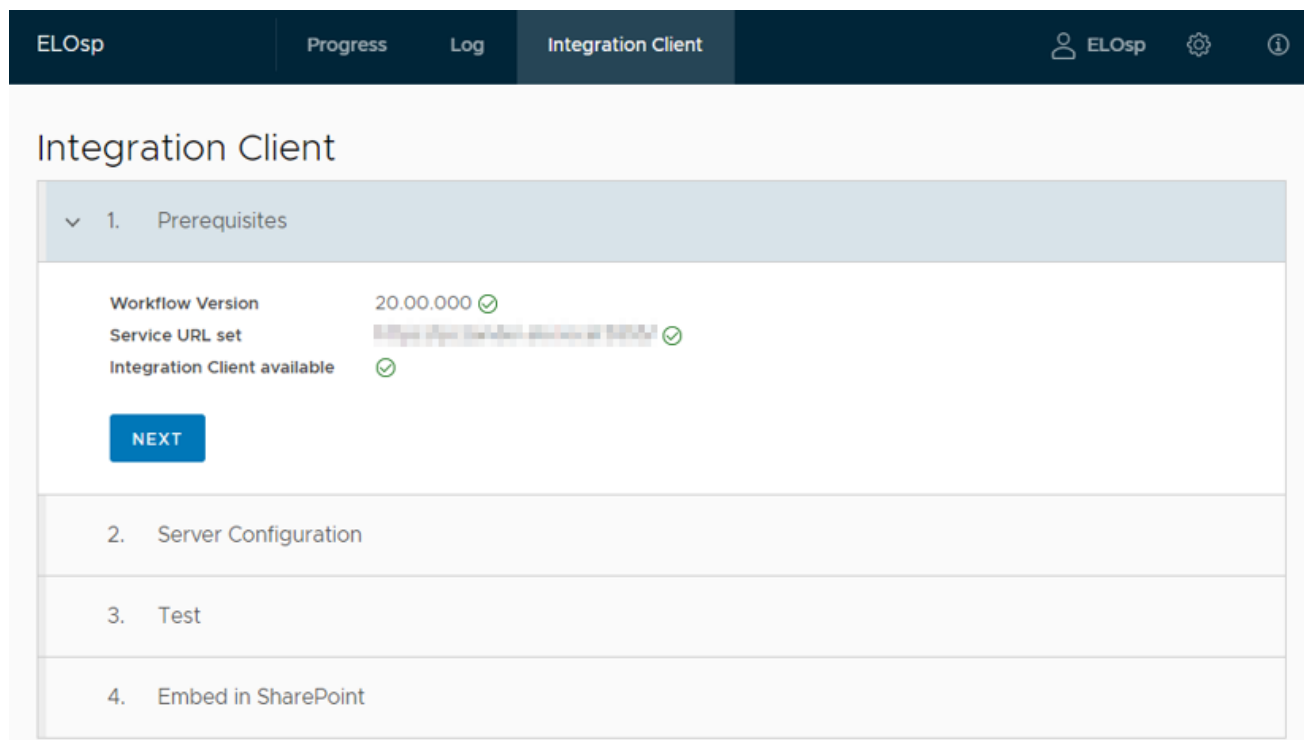
A number of ELO functions are available for the current entry depending on the configuration. Users can search for entries from the repository (including outside of the root entry) to create a reference to individual search results within the root entry.

For more information, refer to the documentation for the ELO Integration Client.

### Configuration

The *Integration Client* area in the header of ELO for Microsoft SharePoint guides you through the installation.

In the first step, the requirements are checked.



If a configuration for the ELO Integration Client has not yet been stored in the repository, you can create a default configuration in the second step using the *Create Configuration* button. You will find more information about the configuration file in the documentation for the ELO Integration Client.

## 2. Server Configuration

Configuration available ⓘ

CREATE CONFIGURATION

NEXT

In the next step, you can test the client. After you have logged on, you should see the following screen, and there should not be any warning messages.

## 3. Test

Integration Client needs to be setup correctly. If it is, it should be loaded without warnings after you log in.

Preview

⚠ Be careful, you are interacting with the real data. ✕			
↑	SharePoint		📁 📄 🔍
📁	2019	Ordner	ELOsp
📁	Demo	Ordner	ELOsp

### Single sign-on

There are two options for single sign-on (SSO) with the ELO Integration Client: LDAP with Active Directory and OAuth/OpenID Connect with Azure AD. These require correct configuration in ELO and, if necessary, in the browser (Windows authentication) or Azure AD.

ELOsp only supports embedding of the ELO Integration Client in SharePoint with the correct parameters. Firstly, with the wizard that generates the HTML code, and secondly with the web part available starting with SharePoint 2019.

#### SharePoint server (On-Premises)

For single sign-on to work, Active Directory must be used as the ID provider for the SharePoint server. You need to configure the ELO LDAP interface and import the users. For more information, see the ELO Indexserver LDAP Interface documentation.

## SharePoint Online

To enable automatic authentication when using SharePoint Online, you must install the "ELOauth" module. You can get information about this in the documentation "ELOauth Plugin". You also need to create a configuration for the connection to Azure AD.

Enter the name of the configuration in the general settings of ELOsp; *azure* is used as an example here. The *userProperty* determines the user mapping in Azure AD and ELO. In this example, it is the user's surname, which is then mapped to the name of the ELO user. Enter the other values for *de.elo.ix.plugin.auth.json* as follows:

```
{
  "azure": {
    "api": "azure",
    "userProperty": "surname",
    "appKey": "",
    "appSecret": "",
    "azureTenant": ""
  }
}
```

You need to register a new app for the SharePoint Online tenant in Azure AD. Under *App registrations*, click *New registration*. Select *Single tenant* and enter the redirect URL using the following structure:

```
https://<server_name(domain)>;/ix-<repository>;/plugin/de.elo.ix.plugin.auth/oauth20cb/
```

## Register an application

### \* Name

The user-facing display name for this application (this can be changed later).

ELO 

### Supported account types



Who can use this application or access this API?

- ☒ Accounts in this organizational directory only (elosp only - Single tenant)
- ☐ Accounts in any organizational directory (Any Azure AD directory - Multitenant)
- ☐ Accounts in any organizational directory (Any Azure AD directory - Multitenant) and personal Microsoft accounts (e.g. Skype, Xbox)

[Help me choose...](#)

### Redirect URI (optional)

We'll return the authentication response to this URI after successfully authenticating the user. Providing this now is optional and it can be changed later, but a value is required for most authentication scenarios.

Web  <https://elo.test.local/ix-ELO/plugin/de.elo.ix.plugin.auth/oauth20cb/> 

Copy the *Application (client) ID* and the *Directory (tenant) ID* from the overview page of the new registration and enter them to the ELOauth configuration.

Under *Certificates & secrets*, generate a new key with *New client secret*. Select a name and runtime according to your requirements. Enter the key as the value for *appSecret*.

## Integration with Microsoft SharePoint

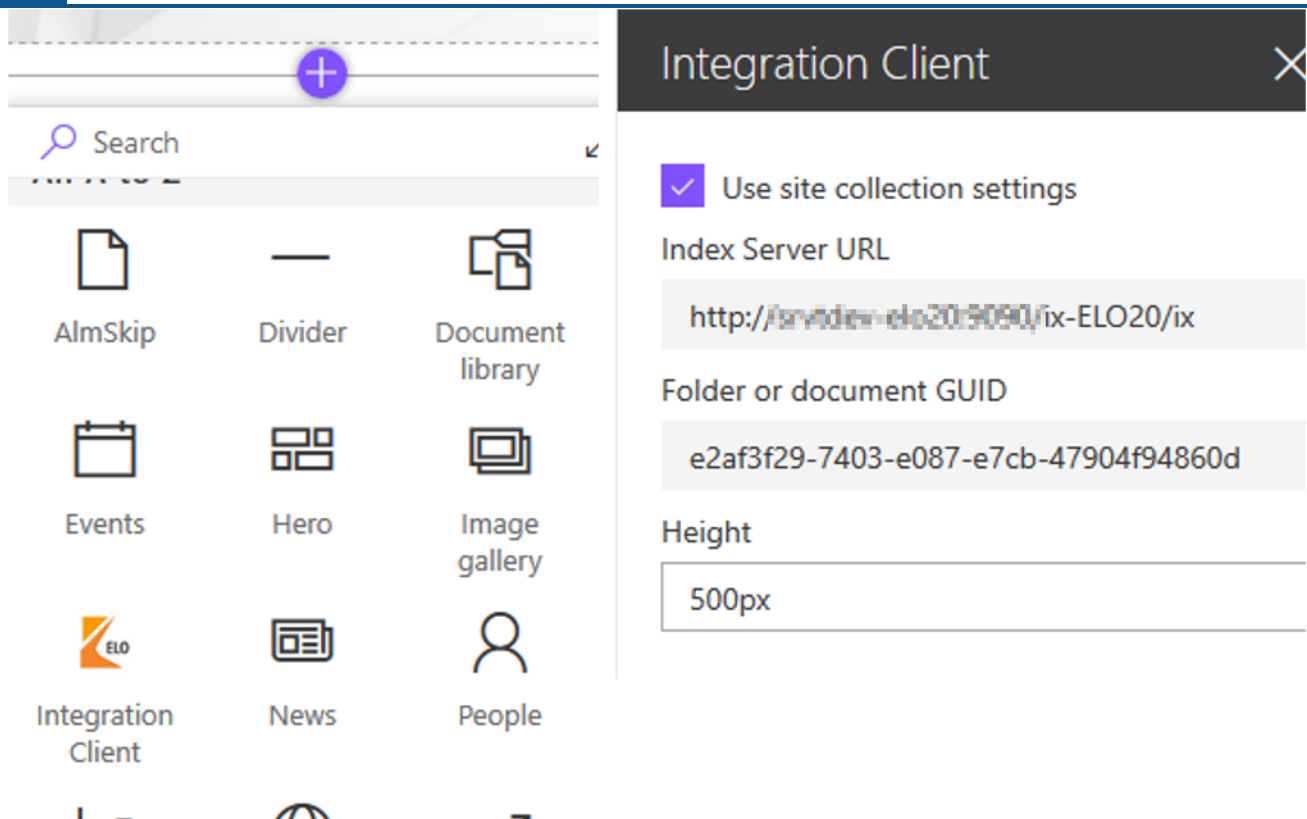
### Web part in SharePoint 2019 and SharePoint Online

Starting with SharePoint 2019, ELO for Microsoft SharePoint provides a web part for embedding the ELO Integration Client. Please refer to the Microsoft documentation for information about the functionality of web parts.

The editor part offers some basic settings. The default settings use the values stored by ELO for Microsoft SharePoint in the site collection. You should only change the URL of the ELO Indexserver in exceptions.

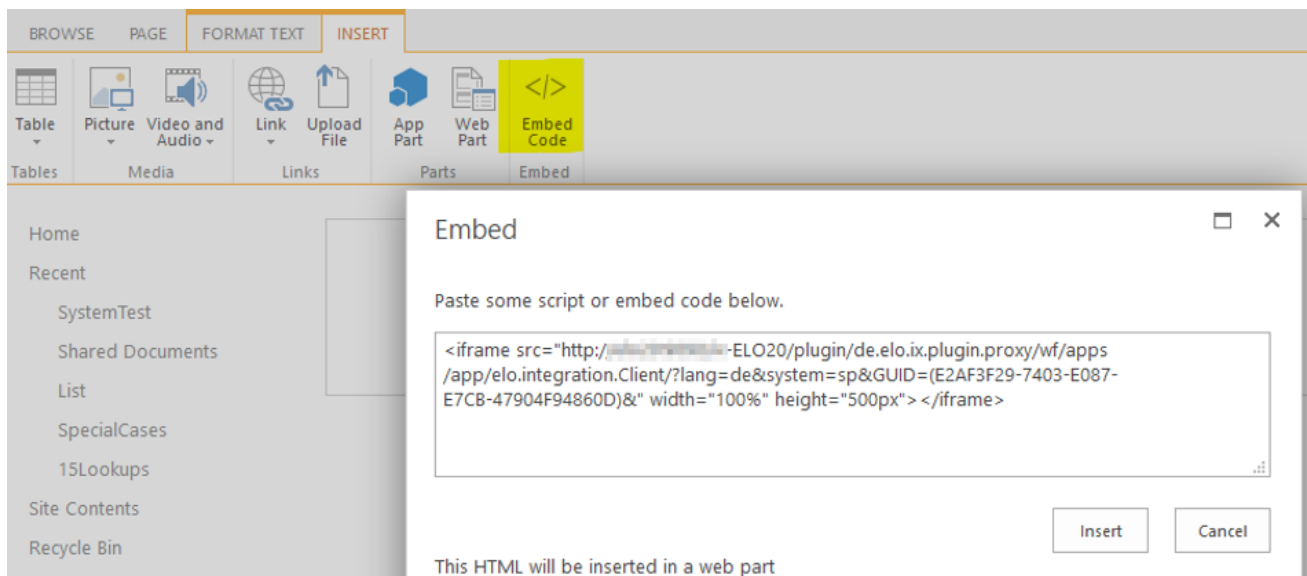
Entering a GUID enables you to restrict navigation to a single folder or display a single document.





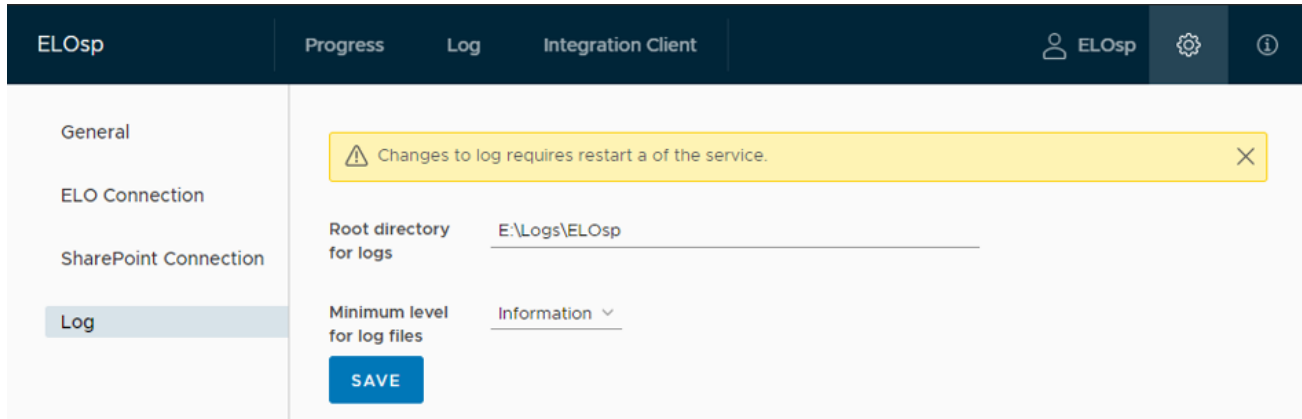
### Code adaptation in Microsoft SharePoint 2013 and 2016

The fourth step creates an HTML fragment that you can integrate into Microsoft SharePoint in different ways. The easiest way is to use the *Embed Code* method as shown in the figure. You can modify the parameters in SharePoint 2019 as well as in the SharePoint Online code.

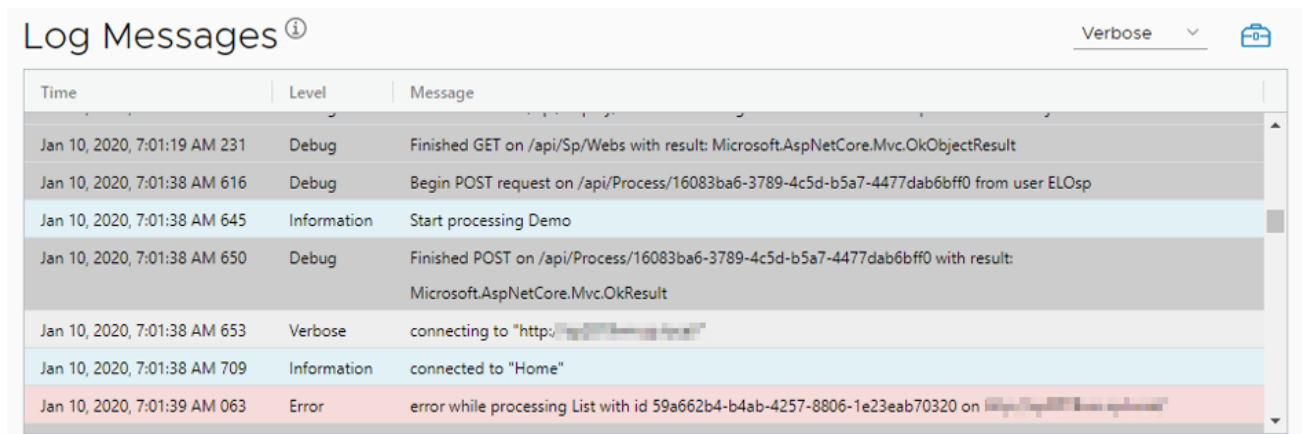


## Logs

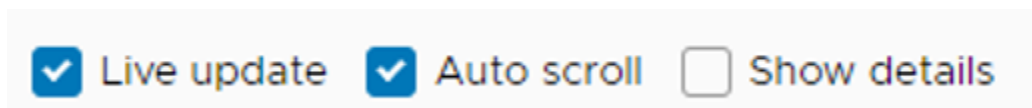
You can change the log file directory in the settings under the Log *tab*. You can also set the log level to obtain more or less detailed information.



Under *Log* in the header area of ELO for Microsoft SharePoint, you can see an overview of the current log messages. You can change the log level with the drop-down menu.



To render other options visible, click the icon with the toolbox.



To view a menu with additional filter options, move the cursor over the column headers.

The screenshot shows the 'Log Messages' interface with a search filter applied. The filter is set to 'Contains' and the search term is 'Flyer'. The log entries are as follows:

Time	Level	Message
Jan 10, 2020, 7:04:19 AM 381	Information	Processing item "Flyer"
Jan 10, 2020, 7:04:19 AM 727	Error	ELOsp has not the right to set [User] as Owner for Flyer
Jan 10, 2020, 7:04:20 AM 299	Information	"Flyer" successful uploaded
Jan 10, 2020, 7:04:20 AM 876	Information	"Flyer" successfully archived

The top level of the log directory contains the log files with the previously configured log level. A new file is created when a new day begins.

The *Worker* directory contains JSON files with the result of the job execution.

The log messages are stored temporarily in the *CLEF* folder for viewing in the browser.

Name	Date modified	Type	Size
ELOsp-20200110.log	10.01.2020 06:59	Text Document	0 KB
ELOsp-20200109.log	09.01.2020 15:45	Text Document	389 KB
ELOsp-20200108.log	08.01.2020 15:26	Text Document	103 KB
Worker	10.01.2020 07:04	File folder	
CLEF	10.01.2020 06:59	File folder	

To save disk space, we recommend that you enable Windows folder compression.

