ELO Suite for SAP ArchiveLink® (SAP NetWeaver® & SAP S/4HANA®)

ELO Toolbox for SAP® ERP

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ELO Toolbox for SAP® ERP

Introduction

This documentation describes how to install and configure ELO Toolbox for SAP® ERP, referred to as ELO Toolbox in the following. ELO Toolbox contains the following functions:

- Easy storage in SAP
- Jumping to SAP from ELO
- Automatic links (in combination with ELO Connectivity Pack for SAP® ERP)
- ELO Integration Client within the SAP system (in combination with ELO Connectivity Pack for SAP® ERP)

This implementation has been tested for the following ELO versions:

- ELOprofessional/ELOenterprise version 10.02.000 and higher
- ELO Business Solutions Common 1.05.002 and higher

> **Information**
>
> Easy storage of documents is a Windows client function that communicates between the SAP front-end client *SAP GUI* and the File Explorer/Microsoft Outlook Client.

Basics

ELO Toolbox requires customizing of SAP ArchiveLink® on the SAP system connected to ELO. Document types, document classes, a content repository, and link entries have to be created for this purpose.

To use ELO Toolbox, your computer must also meet the following system requirements and release statuses of ELO and SAP:

- ELO version 10.02 or higher incl. Business Solutions Common package 1.05.002 or higher
- The following SAP versions or higher:
  - SAP_BASIS 702 SAPKB70213
  - SAP_BASIS 730 SAPKB73009
  - SAP_BASIS 731 SAPKB73106

The following requirements have to be met to use the ELO Integration Client within the SAP system:

- The ELO license must include the ELO Integration Client
- ELOprofessional or ELOenterprise version 12 and higher
- Depending on the version, at least the following modules are required:
  - ELO 20:
    - ■

ELOwf 20.05.000

- ELO REST Service 20.02.000

- ELO 12:
  - ELOwf 12.06.000
  - ELO REST API 12.04.000
- ELO Business Solutions Common version 1.07.000 or higher

Installation

When purchasing a license, ELO Digital Office provides two packages for ELO Toolbox. One is an SAP transport that has to be imported to the SAP target system. The other is an ELO Business Solutions package.

You will find the current installation files on the ELO SupportWeb in the following area:

Integration > ELO for SAP® ERP > ELO Suite for SAP ArchiveLink® > ELO Toolbox for SAP® ERP.

SAP components

Inform your customers/SAP partner of the SAP transport to be installed and give them access to it.

> **Information**
>
> Inform your customers or SAP partner of the following:
>
> - The standard SAP transport routes must be used.
> - All developments and functions within the transport in ELO were developed in a separate SAP namespace, called */ELO/*.
>
> You may have to enable the *Ignore Invalid Component Version* option when importing the SAP transport.

Once an SAP transport has successfully been imported into the SAP systems, you can provide your customer/SAP partner with the technical implementation.

You can find these under Technical implementation – Customizing.

ELO Business Solutions package

First, install the current *ELO Business Solution Common* package if it has not already been installed on your ELO system. In addition, refer to the requirements listed in the chapter Basics. The ELO Business Solution Common package provides the class framework, namespaces, and architectural concepts for services, actions, and function modules.

1. To start installation, log on to the ELO Java Client as Administrator. You can install the individual packages from the ELO SupportWeb with a single click.

   Alternative: You can download the package containing the .eloinst files on the ELO SupportWeb. At this point, ELO Toolbox only requires the following two files:

   - 00_sol.common_X.xx.xxx.eloinst
   - Custom_sol.common_X.xx.xxx.eloinst

2.

Install the current ELO Toolbox package. You will now find the configuration for ELO Toolbox in the *Business Solutions Custom* folder in ELO. For more information on the configuration, refer to the Configuring ELO Toolbox in ELO chapter.

Installation information

When installing ELO Toolbox, the web app installation may not finish completely. You can tell that this is the case if no interface is shown when you open the configuration. To fix this, go to the ELO Application Server and open the ELOwf status report. You will see the *App Manager* entry in the menu bar on the right.

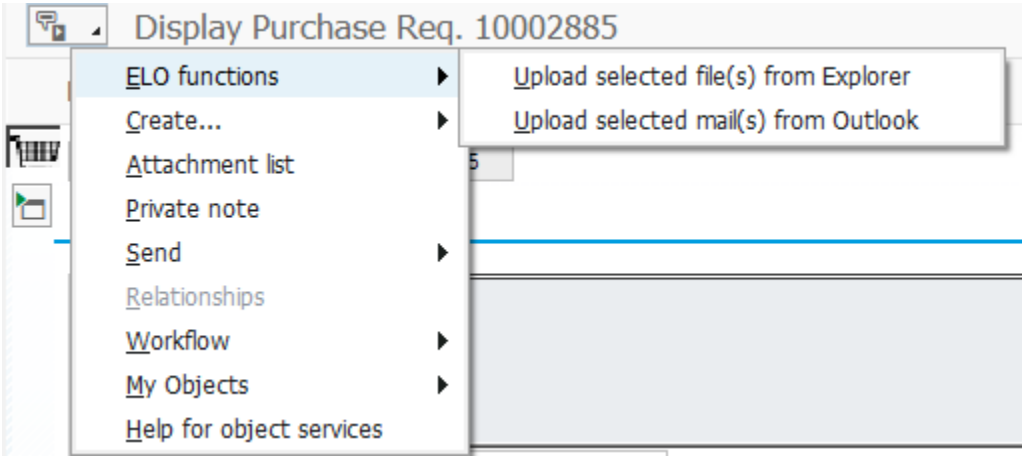
In the ELO App Manager, the *App status* indicates whether the web app installation was successful. If this is the case, the entry *Installed* is shown at the location. If it is set to *Archived*, you will have to enable/install, and refresh the web app.

Easy storage in SAP

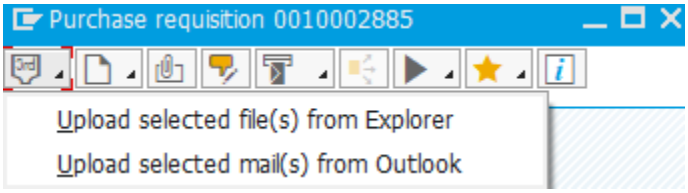
This chapter describes the functions for easy storage and the steps required for configuration.

Descriptions of functions

The easy storage function in SAP offers SAP users the option to file documents in SAP to ELO via the selected object (e.g. purchase order) and link them. This is based on an SAP transport and the settings in the Generic Object Services area. It is also necessary for customizing ArchiveLink with document types, links, etc. for the selected object (*SAP BUSINESS object*).



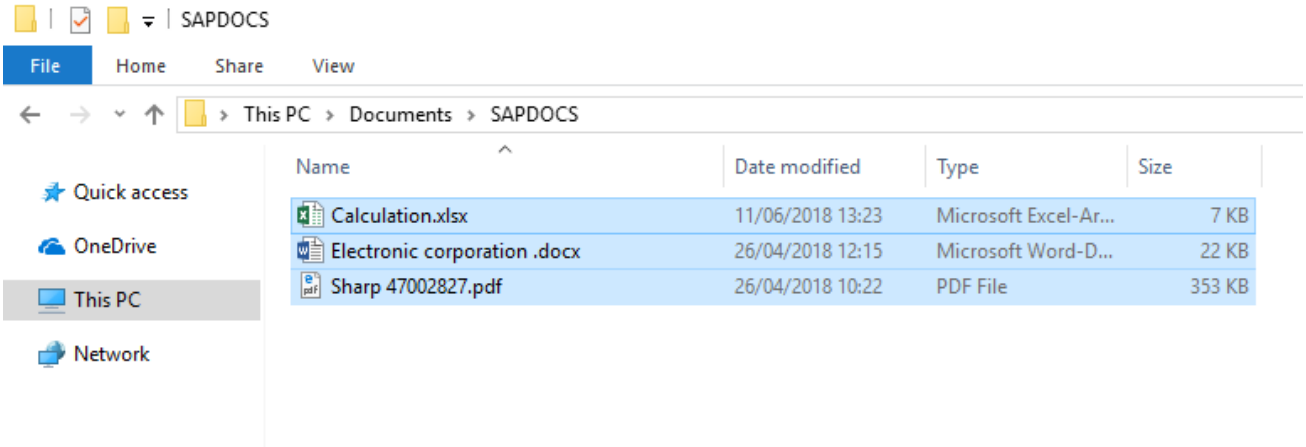
ELO Toolbox is implemented in Generic Object Services in SAP. In the Generic Object Services menu, you will find the *ELO Toolbox* item with sub-items *Upload selected file(s) from Explorer* and *Upload selected mail(s) from Outlook*.



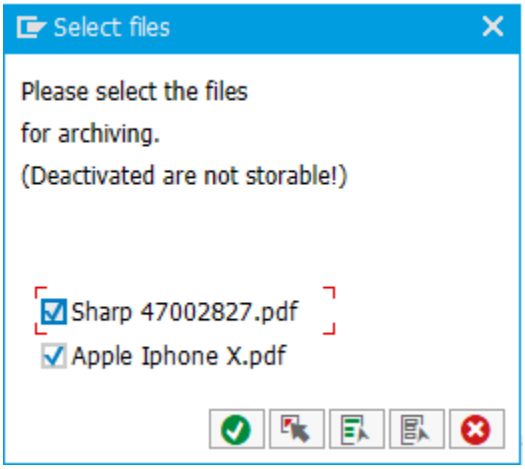
ELO Toolbox has also been implemented in the Generic Object Services toolbar.

To use these functions, switch to File Explorer or Microsoft Outlook.

Filing from File Explorer



1. Select the desired files in File Explorer. You can select up to ten files at once for upload.
2. Switch to an SAP transaction and in the Generic Object Services menu, click *ELO Toolbox > Upload selected file from Explorer*

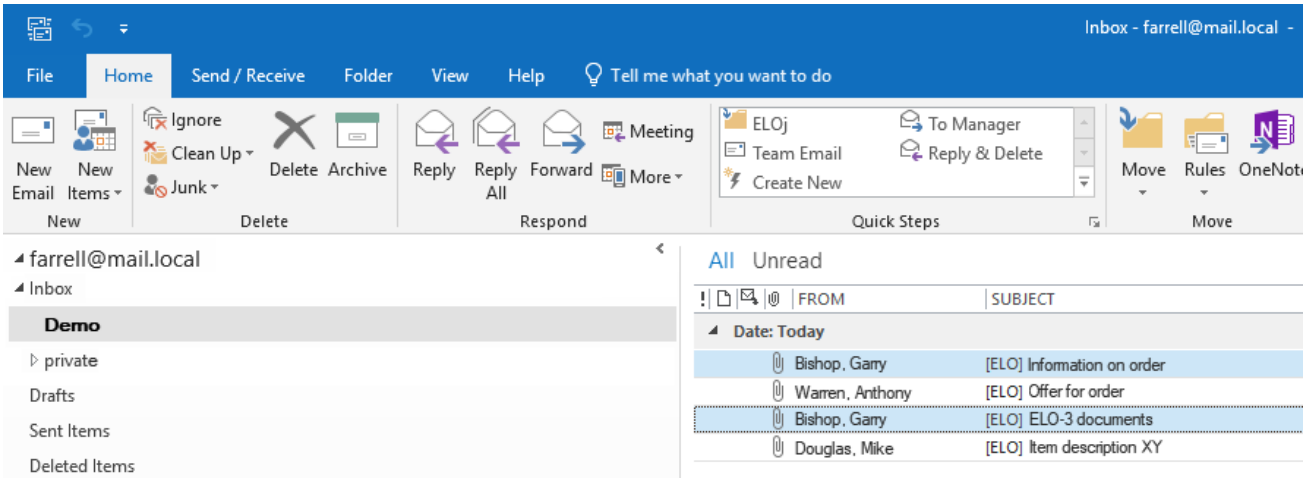


SAP accesses the selected files via the GUI control and provides them to the user in a pick list. You can deselect files you no longer want.

Different file types can be filed depending on the SAP ArchiveLink customizing. Document types or file types that are not contained in the customizing cannot be filed. As the file type used in the example here, *Image_Offer.new*, is not included in the customizing, the file is grayed out and cannot be imported.

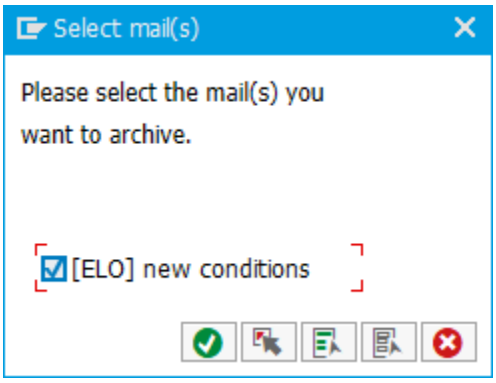
After confirming your selection, the documents are filed straight to ELO and an entry is created in the SAP link tables. The documents are also available in the attachments list for Generic Object Services.

Filing e-mails from Microsoft Outlook



1. Select the desired e-mails in Microsoft Outlook. You can select up to ten e-mails at once for upload.

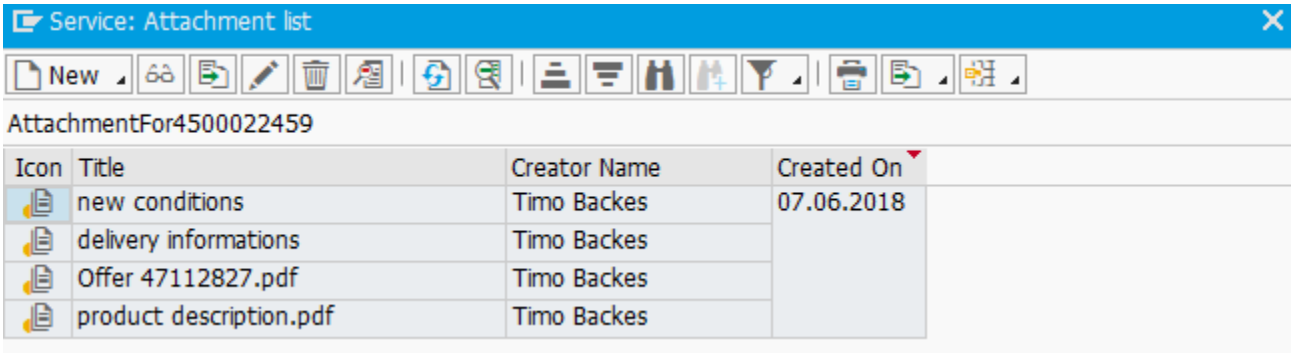
2. Switch to an SAP transaction and in the Generic Object Services menu, click *ELO Toolbox > Upload selected mail(s) from Outlook*.



   SAP now accesses the selected e-mails via the GUI control and provides them to the user in a pick list. You can deselect files you no longer want.

After confirming your selection, the e-mails are filed straight to ELO and an entry is created in the SAP link tables. The e-mails are also available in the attachment list for Generic Object Services.

Attachment list



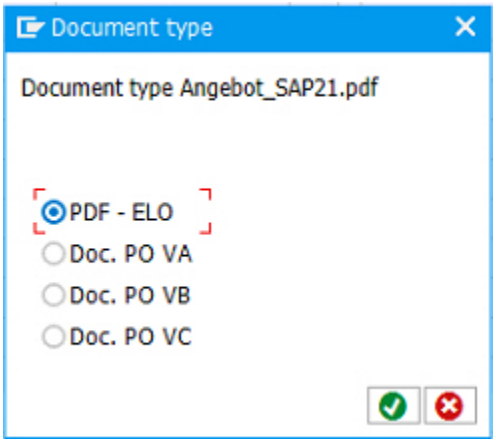
One major advantage of this filing option is that it applies the file names when using the Explorer function, as well as the e-mail subject when using the e-mail function.

This information is stored in the title of the linked entries and thus shown in the attachment list. As a result, the user has more information on the filed document than just the name of the document type.

Selecting the document type

Chapters Adding specific document types and Selecting specific document types describe the configuration that enables you to work with multiple document types for each business object.

You can define a specific document type for business objects in a whitelist for a file type (e. g. PDF). This document type will be used every time you store a document with ELO Toolbox.



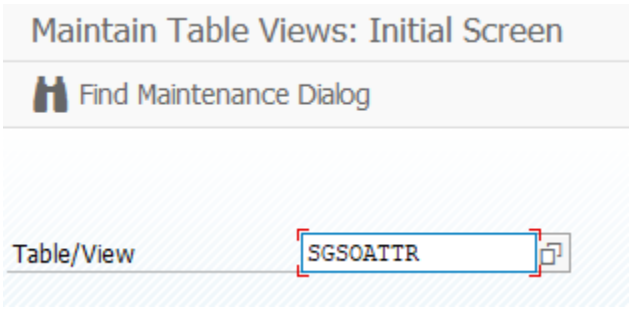
If you also want to work with multiple document types for an SAP business object and allow the user to select a specific document type, you can use the configurations described in chapter Selecting specific document types. With the component provided by ELO, the user can select the configured document link options in a dialog box when storing a document via ELO Toolbox.

Technical implementation – Customizing

To implement the easy storage function in your SAP system, you have to make several adjustments to settings. To be able to make these settings, you have to import the SAP transport you received when purchasing a license into your SAP system.

Extending the Generic Object Services

After importing the SAP transport, you can now add the *ELO Toolbox* menu item to the Generic Object Services.

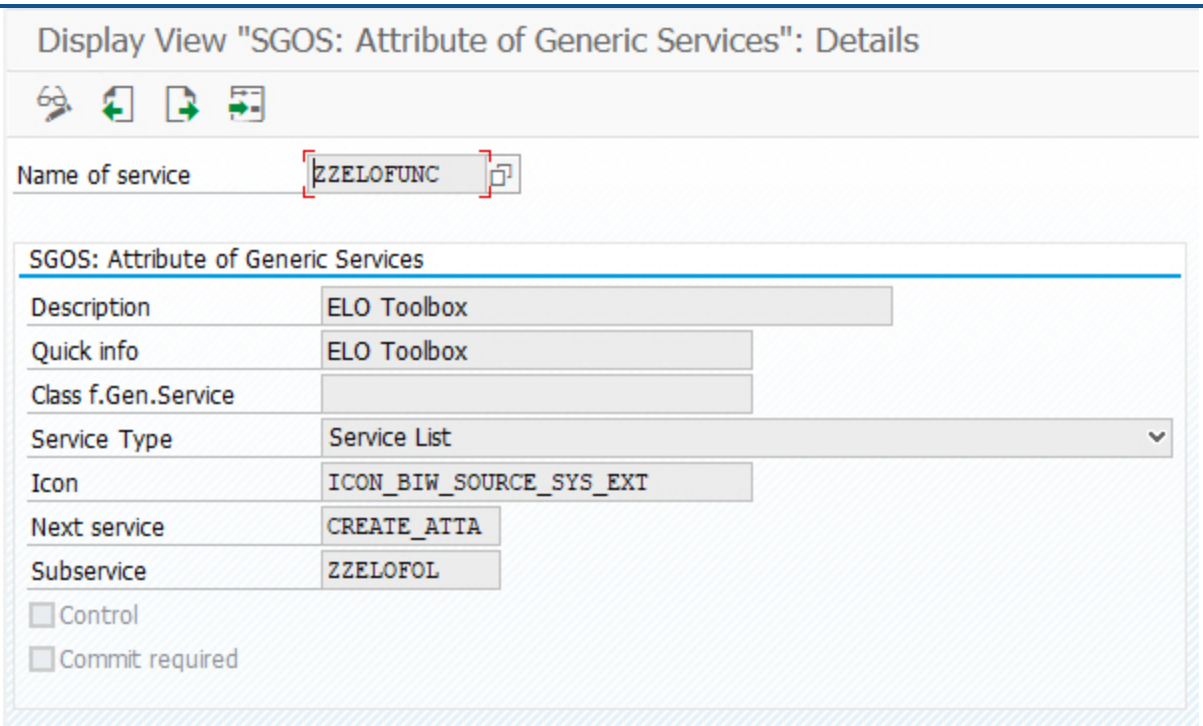


1. Start the SAP transaction *SM30 – Maintain Table Views*.
2. Enter the table *SGOSATTR* into the *Table/View* field and confirm your input with ENTER or the *Maintain* button.

   The next window shows you all attributes of the generic services.
3. Select the *New entries* button to create a new entry for ELO Toolbox.

Menu level – ELO Toolbox

1. Enter the following details:



Name of service: ZZELOFUNC

Description: ELO Toolbox

Quick info: ELO Toolbox

Service Type: Service List

Icon: ICON_BIW_SOURCE_SYS_EXT

Next service: CREATE_ATTA

Subservice: ZZELOFOL

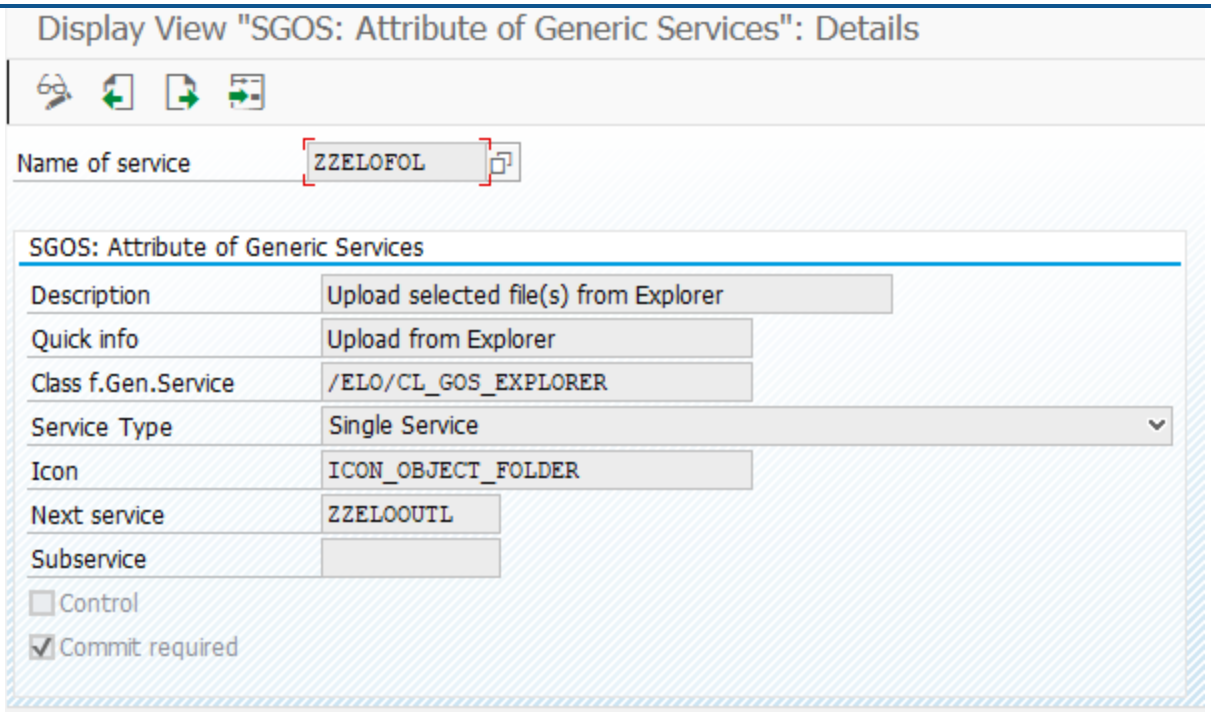
2. Save your input with the *Save* button or by pressing CTRL+S.

   As these changes are sent to the SAP transport system, you will be prompted for your own SAP transport. If you do not have one, you can create a new SAP transport on saving.

> **Information**
>
> If entries have already been added to *SGOSATTR*, *CREATE_ATTA* may not be the "first" entry in the Generic Object Services. In the *Next* table field, check whether the entry *CREATE_ATTA* is already listed. If so, change the order.

Menu level – Filing from Explorer

1. After you have created the main *ELO Toolbox* level, click *New Entries* again and enter the following data for filing from Explorer:



Name of service: ZZELOFOL

Description: Upload selected file(s) from Explorer

Quick info: Upload from Explorer

Class f. Gen. Service: /ELO/CL_GOS_EXPLORER

Service Type: Single Service

Icon: ICON_OBJECT_FOLDER

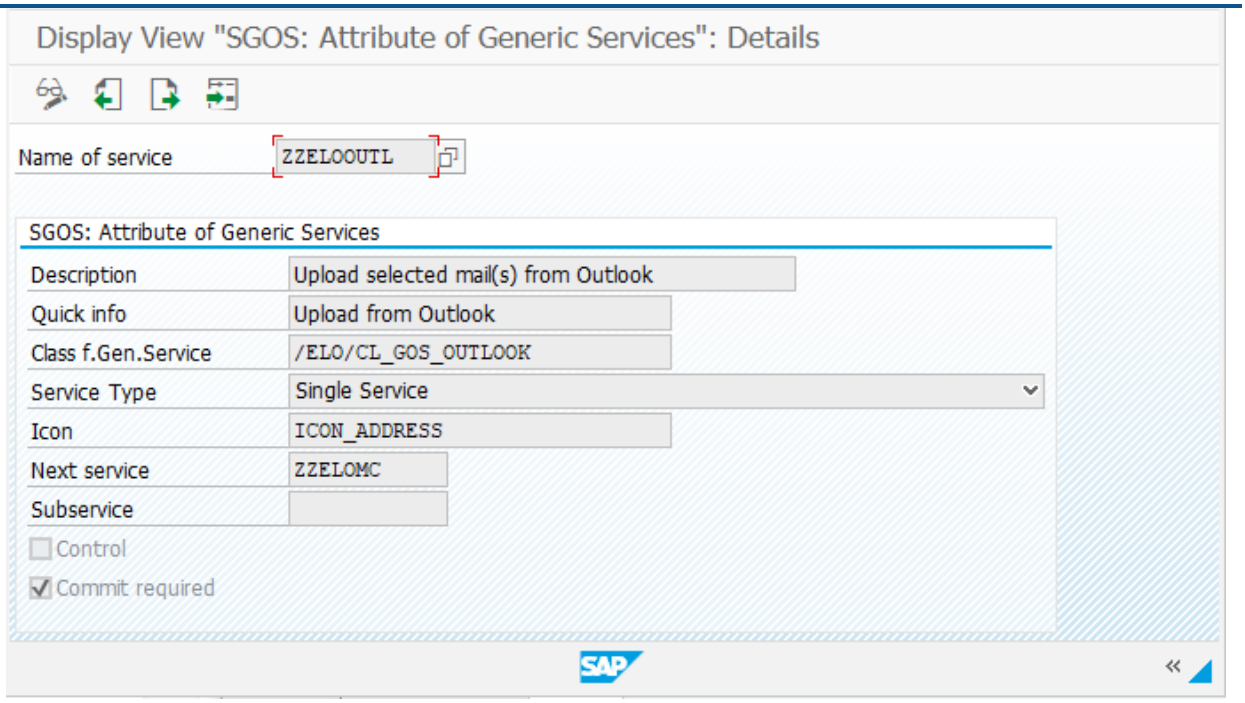
Next service: ZZELOOUTL

Commit required: Enabled

2. Save your input with the *Save* button or by pressing CTRL+S.

Menu level – Filing e-mails

1. After you have created the main *ELO Toolbox* level, click *New Entries* again and enter the following data for filing e-mails:



Name of service: ZZELOOUTL

Description: Upload selected mail(s) from Outlook

Quick info: Upload from Outlook

Class f. Gen. Service: /ELO/CL_GOS_OUTLOOK

Service Type: Single Service

Icon: ICON_ADDRESS

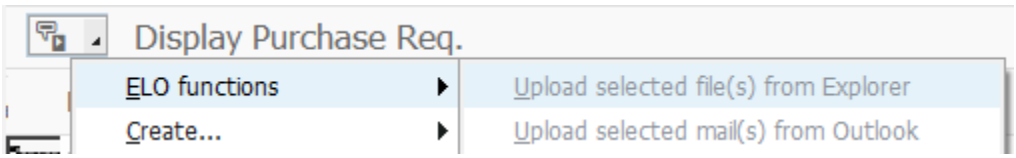
Commit required: enabled

2. Save your input with the *Save* button or by pressing CTRL+S.

Required basic settings – ELO Toolbox

As mentioned before, ELO Toolbox requires several basic settings in the SAP ArchiveLink environment to be able to use its full scope of functions. You do not have to enable ELO Toolbox for SAP. Once the necessary basic settings have been configured, ELO Toolbox is active for the desired business object.

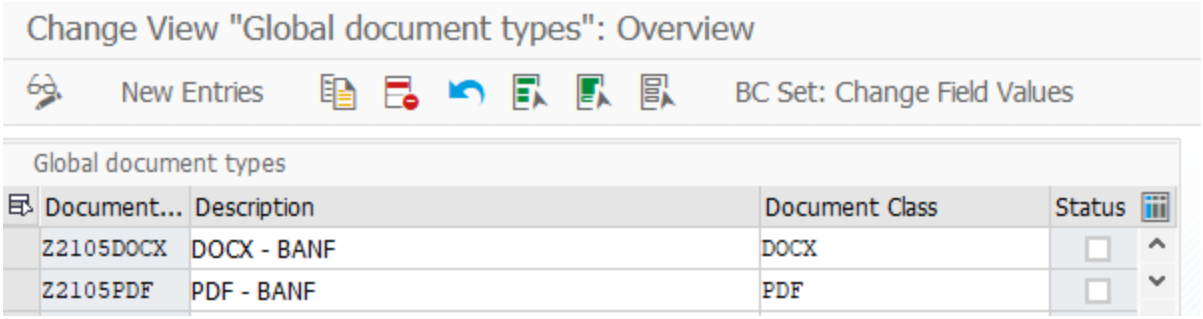
Document type and linking



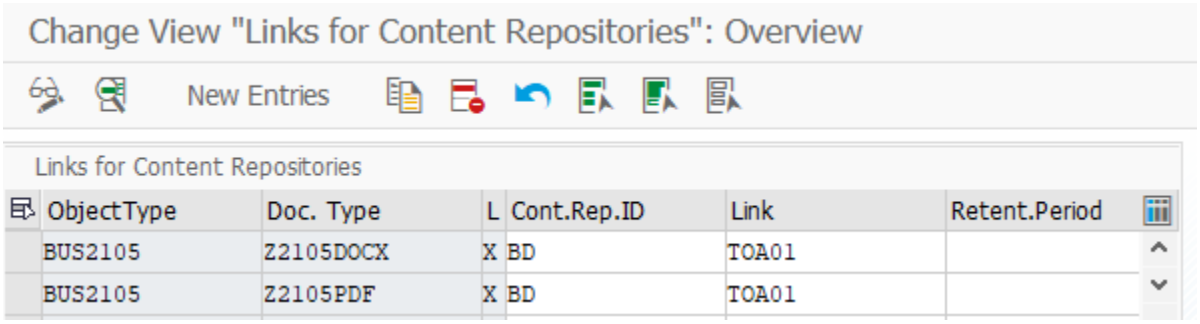
If the basic customizing for SAP ArchiveLink contains neither a document type nor a link to a business object, the ELO Toolbox functions are disabled (gray).

1. In the basic customizing, create a document type (*transaction OAC2*) and link (*transaction OAC3*) this type or an existing document type to the desired business object. In our example, we have used the object *BUS2105 – purchase requisition*.

   Document type:

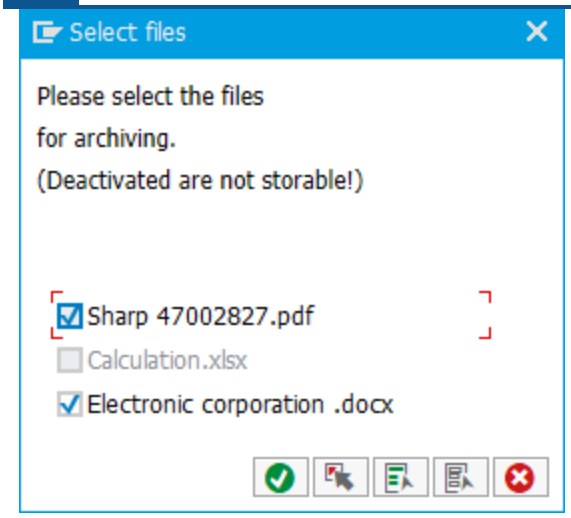


   Link:

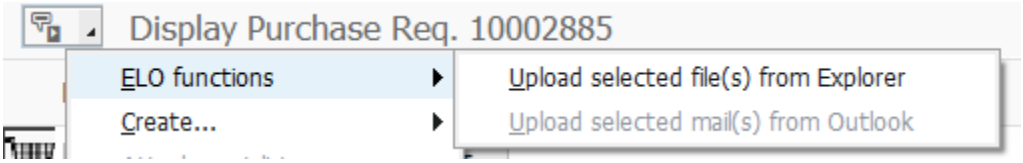


   Once the customizing settings have been adjusted as described above, the functions of ELO Toolbox are active.

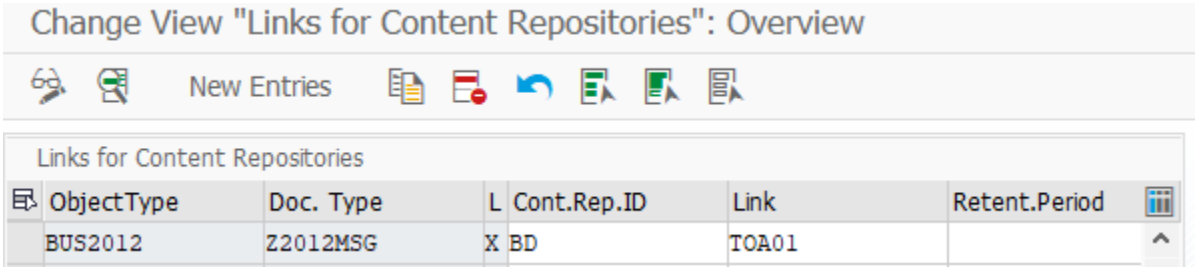
The file types that can be stored depend on the SAP ArchiveLink customizing. If document types have been created for *PDF* and *DOCX* file types as described above, PDF documents and DOCX documents can be filed.



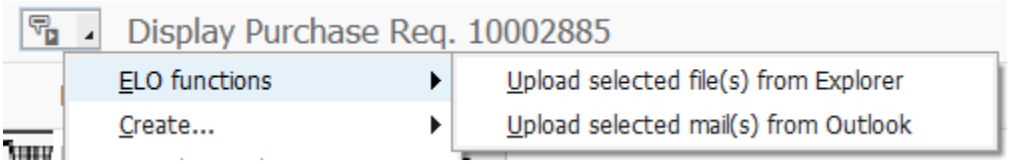
If you try to upload an *XLSX* document, for example, the file is marked as "inactive" (gray) in the "Select files" dialog box.



This is similar to the function *Upload selected mail(s) from Outlook*. This menu item in ELO Toolbox is disabled until a document type is configured for SAP ArchiveLink and the right link is created for the *MSG* file type.



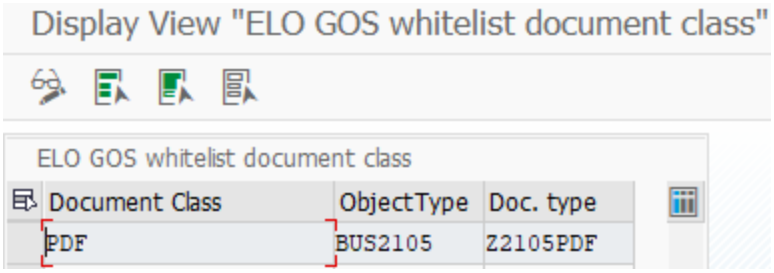
Once the entry has been added to the customizing, the *Upload selected mail(s) from Outlook* function is active and can be used.



Configuring specific document types

For existing SAP ArchiveLink configurations, there may be multiple identical document types of the same class set up for one SAP business object. To use the ELO Toolbox functions with a specific

document type, configure the document type to be used for a business object in the */ELO/WL_DOCTYPE* table.

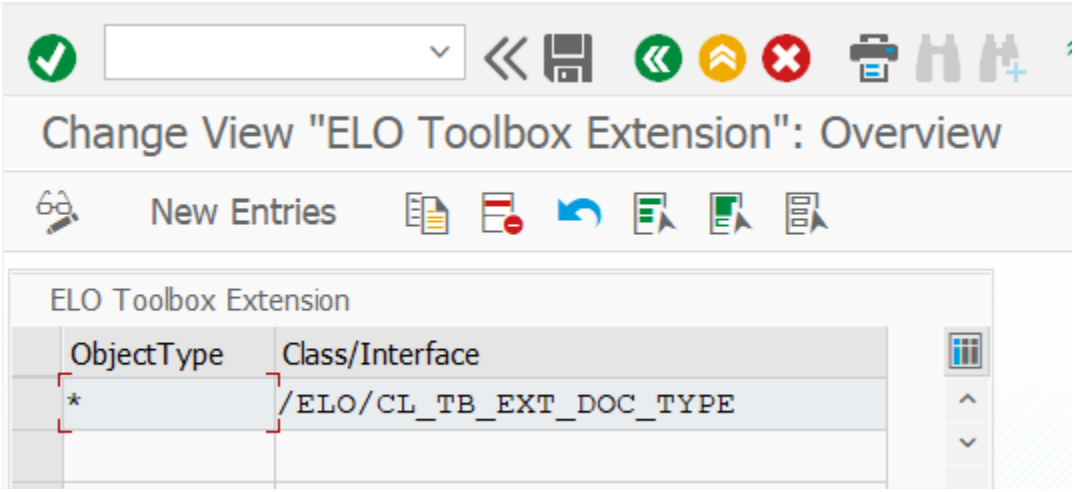


1. Select *Table maintenance – transaction SM30 > '/ELO/WL_DOCTYPE' table*

Selecting specific document types

If you want the users to be able to select the document types stored in SAP via ELO Toolbox as described in Selecting the document type, you must do the following configurations.

1. Call the ELO transaction */elo/tb_ext*.



2. You can use the ELO class */ELO/CL_TB_EXT_DOC_TYPE* to display the selection list in ELO Toolbox area. Enter the class in the transaction under *Class/Interface.*
3. In the *Object Type* column, you can enable the selection of the document type for corresponding SAP business objects. Enter the business object, e. g. BUS2012, or enter * to enable this configuration for all objects.
4. Save your entries. The changes are saved in an SAP transport, which can then be transported within the SAP system chain.

This process depends on what customizing has been done to the SAP ArchiveLink® interface on the SAP system. The user can only select document types or document links that have the same content repository.

The process is as follows: When a user selects a document in ELO Toolbox (with the functions *Upload selected file(s) from Explorer*/*Upload selected mail(s) from Outlook*) and confirms the selected document, this document is uploaded within the SAP system based on the corresponding customization (*transaction OAC3 links for content repositories*). If an entry for the corresponding SAP business object has been added to the *whitelist*, the document is uploaded based on this configuration (see Adding specific document types). In the next step, if the extension configuration is enabled, the user is presented with the possible document types corresponding to the previous entries (same content repository and document class). After the user selects an entry, a corresponding link entry is created in the SAP link tables (e. g. TOA01).

Implementation of custom logic

It is possible to implement your own logic for this scenario.

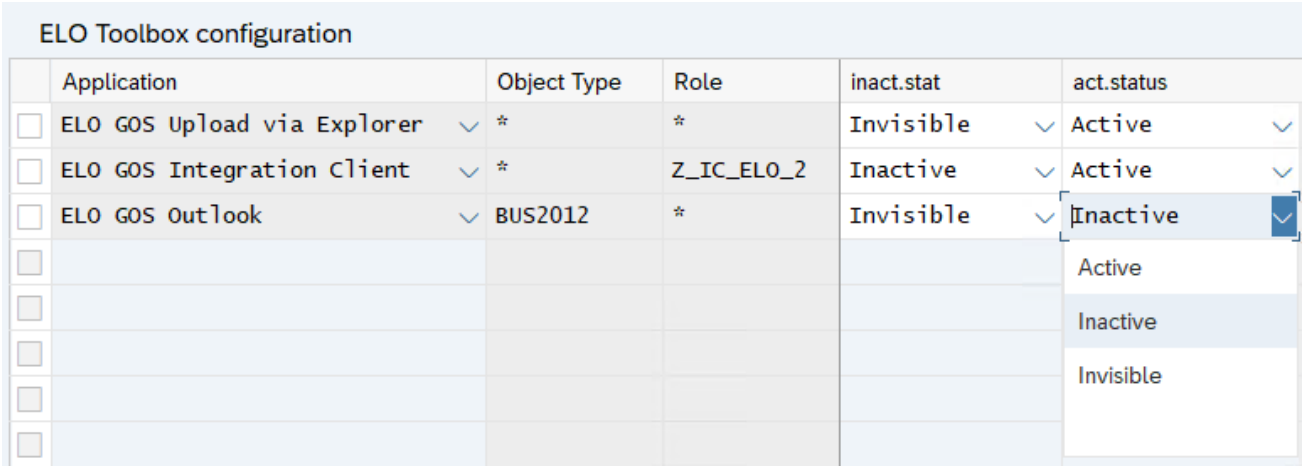
> **Please note**
>
> We only recommend this option if you have extensive knowledge of SAP-ABAP programming.

In this case, it is necessary to create a separate class that implements the */ELO/IF_TB_EXT* interface. You also need to define the method *MODIFY_CONNECTION_DATA* within the class. The method in the extension is executed after the document or e-mail has been uploaded but before the link entry is written to the corresponding tables (e.g. TOA01). The class */ELO/CL_TB_EXT_DOC_TYPE* uses this to provide a selection of document types that are allowed based on the content repository and document type (DocType) according to the SAP customization.

The entry point does not necessarily have to be used to change the link parameters. It can also be used, e. g. to start a custom process in the background or to perform other queries (description) for the link.

Configuring the services depending on the role

The toolbox filing functions for user roles can be adjusted with the function */ELO/TB_CONF*.



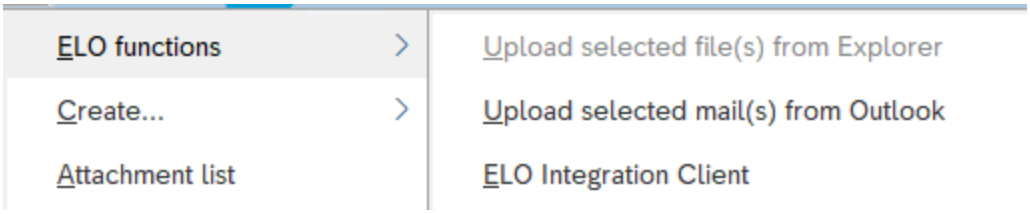
In this table, the most precise match is compared to the roughest as in Configuring the Indexdownload destination and the entry is used in the corresponding line.

A differentiation is made between an active and an inactive status:

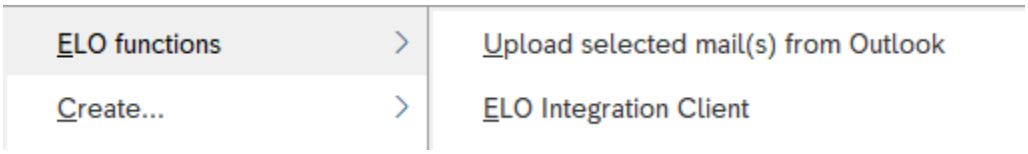
1. The inactive status is set if a user does not have permission due to their role or the object is not fully available.
2. The status is active if the user has the corresponding permissions and the object has been saved.

You can choose between active, inactive, and hidden in the drop-down menu. All applications are active with the default settings.

If a function is set to *inactive*, it is grayed out:



If a function is set to *hidden*, it is removed from the view:



Jumping from ELO to an SAP document

Another ELO Toolbox function is jumping from an entry selected in ELO to the corresponding SAP transaction. For this function to work, you must have selected a document or folder in the ELO client that has a valid document ID (ARC_DOC_ID) in the *SAPPATH* field and therefore represents a document linked in the SAP system.

Now, you can click the *Show SAP object* button on the *SAP* tab. If the *SAPPATH* field in the selected entry is empty or not available, the two fields *SAP_OBJECT* and *OBJECT_ID* are used instead. Depending on the ELO client, there are other requirements that are described in the chapter Jumping from different ELO clients.

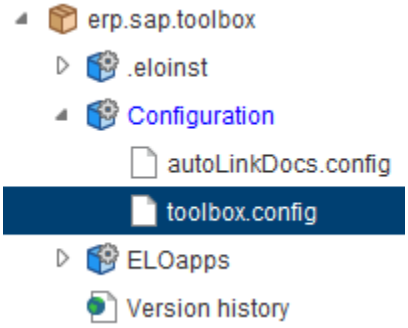
Required permissions in the SAP system (Jump)

To use the *Show SAP object* function, the user must have the following permissions in the SAP system:

- Execute the transactions */ELO/SHOW* and */ELO/SHOW_BO*
- Display the SAP business object transaction associated with the selected document

  Example: A document was selected for an SAP purchase order (BUS2012). The user requires permission to display transaction *me23n*.

Configuring ELO Toolbox in ELO

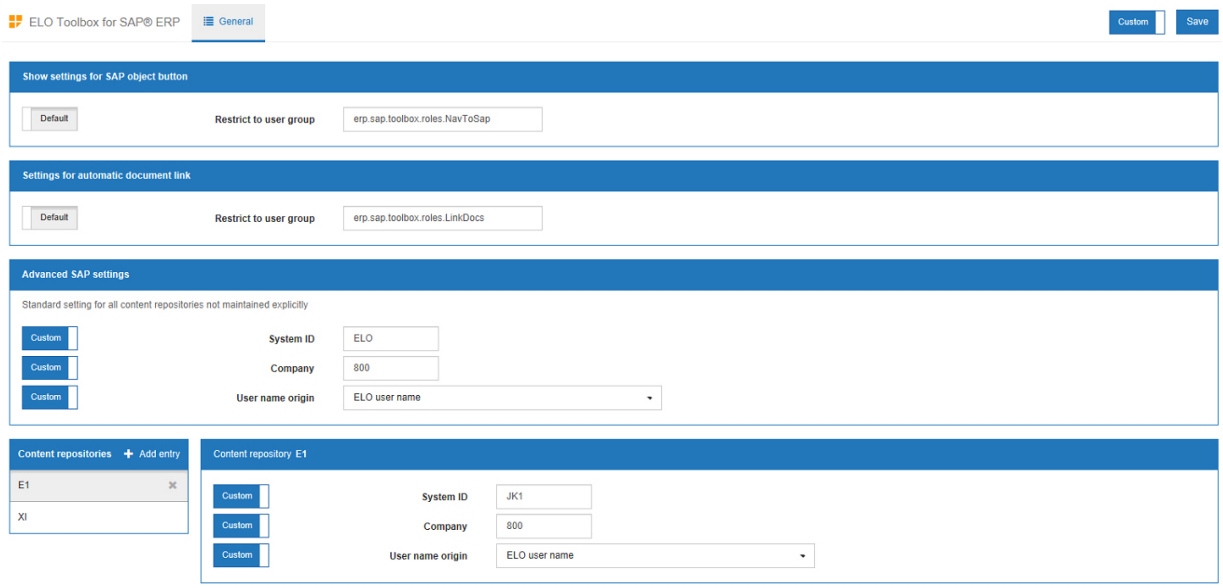


1. Once you have implemented the *erp.sap.toolbox* package, you can go to *Configuration* > *toolbox.config* and *autoLinkDocs.config*.

   The ELO Toolbox configuration interface opens.

Information

When installing the solution, you may not be able to open the configuration interface. For more information, refer to the chapter Installation information.



Please note

Only edit the configuration in the *Business Solutions Custom* folder to ensure the system can be updated in the future. When a module is updated, the configuration in the *Business Solutions* folder can be overwritten.

This is where you can configure ELO Toolbox. For example, you can enter the settings for the corresponding SAP system. If multiple SAP systems with different content repositories are used, as described in the Advanced SAP settings section, different configuration settings can be entered per content repository. If no settings were made, these central settings apply. You can also define permissions for other functions.

Settings for the 'Show SAP object' button

Restrict to user group: Here, you can enable the *Show SAP object* function for specific user groups. If this field is blank, the button is shown to all ELO users.

Information

The SAP transport for ELO Toolbox contains two separate SAP transactions to test the function of the solution. These can be called in the SAP system via */N/ELO/SHOW* or */N/ELO/SHOW_BO*. The corresponding SAP transaction is opened after you enter a linked document and a content repository in transaction */N/ELO/SHOW* or after you enter the SAP object and the object ID of transaction */N/ELO/SHOW_BO*.

Please note

The packages in ELO for SAP® ERP include predefined user groups for restricting functions (e.g. *erp.sap.toolbox.roles.LinkDocs* and *erp.sap.toolbox.roles.NavToSap*). If possible, these should not be changed. They are used to control whether corresponding scripts can be loaded in the client. In the standard package, the *Solutions* group is included in the groups mentioned above. Changing the default settings in the configuration of these packages means that these changes must also be made manually to the corresponding scripts. These steps would have to be repeated every time you do an update and is therefore not recommended.

Settings for automatic document links

This menu item allows you to enable the functions in chapter Automatic linking for a defined user group. Enter the corresponding user group. For more details on the function, refer to the chapter named above.

Advanced SAP settings

In the first part of these settings, the default settings are entered for all content repositories that are not managed explicitly.

System ID	SAP system ID
Client	SAP client number
User name origin	To ensure users can log on to the SAP system, the origin of the required SAP user name can be entered here. The *Automatic linking* function also uses the location of the user name defined here.

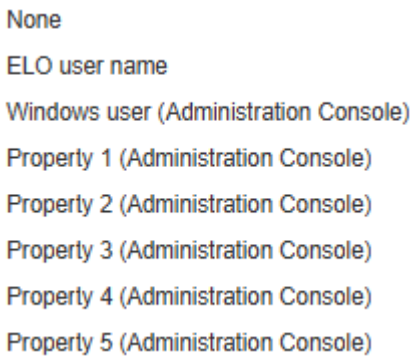
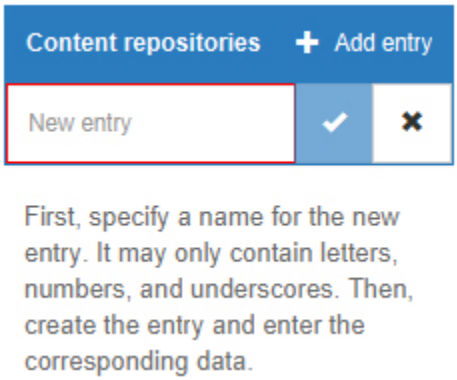


Fig.: Drop-down menu for the 'User name origin' field

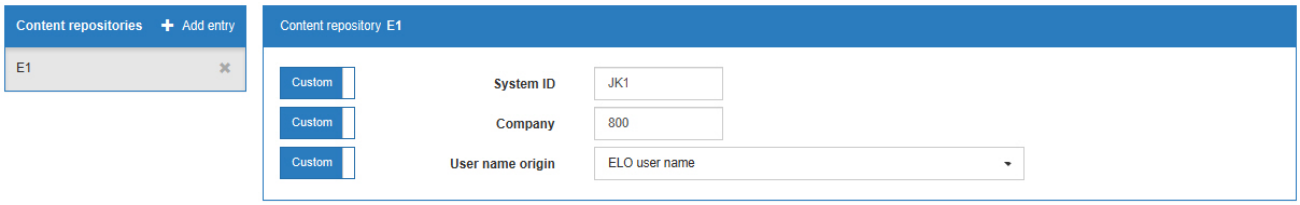
- ELO user name: If the ELO user is the same as the SAP user.
- Windows user: When the SAP user is the Windows user.
- Property 1 to Property 5: Here, you can enter the SAP user name in the ELO user master data set in the desired property field.

Please note

> Windows and ELO users are automatically transferred to the SAP system in capital letters for user matching in the SAP system. This is not the case with the property fields from the ELO Administration Console. During configuration, make sure to enter the user names in uppercase letters for this reason.



However, you can also custom configure each configured content repository.



The other configuration parameters are identical to the ones for the *Advanced SAP settings* menu item.

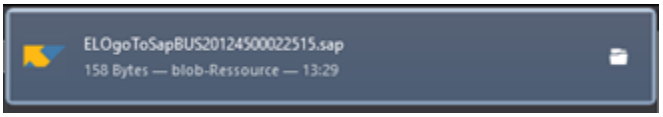
Jumping from different ELO clients

To be able to use this function, an entry has to be selected in the ELO client that represents a document linked in SAP.

ELO Java Client

Based on the configuration above, the ELO Java Client allows users to jump straight to the SAP front-end client (SAP GUI). This requires the correct installation of the SAP GUI and the assignment of the file extension *.sap*.

ELO Web Client



If you want to use the function in the ELO Web Client, clicking the *Show SAP object* button initiates the download of a file in the browser. This file with the extension *.sap* runs the SAP front-end client (SAP GUI) by default and the transaction of the linked SAP object is opened.

For increased convenience, you can configure your browser to automatically open file types with the *.sap* extension.

ELOwf form

Both the ELO Web Client and the ELO Java Client can display an SAP object if a function has been saved in the form. Both clients respond to the following command in the form's user script:

```
api.communication.Parent.sendCustomMessage( "SAP_TOOLBOX_GOTO_BO", { "BO": "BUS2012", "ID":
```

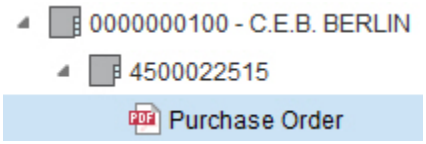
The values `BUS2012` and `45000000` are variables and represent the SAP object and the corresponding object ID in this case.

Automatic links

The *Automatic linking* function allows you to automatically store documents filed in ELO in your SAP system as shortcuts. Here, ELO requires an object/folder superior to the document that already contains a link to the corresponding SAP object.

Example:

A folder structure already exists for orders from a specific supplier (*C.E.B. Berlin)*, which already contains documents and where new ones are filed (*folder 4500022470*). This folder is configured with the *SAP folder* metadata form where the SAP object type (*BUS2012 order*) and the object ID (purchase order number *4500022470*) are entered.



If a new document is filed to this structure, ELO can automatically link the document to SAP order *4500022470* and create an entry in the corresponding link table in the SAP system. In this case, the parent folder is the folder titled *4500022470* with the *SAP folder* metadata form.

Requirements

To use the *Automatic linking* function, you need ELO Toolbox as well as the licensed ELO Connectivity Pack for SAP® ERP with the *Datatransfer* function. For more information on installing the ELO Connectivity Pack for SAP® ERP – Datatransfer, refer to the relevant documentation. You also have to enter a setting in the *User name origin* field in the *toolbox.config* configuration.

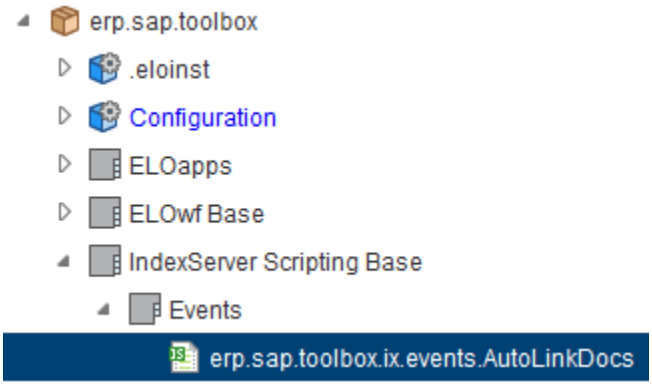
Indirect use of SAP systems

If an ELO user uses the *Automatic linking* function, a link entry is written to the corresponding link table in SAP when filing a document (e.g. *TOA01*). In SAP, the creation of this link is considered a value-adding event, which means that the ELO user performing this action must also have a licensed user in the SAP system.

The *User name origin* field must define where in ELO the corresponding SAP user name can be found. For more information, refer to the chapter Advanced SAP settings.

To minimize the risk of a licensing violation, you can take precautions in the ELO Toolbox configurations (*toolbox.config* and *autoLinkDocs.config*) (see chapter Settings for automatic document links). Please note that the customer is responsible for complying with SAP licensing regulations.

Setting up the event function



To automatically link a document, ELO needs a corresponding event function. Once the *erp.sap.toolbox* has been installed, the required script can be found in the path to the ELO Toolbox package.

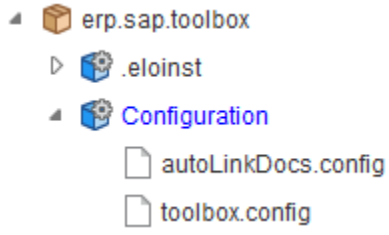
The *erp.sap.toolbox.ix.events.AutoLinkDocs* script now has to be referenced in the following directory:

Administration/IndexServer Scripting Base/_ALL / business_solutions

The script is enabled after restarting the ELOix components. It is run every time a user files a document in an ELO client.

> **Information**
>
> Automatic linking is based on an ELOix event interface and uses the asynchronous event function. This means that a maximum of 5 threads that can process the script is available to the ELO Indexserver at this point as standard. In case of high numbers of users, we recommend increasing the thread limit.

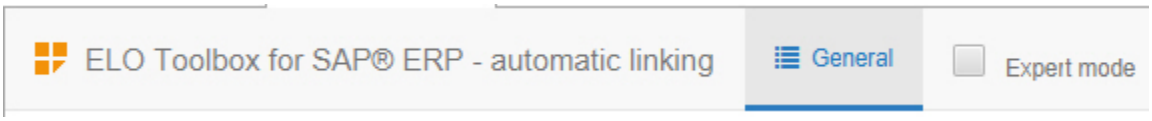
Configuring the 'Automatic linking' function



Besides the event script, all other settings can be performed in the *Configuration* area of the ELO Toolbox package. The *autoLinkDocs.config* configuration file takes you to the ELO Toolbox configuration interface for automatically linking documents.

> **Please note**

Only edit the configuration in the *Business Solutions Custom* path to ensure the system can be updated in the future. When a module is updated, the configuration in the Business Solutions path can be overwritten.

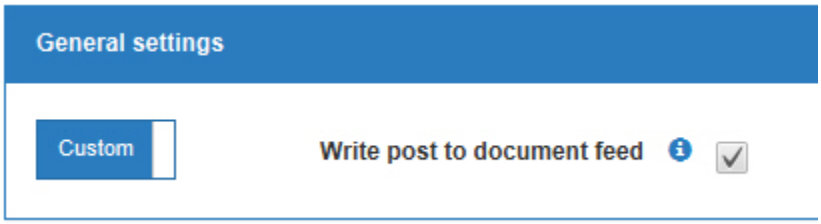


The configuration interface contains the *General* area where you can configure the settings for the *Automatic linking* function. In addition, there is a check box for the *expert mode*, which is explained in more detail in the Document reference setting section.

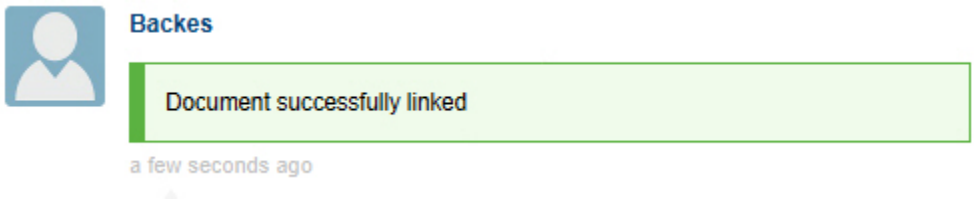
Information

When installing the solution, you may not be able to open the configuration interface. For more information, refer to the chapter Installation information.

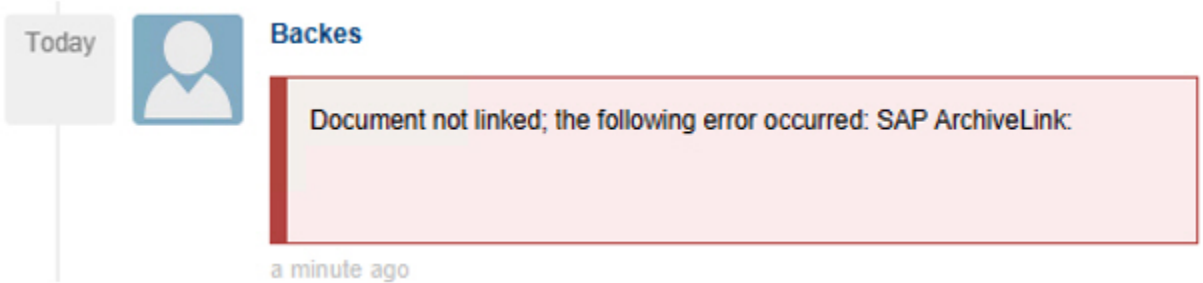
General settings



Write post to document feed: If this option is enabled, positive or negative feedback is written in the feed of the filed document that is supposed to be linked to SAP.

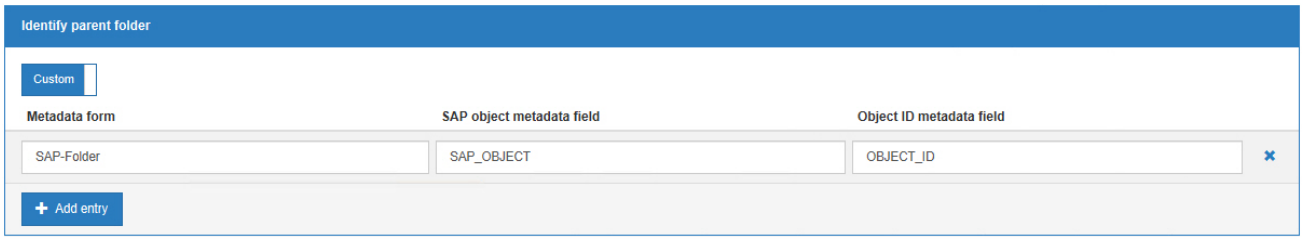


An error message appears if an error occurs.



Identify parent folder

To link the document to SAP, ELO needs the corresponding information. In this configuration area, you can set the location where ELO retrieves the necessary data from the parent structure elements that are required for an SAP link.



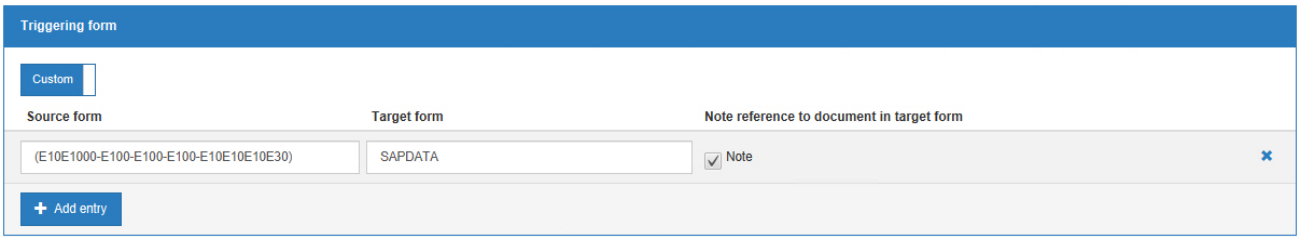
Metadata form: Technical name of the metadata form. The metadata form GUID is also possible.

SAP object metadata field: Field where information for the SAP object is entered.

Object ID metadata field: Field where information for the object ID is entered.

> **Information**
>
> To write a document link, the SAP system needs the SAP object SAP (e.g. for order *BUS2012*) and the object ID (e.g. order number *4500022515*).

Triggering form



When filing documents in ELO, a metadata form always has to be assigned to a document. The *Basic entry* form is suggested by default.

In the *Triggering form* configuration, you can determine which metadata forms should trigger a document link in SAP when filing a document. In addition, you can also define a target form to change the document to after linking, e.g. to perform an index download afterwards. Remember that the selected *Target form* also contains the fields necessary for establishing a link to SAP (e.g. *SAPPATH* field in the *SAPDATA* metadata form).

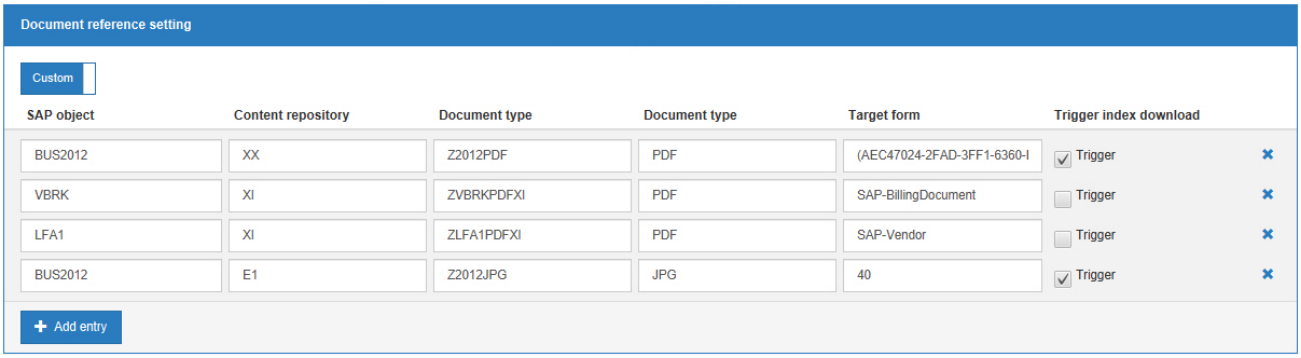
The metadata form is only switched to the target form if ELO has received the information required for a link from a parent element.

Source form: Technical name of metadata form or GUID of the form that is used to file the document in ELO and start the process of automatic linking.

Target form: Technical name of metadata form or GUID of the form the document should switch to after linking.

Note reference to document in target form: If this box is checked, an extended process for changing the metadata form takes place. This is described in the next chapter.

Document reference setting



This configuration area allows you to allocate documents to a metadata form depending on their document type and class. These terms are SAP ArchiveLink terms that have to be custom-configured in an SAP system.

If expert mode is enabled, the two fields *Smart Link instance* and *SAP system ID* are also shown in this configuration area.

SAP object: Description/name of the corresponding SAP object.

Content repository: SAP content repository through which the document should be filed. (This entry must be identical to the configuration in SAP ArchiveLink® or ELO Smart Link for SAP® ERP.)

Document type: Name of the document type existing in the SAP ArchiveLink® customizing (SAP transaction *OAC2*) that is also entered as *Links for content repositories* (SAP transaction *OAC3*).

Document class: The value here corresponds to the extension that is also required in the SAP ArchiveLink® configuration (SAP transaction *OAD2*), as well as a matching link entry in SAP transaction *OAC3 – links for content repositories*.

> **Information**
>
> The selected settings for content repository, document type, and document class must be entered to the SAP ArchiveLink® configuration (SAP transaction *OAC3*).

Smart Link instance (expert mode): Name of the ELO Smart Link for SAP® ERP instance used to write the link to the corresponding SAP system. If this field is left blank, the *Default instance* from the ELO Connectivity Pack for SAP® ERP configuration is used.

SAP system ID (expert mode): SAP system ID of the SAP system where the link will be created. If this field is left blank, the *Default instance* from the ELO Connectivity Pack for SAP® ERP configuration is also used.

Target form: Name of the metadata form the document is switched to.

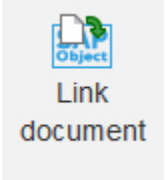
Subpath (expert mode): Enter a path here if you want to set up a path dependency for an SAP object. The first character is always interpreted as a separator.

> **Information**
>
> The order of the entries is crucial. If you want to distinguish between */subpath1/subpath2* and only */subpath1*, make sure that the more complex path has a higher priority than the subordinate path. A blank entry takes effect with all results, and this should have the lowest priority.
>
> Example:
>
> If you want to store a defined document type *Z2012PDFA* within a path under */Delivery Notes/Original*, and you want to store the document type *Z2012PDFB* within the path under */Delivery Notes*, and you want to store the document type *Z2012PDF in the main folder, the entries of the deeper nested path up to the base path (general path) must be sorted manually.
>
> Z2012PDFA Main folder/Delivery notes/Original/
> Z2012PDFB Main folder/Delivery notes/
> Z2012PDF Main folder/

Trigger index download: If the *Indexdownload* function is set up for ELO Connectivity Pack for SAP® ERP, you can check this box to trigger an index download after switching metadata forms.

> **Information**
>
> If a user does not have permission to write document links, the document is filed to ELO but not linked with the SAP system. An error message is not generated in this case.

Link document manually



If the document link cannot be created due to a problem, users can start the automatic linking process manually by selecting the *Link document* button on the *SAP* tab. If all required

configurations and permissions have been met, the document link is created in the SAP system and an entry is generated in the document feed.

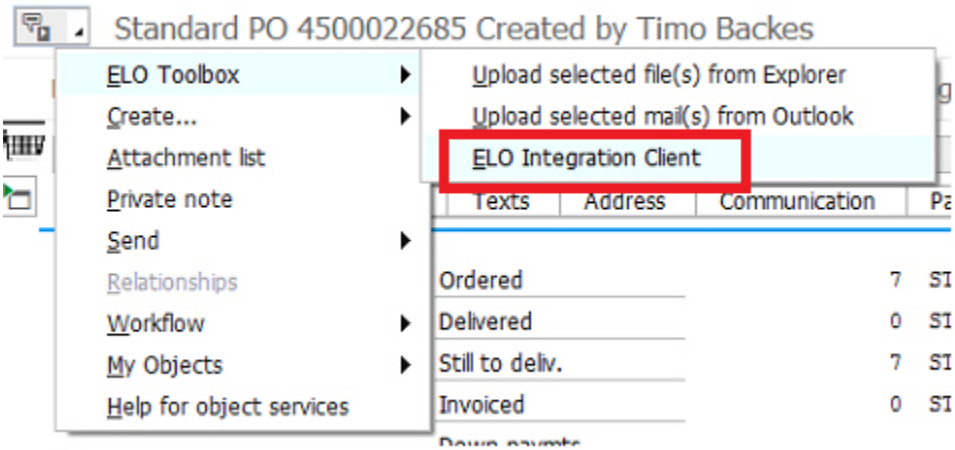
ELO Integration Client in SAP systems

With the ELO Integration Client, ELO and documents stored in ELO can be used within SAP transactions. For information on installing the ELO Integration Client in ELO, refer to the corresponding documentation in the ELO SupportWeb. This documentation describes which configurations are necessary within the SAP system and the required products ELO Toolbox for SAP® ERP and ELO Connectivity Pack for SAP® ERP (*Indexdownload* function).

The requirements for using the ELO Integration Client are listed in the chapter Basics.

For SAP NetWeaver® and SAP S/4HANA® systems, the ELO Integration Client has been integrated as a pop-up window. It is also possible to embed the ELO Integration Client directly in an SAP transaction with third-party software, e. g. GuiXT or SAP Screen Personas. Chapter SAP Screen Personas describes an implementation example for SAP Screen Personas.

The pop-up for the ELO Integration Client is displayed as a separate window and can be opened within any SAP transaction that provides the Generic Object Services.



The Extending the Generic Object Services chapter contains a description of the initial extension of the Generic Object Services.

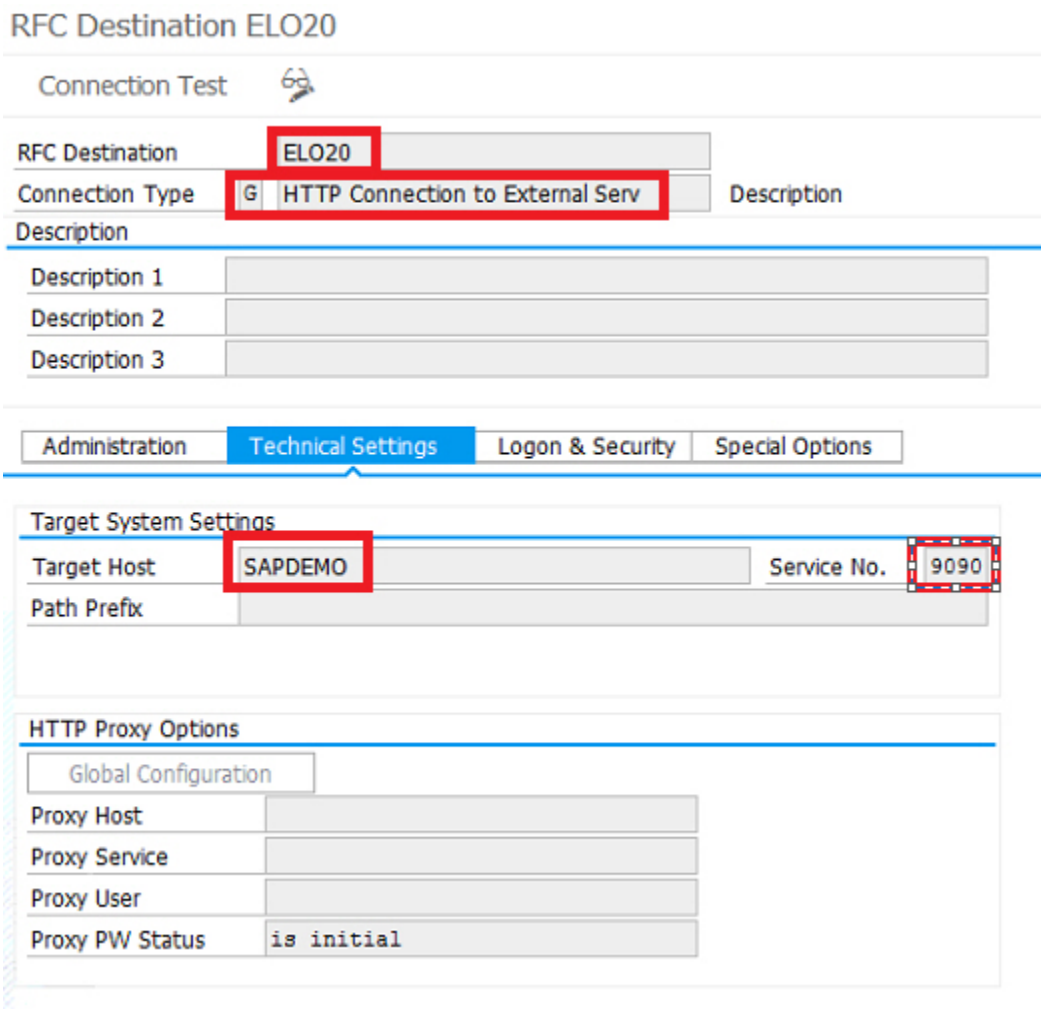
The implementation of the pop-up is stored in the class */ELO/CL_GOS_POPUP*, which is called by the GOS class */ELO/CL_GOS_INTEGRATION_CLIENT*. Depending on the business object and object ID, a URL is requested via the connected ELO system and displayed in the pop-up window.

For the functionality to work, the ELO Connectivity Pack for SAP® ERP must be installed and configured in the SAP system, since the URL is determined via the class */ELO/CL_KE_REQUEST*. Important: The structure of a folder path is defined and configured within the *Indexdownload* function in ELO Connectivity Pack for SAP® ERP. When the ELO Integration Client is called, the *Indexdownload* function is used to query whether the required path (e.g. based on SAP business object *BUS2012* and the purchase order number) already exists or needs to be created. In the next step, the existing or new GUID of the path is integrated into the URL used to call the ELO Integration Client.

Indexdownload transfer

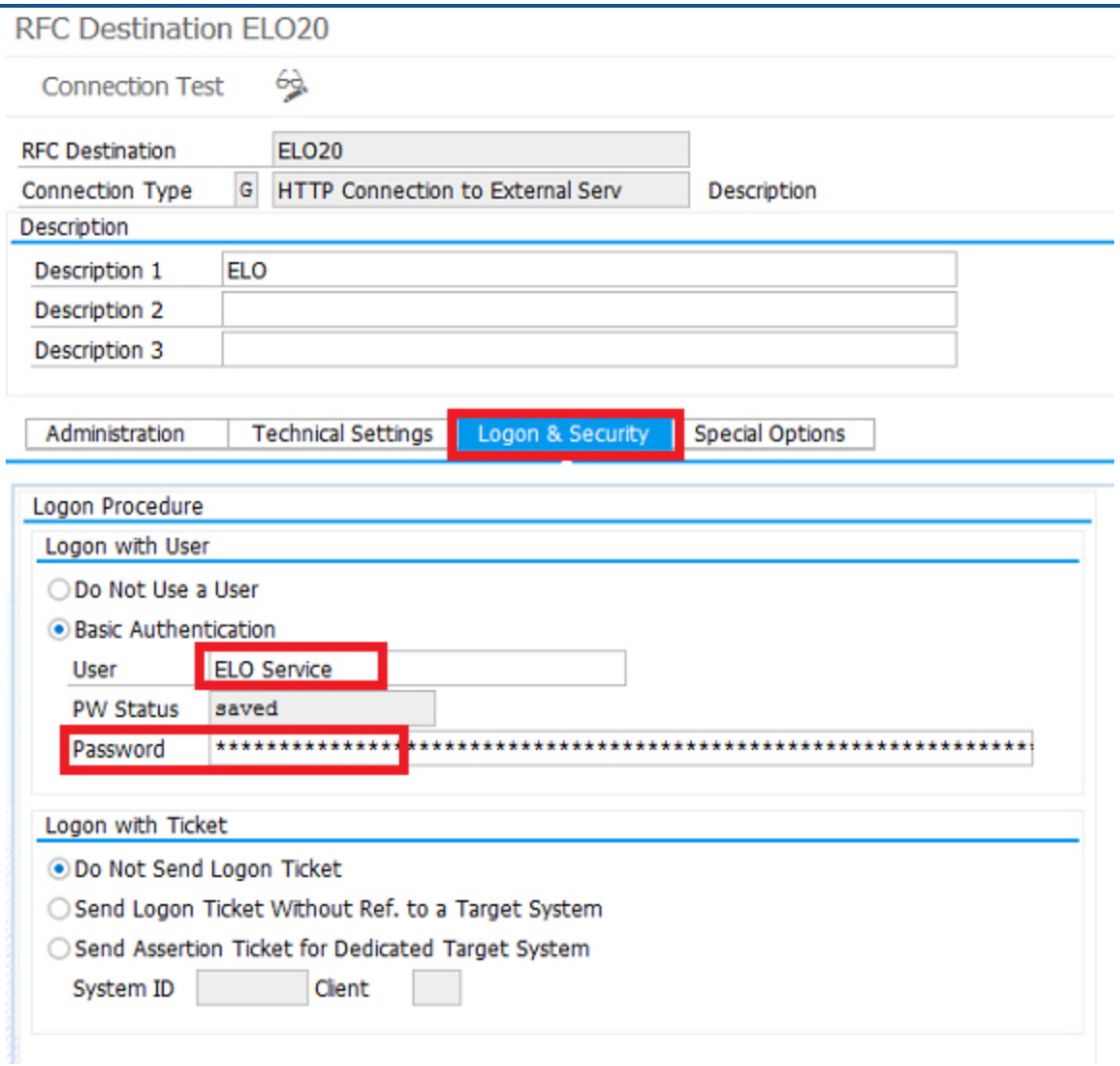
To use the ELO Integration Client in an SAP transaction, ELO requires a defined path to the corresponding SAP document. An RFC destination within the SAP system is required to create this path. The path defined in ELO Connectivity Pack for SAP® ERP – Indexdownload is used to create the path. For more information on creating paths, refer to the ELO Connectivity Pack for SAP® ERP – Indexdownload documentation.

1. Create a new RFC destination via SAP transaction *SM59*.



'Technical Settings' tab

RFC destination	Basic entry
Connection type	*HTTP Connection to External Server*
Description 1	Basic entry
Target machine	ELO servers
Service no.	Port number of the ELO REST Service on the ELO server



'Logon & Security' tab

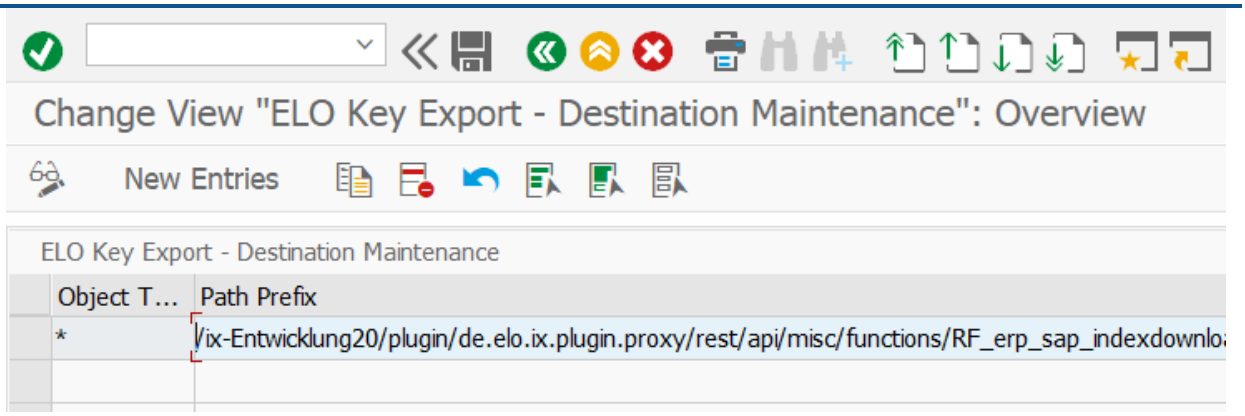
User ELO user

Password Password of the relevant user

Configuring the Indexdownload destination

The ELO Integration Client is connected using the ELO REST Service.

1. To establish a connection, the entry to the ELO REST Service has to be configured as the destination name and path prefix via SAP transaction */ELO/KE_DESTINATIONS*.



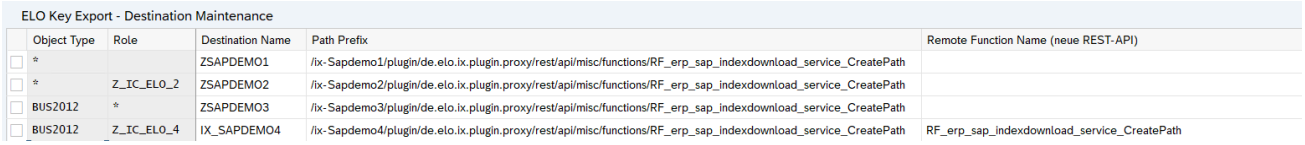
Object type	Specification of the desired SAP business object, e.g. BUS2012 for purchase orders.
Destination Name	Name of the ELO destination
Path Prefix	Path to the ELO REST Service via the IX proxy plug-in

The path also points to the delivered RF within the ELO REST Service:

```
/ix-SAPDEMO/plugin/de.elo.ix.plugin.proxy/rest/api/misc/functions/
RF_erp_sap_indexdownload_service_CreatePath
```

Starting with version 1.0.9 of the ELO Connectivity Pack for SAP® ERP – Indexdownload

The table has been extended by the column *Role* to get to the various ELO systems using the Integration Client, depending on the user role.



Column	**Explanation**
Object type	Specification of the desired SAP business object, such as *BUS2012* for orders. Alternative: * as a wildcard
Role	Role of the user
Destination name	Name of the ELO destination
Path prefix	Path to the ELO REST Service module via the IX proxy plug-in
Remote Function Name	Access to the REST-API via Indexserver

From ELO 21, the REST API interface that was integrated into the Indexserver can be called via the column *Remote Function Name* with the following function:

```
RF_erp_sap_indexdownload_service_CreatePath
```

If there is an entry in this field, the field *Path prefix* is ignored. In addition, the Indexserver must be entered under the destination name.

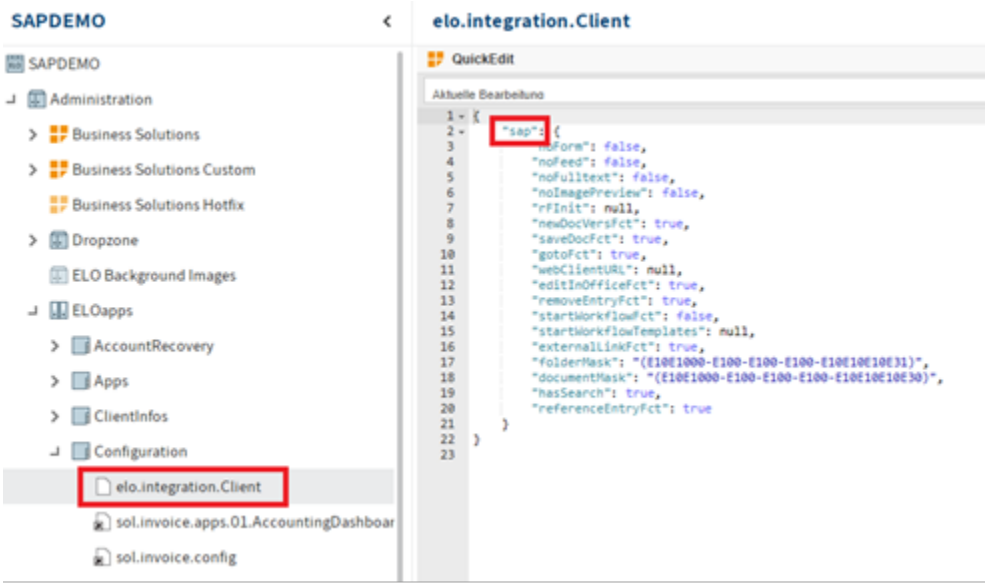
> **Please note**
>
> The roles used must be valid and added accordingly in the user master record. If the role of a user role is invalid, a search is performed for the role *.

Example for determining the valid entry

The following example explains how the most precise match is compared to the roughest match to use the corresponding destination:

1. First, a search is performed for the biggest object type and object role match. Our example only refers to system 4 if the object type is *BUS2012* and the role *Z_IC_ELO_4* was added in the user's master record.
2. If no results are found, a check is performed to determine whether an entry with the available object type and role exists. Therefore, all users who do not have the role *Z_IC_ELO_4* for the object type *BUS2012* are forwarded to system 3.
3. If there is no match here either, a search is performed for a result in the object type * and the corresponding role. Therefore, if the user has the role *Z_IC_ELO_2*, the user is forwarded to system 2 independently of the object type.
4. A default entry should be created so that a destination can be referred to if there is no match, in this example system 1.

Configuring the ELO Integration Client in ELO



In the next step, you need to configure the ELO Integration Client in the administration folder in ELO.

1. Open the configuration file *elo.integration.Client* at the following path:

   Administration//ELOapps//Configuration//elo.integration.Client

   If the JSON file does not exist, you need to create it first. If the file already exists, you need to add the entry `"sap"`. This is important for calling the URL.

   Contents of the configuration file in relation to the entry `"sap"`:

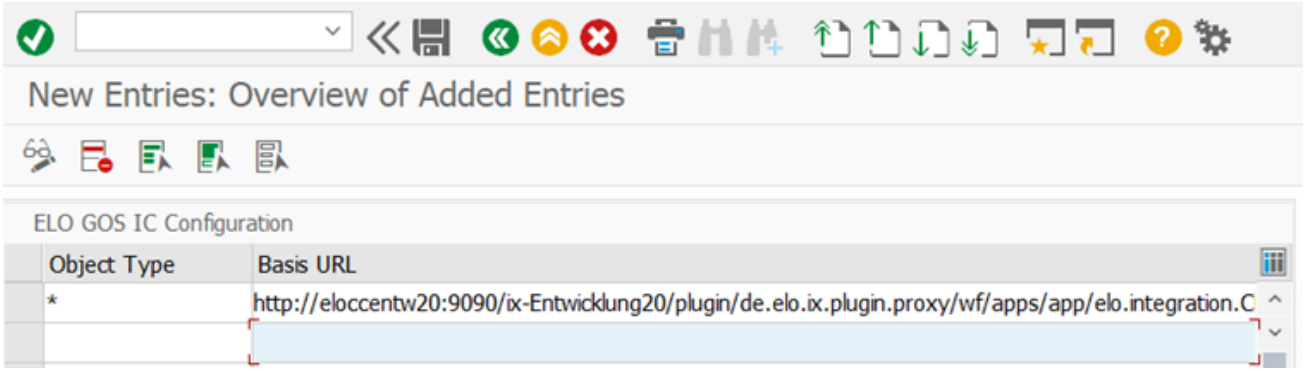
```
{
    "sap": {
        "noForm": false,
        "noFeed": false,
        "noFulltext": false,
        "noImagePreview": false,
        "rFInit": null,
        "newDocVersFct": true,
        "saveDocFct": true,
        "gotoFct": true,
        "webClientURL": null,
        "editInOfficeFct": true,
        "removeEntryFct": true,
        "startWorkflowFct": false,
        "startWorkflowTemplates": null,
        "externalLinkFct": true,
        "folderMask": "(E10E1000-E100-E100-E100-E10E10E10E31)",
```

```
        "documentMask": "(E10E1000-E100-E100-E100-E10E10E10E30)",
        "hasSearch": true,
        "referenceEntryFct": true
    }
}
```

Configuring the ELO Integration Client URL

You also need to configure ELO Toolbox for use with the ELO Integration Client. In the first step, you need to enter the URL used to call the ELO Integration Client in transaction */ELO/IC_CONF* in the SAP system. In the second step, you need to configure a Business Add-In (BAdI) that reacts to a change in documents in SAP transactions.

URL configuration



The URL is made up of: ELOix proxy address, path to ELOwf, and the ELO Integration Client app. The `system` comes at the end as well as the ID created in the JSON configuration file.

Example:

```
http://sapdemo:9090/ix-SAPDEMO/plugin/de.elo.ix.plugin.proxy/wf/apps/app/
elo.integration.Client/?debug=false&system=sap
```

From version 1.0.9

To get to the various ELO systems using the Integration Client depending on the user role, the table is extended by the column *Role*.

Object Type	Role	Basis URL
*	*	http://sapdemo1:9090/ix-Sapdemo1/plugin/de.elo.ix.plugin.proxy/wf/apps/app/elo.integration.Client/?debug=false&system=sap
*	Z_IC_ELO_2	http://sapdemo2:9090/ix-Sapdemo2/plugin/de.elo.ix.plugin.proxy/wf/apps/app/elo.integration.Client/?debug=false&system=sap
BUS2012	*	http://sapdemo3:9090/ix-Sapdemo3/plugin/de.elo.ix.plugin.proxy/wf/apps/app/elo.integration.Client/?debug=false&system=sap
BUS2012	Z_IC_ELO_4	http://sapdemo4:9090/ix-Sapdemo4/plugin/de.elo.ix.plugin.proxy/wf/apps/app/elo.integration.Client/?debug=false&system=sap

In this table, the most precise and the roughest match are compared as in Configuring the Indexdownload destination, and the corresponding URL is used.

To reach the Integration Client even if there is no match, a default entry that can be referred to must also be created.

Please note

The entries must be created according to the Configuring the Indexdownload destination so that entries that use the identical object type and the identical role in both tables indicate the same system.

Configuring the Business Add-Ins (BAdI)

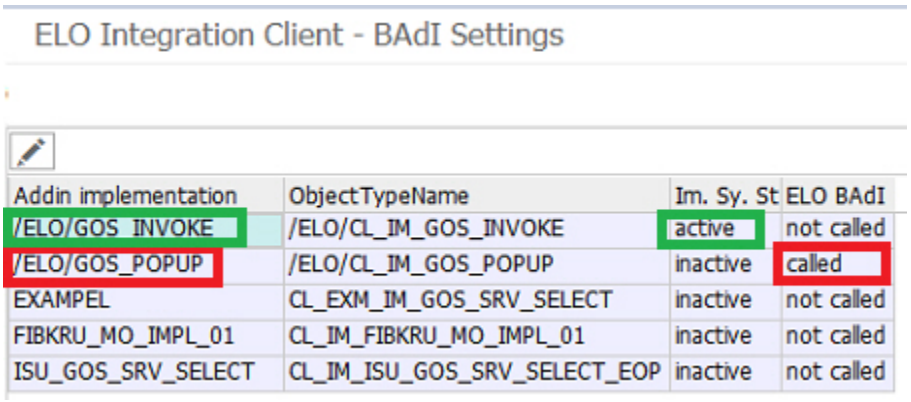
You will find a detailed description of Business Add-Ins (BAdI) in the chapter Updating the pop-up for background activities.

Information

"A BAdI is an object-oriented enhancement option [...] and thus the most sophisticated enhancement type. The main characteristic of a BAdI is that it provides a mechanism to change the functionality of a well-defined business function (e.g. a BAPI) without making changes to the delivered source code. Future upgrades of the original business function can be applied without losing the customer-specific enhancements or the need to merge the changes." (Source: SAP Help Portal)

The two source lines (the original and the one modified by the customer) are strictly separated but still integrated.

1. Start the SAP transaction *SE38*.
2. Execute the program */ELO/GOS_BADI*.



3. To execute multiple BAdI implementations in one system, you need to activate the BAdI */ELO/GOS_INVOKE*. This is *deactivated* by default since other BAdIs may be activated. If this is the case, you need to deactivate these first and then execute them in the BAdI provided by ELO.

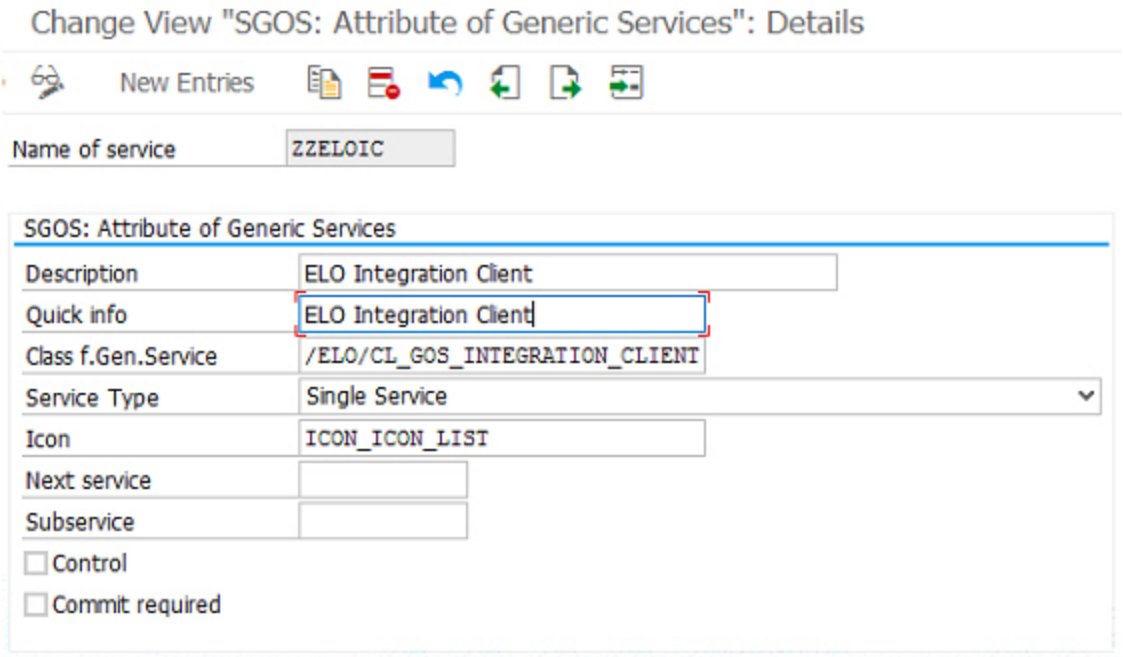
Maintaining the Generic Object Services

In the last step, you need to set up the ELO Integration Client in the Generic Object Services. In this context, also refer to chapter Extending the Generic Object Services, which describes how to extend the Generic Object Services for ELO Toolbox.

1.

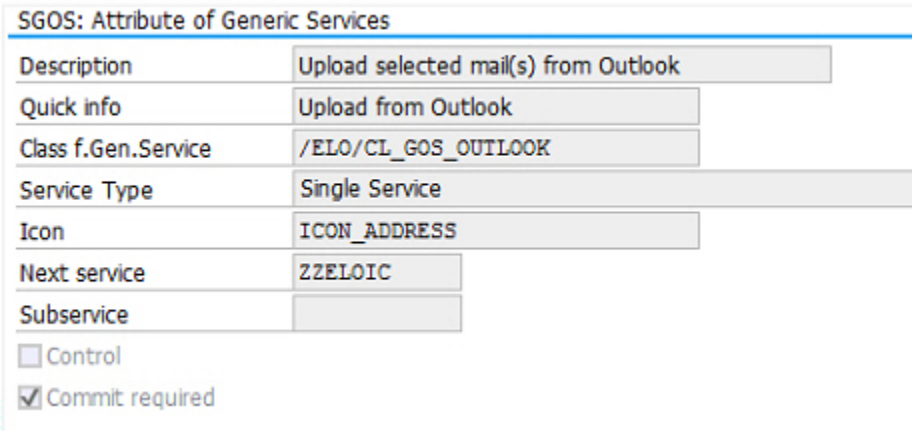
Start the SAP transaction *SM30*.

2. Start the table/view *SGOSATTR*.



3. Create a new service called *ZZELOIC*.

Name of service	`ZZELOIC`
Description	`ELO Integration Client`
Quick info	`ELO Integration Client`
Class f. Gen. Service:	`/ELO/CL_GOS_INTEGRATION_CLIENT`
Service Type	*Single Service*
Icons	`ICON_ICON_LIST`



4. In the *ZZELOOUTL service*, enter the newly created *ZZELOIC service* in the *Next service field*. The *ELO Integration Client* entry will now appear in ELO Toolbox.

Information

This configuration can take on a different appearance depending on the customer system. If necessary, check the entries *Next service* and *Subservice.*

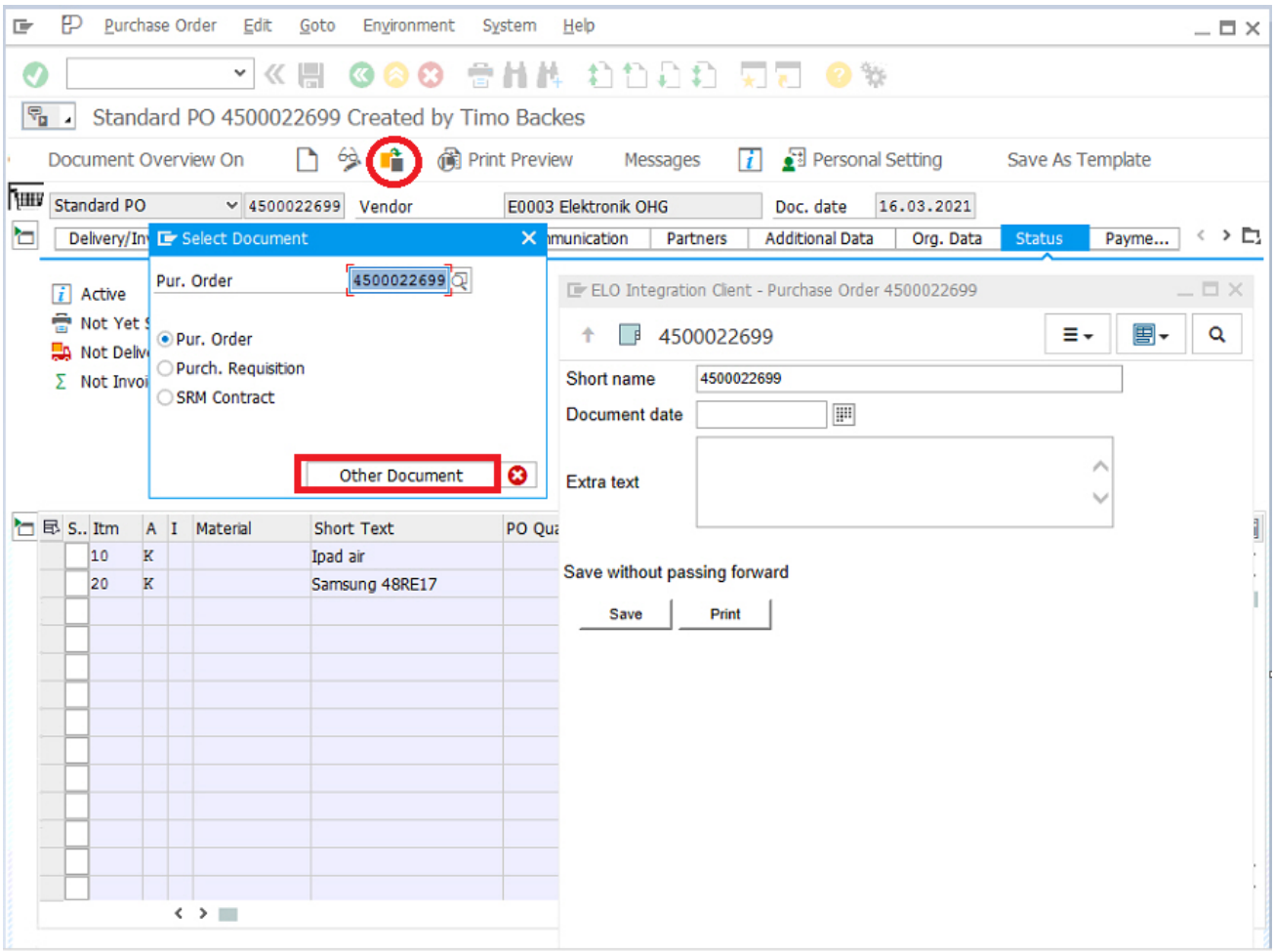
Updating the pop-up for background activities

The pop-up, as part of a mode, always runs in the foreground but the dynpro running in the background can still be used.

Information

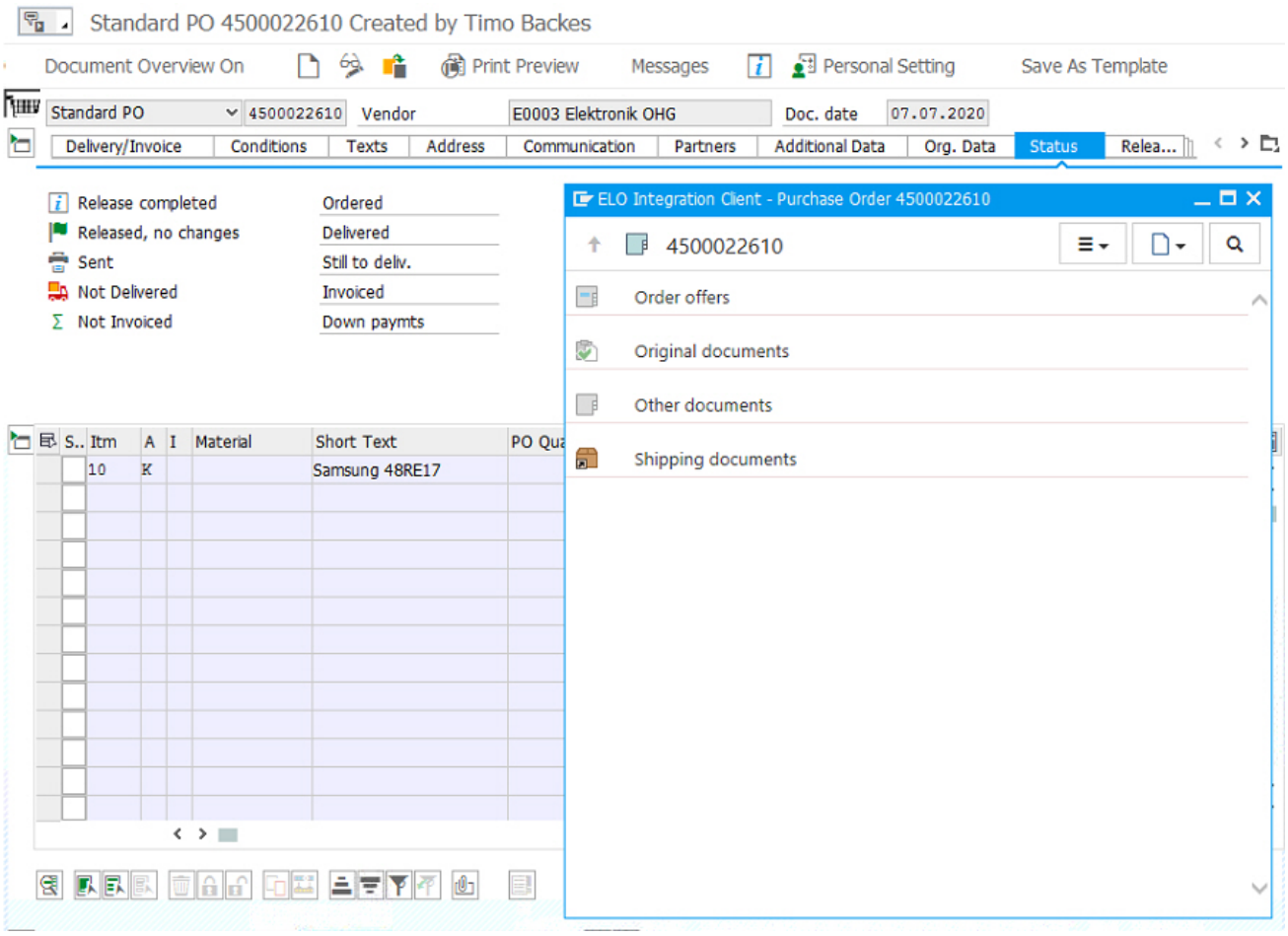
"Dynpro is an abbreviation for 'dynamic program'. A dynpro is a repository object and is always a component of an ABAP program. It consists of the screen with its screen elements and the dynpro flow logic. Dynpro fields are assigned to the screen elements." (Source: SAP Help Portal)

If the user switches to another object (e.g. a different purchase order) without closing the window, the ELO Integration Client, which remains in the foreground, updates automatically. The following screenshots illustrate this behavior.



After switching to another purchase order number (clicking *Other Document*), the ELO Integration Client is also updated.

> **Information**
>
> SAP systems have transactions, such as *XD03 – Display customer*, which close the ELO Integration Client when the object (customer) is closed. This is due to a different control executed by the GOS (Generic Object Services) that ELO has no control over. In this case, the ELO Integration Client will be closed.

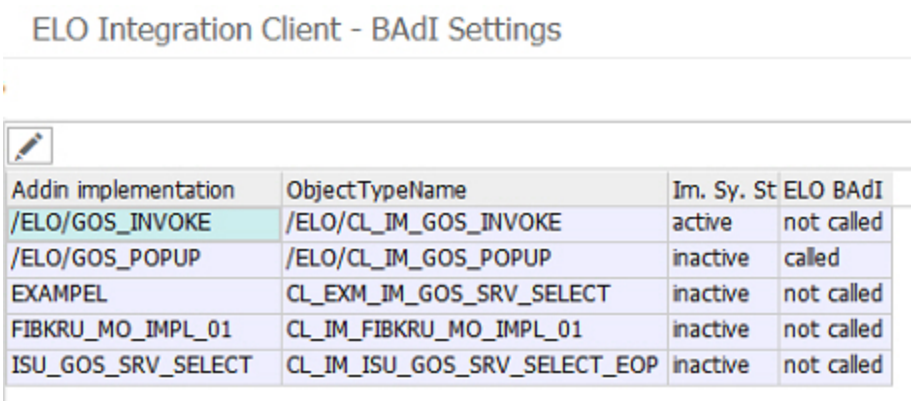


Please note that the dynpro control of some more complex transactions (e.g. *me23n*) makes it necessary to update the pop-up independently of the main dynpro. A new session is created in the background and the pop-up data is updated there. The user does not see this and it has no effect on other SAP modules that are in use. To use this function, you need to activate a BAdI implementation of the BAdI *GOS_SRV_SELECT*.

1. Switch to one of the transactions *SA38*, *SE38*, or *SE80* and execute the program */ELO/GOS_BADI* provided with the SAP transport.

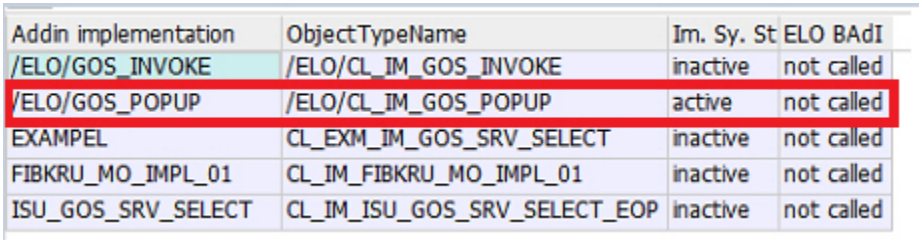
As other BAdI implementations may be activated for the *BAdI GOS_SRV_SELECT*, the BAdI implementation */ELO/GOS_POPUP* provided by ELO is *inactive* by default. You need to activate it before you can use it.

After calling the program */ELO/GOS_BADI* all implementations of the BAdI *GOS_SRV_SELECT* are displayed.



In the column *Im. Sy. St.* (*Implementation System Status*), the runtime behavior currently maintained in the SAP system is displayed:

- Implementation is called = `active`
- Implementation is not called = `inactive`



2. Switch to editing mode in the SAP transaction and click on the entry `inactive` in the corresponding line of the *Im. Sy. St.* column to activate the required BAdI implementation.
3. Confirm the activation and save the settings in an SAP transport request (Workbench).

> **Please note**
>
> The BAdI *GOS_SRV_SELECT* can only be activated once in an SAP system. If another implementation is already active, this implementation cannot be activated again. The next chapter contains a description of how to implement the BAdI *GOS_SRV_SELECT* if other implementations are active.

Activating the BAdI implementation '/ELO/GOS_INVOKE'

Within an SAP system, only one implementation of the BAdI *GOS_SRV_SELECT* can be active, since inconsistencies can otherwise occur when data is changed in the BAdI implementation (for more

information, see article *2505833* in the SAP help portal). However, the */ELO/GOS_POPUP* implementation (which reacts to a change in documents) does not change any data but is only used to update the pop-up with the ELO Integration Client. If another implementation is already activated that cannot or should not be deactivated, the following solution scenario has been created:

Another implementation of the BAdI *GOS_SRV_SELECT* called */ELO/GOS_INVOKE* is also provided. This implementation allows you to execute additional implementations of this BAdI even though they are not activated on the system side. The report */ELO/GOS_BADI* (start via transaction *SA38/SE38* or *SE80*) can be used to make the corresponding settings.

Functions of the report '/ELO/GOS_BADI'

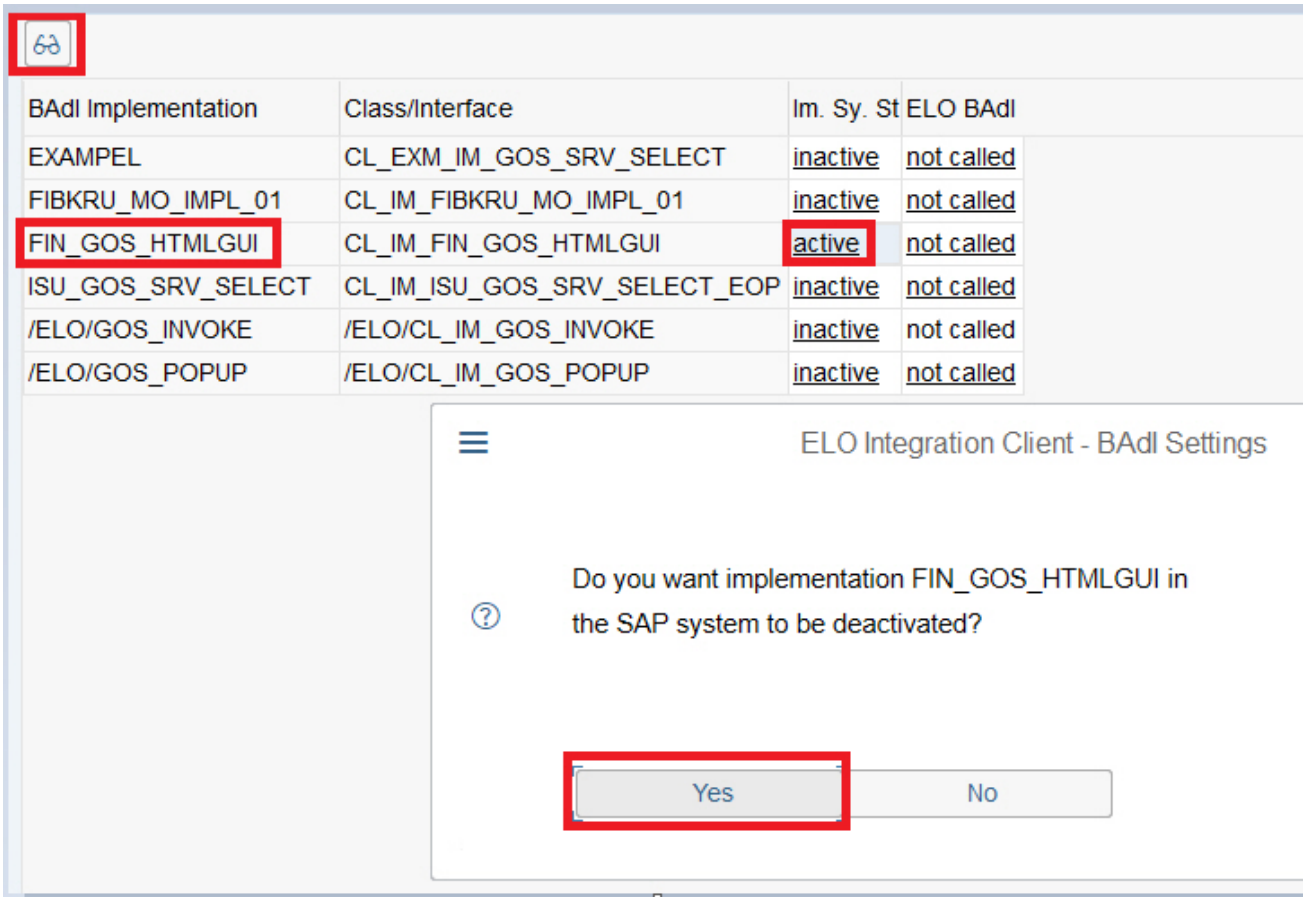
BAdI Implementation	Class/Interface	Im. Sy. St	ELO BAdI
EXAMPEL	CL_EXM_IM_GOS_SRV_SELECT	inactive	not called
FIBKRU_MO_IMPL_01	CL_IM_FIBKRU_MO_IMPL_01	inactive	not called
FIN_GOS_HTMLGUI	CL_IM_FIN_GOS_HTMLGUI	active	not called
ISU_GOS_SRV_SELECT	CL_IM_ISU_GOS_SRV_SELECT_EOP	inactive	not called
/ELO/GOS_INVOKE	/ELO/CL_IM_GOS_INVOKE	inactive	not called
/ELO/GOS_POPUP	/ELO/CL_IM_GOS_POPUP	inactive	not called

After starting the program, all implementations of the BAdI *GOS_SRV_SELECT* are displayed. In this example, the SAP transport provided by ELO was imported into an SAP S/4HANA® system and the report was executed. In the screenshot, you can see that the BAdI implementation for *GOS_SRV_SELECT* is already active (*FIN_GOS_HTMLGUI*).

Activating the BAdI implementation */ELO/GOS_POPUP* would lead to short dumps within the SAP system. For this reason, perform the following steps.

> **Information**
>
> A short dump is an "Error log displayed and saved after a runtime error or exit message. Saved short dumps can be displayed using the ABAP dump analysis tool." (Source: SAP Help Portal)

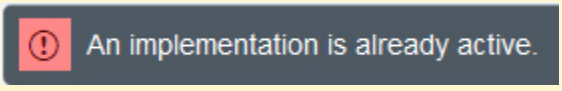
Deactivating an active BAdI implementation



1. Deactivate the currently active BAdI implementation by switching to editing mode in the SAP transaction and click on the entry `active` in the corresponding line of the *Im. Sy. St.* column.
2. Confirm the deactivation of the BAdI implementation *FIN_GOS_HTMLGUI* in the SAP system.

   The changes are saved in an SAP transport request (Workbench). If necessary, create a new transport request.

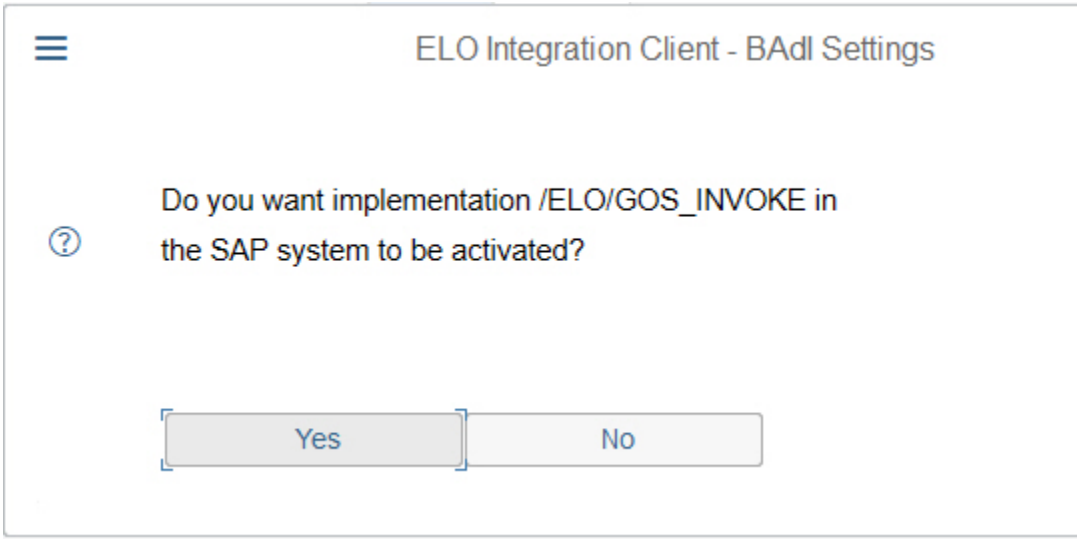
Please note



There can only be one active implementation of the BAdI in an SAP system. It is not possible to activate multiple implementations (see error message in the status bar).

If you want to activate another implementation, you need to deactivate the currently active implementation first. You can do this either in this report or in BAdI Builder (transaction *SE19*).

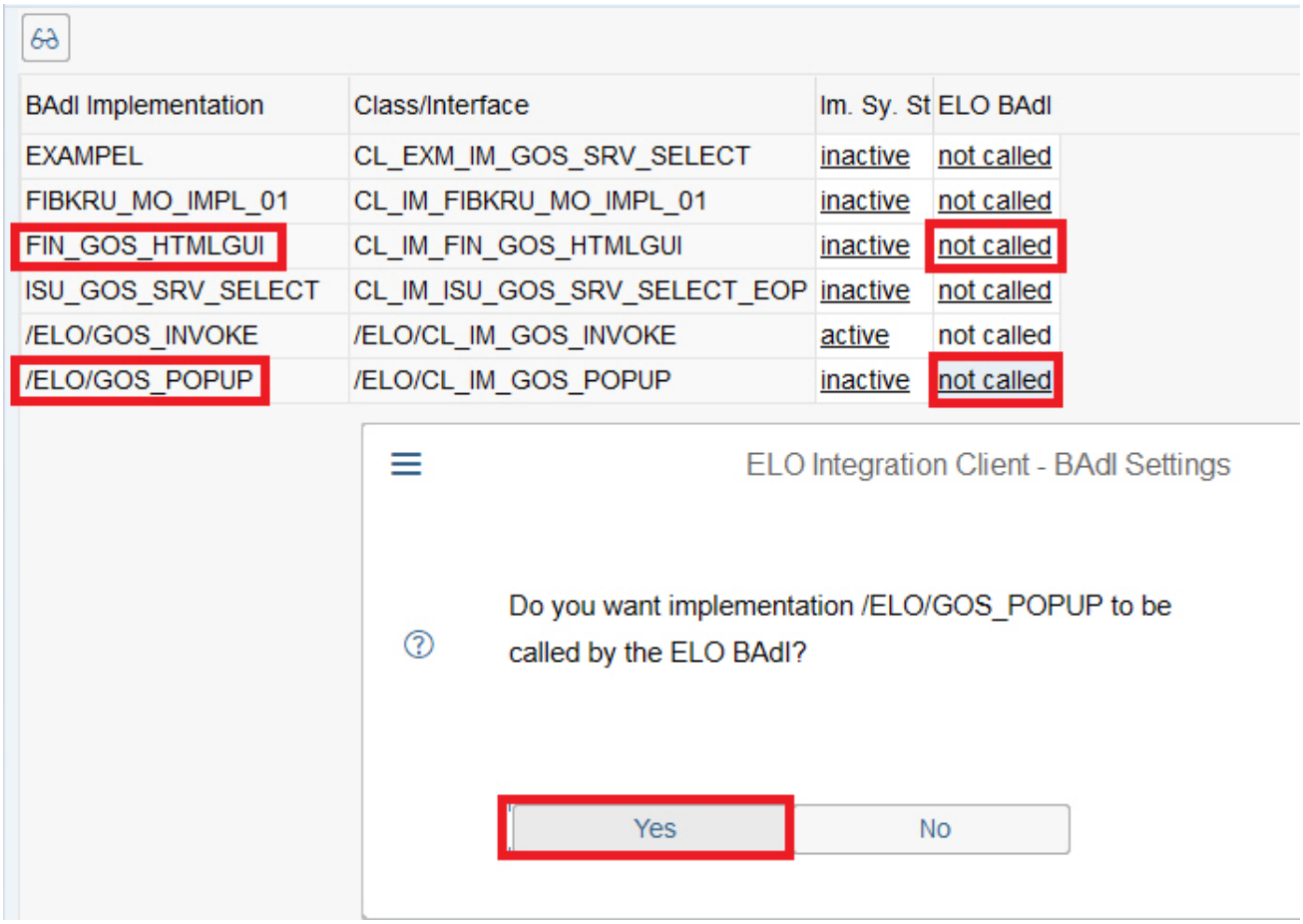
Activating the BAdI implementation '/ELO/GOS_INVOKE'



As there is currently no implementation active, you can activate the BAdI implementation */ELO/GOS_INVOKE* provided by ELO.

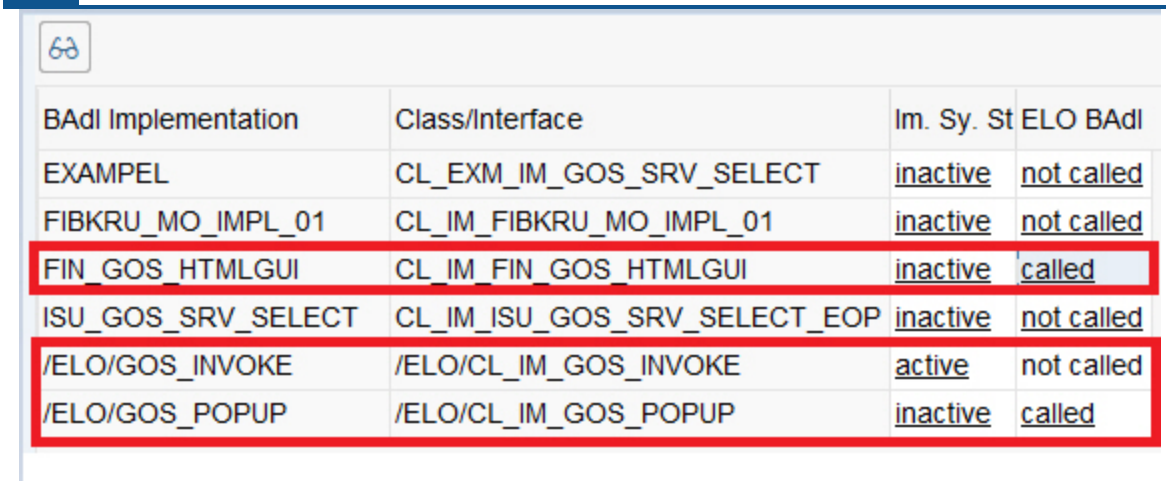
1. Click *inactive* in the entry */ELO/GOS_INVOKE* in the corresponding line of the `Im. Sy. St.` column to activate the implementation.
2. Confirm the activation with *Yes*.
3. Save the settings in the SAP transport request you just created.

Activating the BAdI implementation via the ELO BAdI



You are now able to activate the required BAdIs but they are now called with the *ELO BAdI /ELO/GOS_INVOKE*.

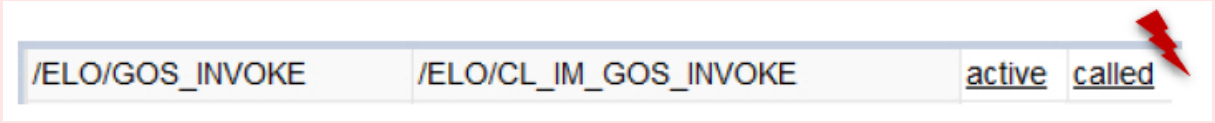
1. Click the entry *not called* in the corresponding line in the `Call via ELO BAdI` column and confirm your input.
2. Save the settings in the SAP transport request you just created.
3. Repeat the steps for the second BAdI implementation you require. In this case, *FIN_GOS_HTMLGUI*.



BAdI Implementation	Class/Interface	Im. Sy. St	ELO BAdI
EXAMPEL	CL_EXM_IM_GOS_SRV_SELECT	inactive	not called
FIBKRU_MO_IMPL_01	CL_IM_FIBKRU_MO_IMPL_01	inactive	not called
FIN_GOS_HTMLGUI	CL_IM_FIN_GOS_HTMLGUI	inactive	called
ISU_GOS_SRV_SELECT	CL_IM_ISU_GOS_SRV_SELECT_EOP	inactive	not called
/ELO/GOS_INVOKE	/ELO/CL_IM_GOS_INVOKE	active	not called
/ELO/GOS_POPUP	/ELO/CL_IM_GOS_POPUP	inactive	called

The two BAdI implementations are now executed in the BAdI settings via the BAdI implementation */ELO/GOS_INVOKE*.

Warning



/ELO/GOS_INVOKE	/ELO/CL_IM_GOS_INVOKE	active	called

Make sure that the implementation */ELO/GOS_INVOKE* does not call itself as this would result in an infinite loop.

SAP Screen Personas

Information

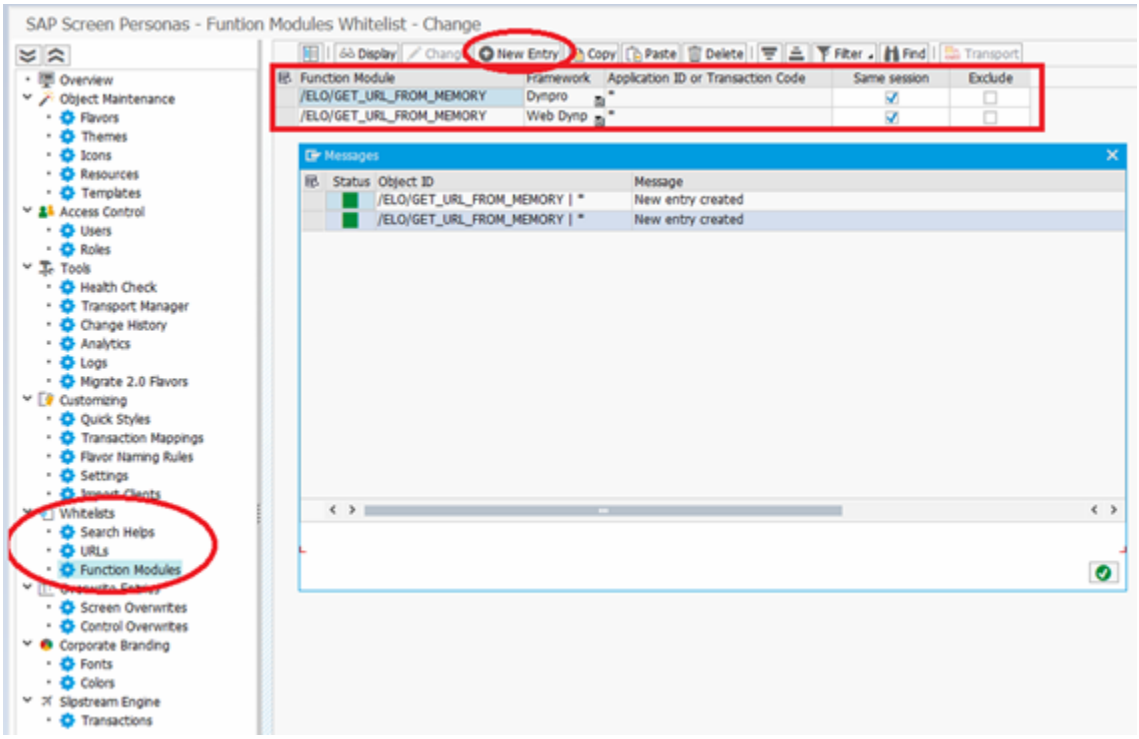
"SAP Screen Personas 3.0 provides customers flexibility to personalize and transform screens to suit their business needs. It gives business users and IT users the ability to meet the need for rapid screen changes, delivering improved user experience, and increased work efficiency. Personalization happens via flavors, which are customized views of a screen. A flavor is related to one (and only one) transaction, and allows the user creating it to change the layout of the screen, hide unnecessary elements, add custom elements, and automate keystrokes and other user actions." (Source: SAP Help Portal)

As already explained, the ELO Integration Client can also be embedded directly in an SAP transaction within the SAP GUI for Windows (SAP GUI). This chapter describes an example implementation using SAP Screen Personas.

Please note

This implementation was done with SAP Screen Personas version 3 and service pack 6. The steps in other versions may differ from this documentation. It is also possible that certain functions are not available in older versions.

Administration configuration



Before you start, you must have created a configuration in the SAP Screen Personas administration interface, which is called via transaction */n/Personas/admin*.

1. Select the *Function Modules* entry under *Whitelists*.
2. Click *New Entry*.
3. Create the following two entries:
    1. Dynpro:

Function Module	`/ELO/GET_URL_FROM_MEMORY`
Framework	`Dynpro`
Application ID ...	*
Same session	Check box

> **Information**
>
> "Dynpro is an abbreviation for 'dynamic program'. A dynpro is a repository object and is always a component of an ABAP program. It consists of the screen with its screen

elements and the dynpro flow logic. Dynpro fields are assigned to the screen elements." (Source: SAP Help Portal)

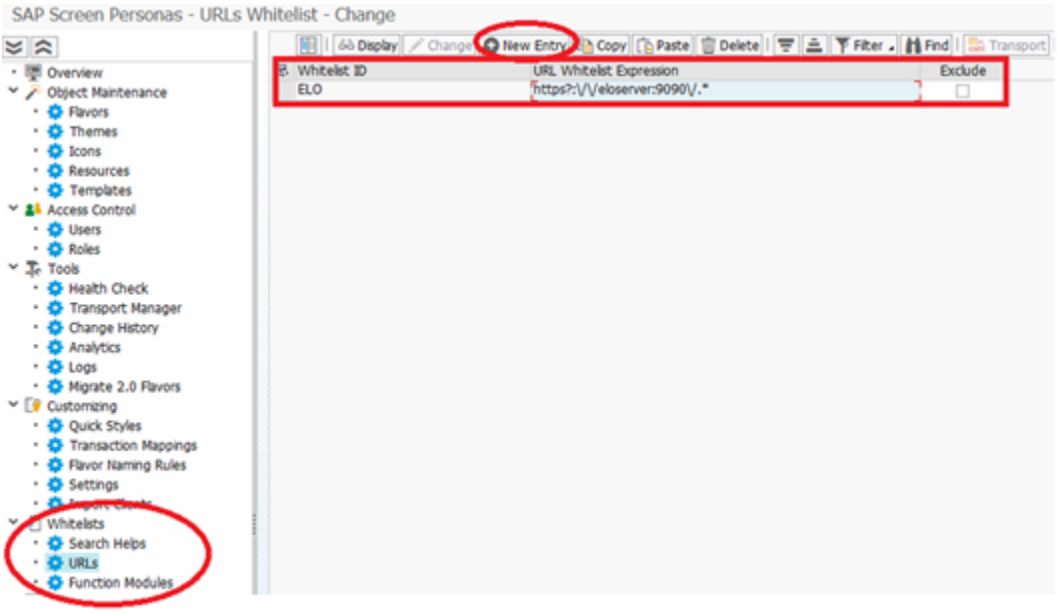
2. Web Dynpro

Function Module	`/ELO/GET_URL_FROM_MEMORY`
Framework	`Web Dynpro`
Application ID ...	*
Same session	Check box

Information

"Web Dynpro for ABAP or Web Dynpro for ABAP (WD4A, WDA) is the SAP standard UI technology for developing Web applications in the ABAP environment. It consists of a runtime environment and a graphical development environment with special web dynpro tools that are integrated in the ABAP Workbench (SE80)." (Source: SAP Help Portal)

Since developments in SAP Screen Personas are always based on SAP GUI for HTML (WebGUI), it is important to create both entries here. You also need to select the check box next to *Same session*.



4. Create a new entry for access to the ELO server in the *URLs* menu item under *Whitelists*. Under the *URL Whitelist Expression* parameter, define the connection to the URL with regular expressions. Click the *New Entry* button and enter the required data.

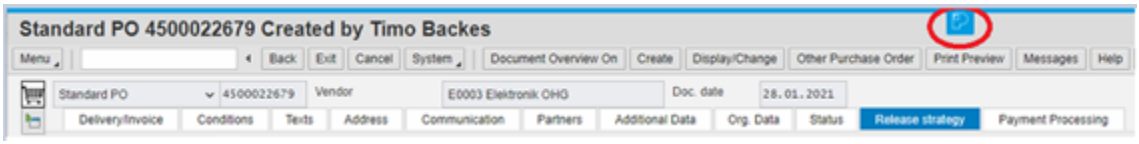
Whitelist ID	`ELO`
URL Whitelist Expression	`https?:\/\/eloserver:9090\/.*`

Replace *eloserver* with the name of the ELO system you are using and *9090* with the ELOwf port or, if using a proxy, the ELO Indexserver port.

Flavors development

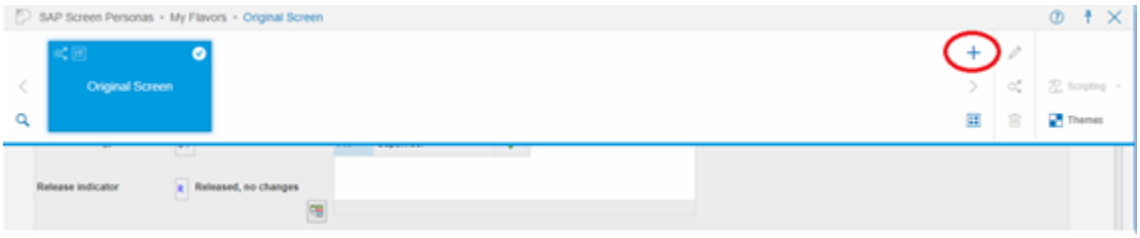
1. As developments in SAP Screen Personas can only be done in WebGUI, you have to switch to the SAP webgui using the transaction code *webgui*.

2. Switch to the transaction in which you want to embed the ELO Integration Client. This implementation example uses the transaction *me23n – Display purchase order*.



A blue line appears at the top of the transaction window. If you hover over this blue line, the SAP Screen Personas icon appears.

3. Click the icon to open the *SAP Screen Personas – My Flavors – Original Screen* window.

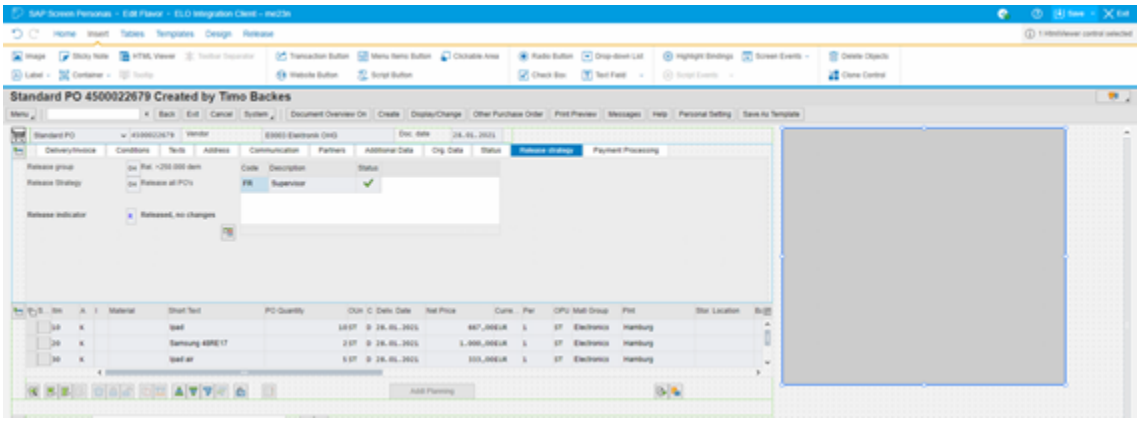


4. To create a new flavor, click the plus icon and enter a name and a description for the flavor. In this example, we used the following data:

   Name: ELO Integration Client – me23n

   Description: ELO Integration Client – Purchase Order me23n

5. Save the name and description.



The SAP Screen Personas window switches to the *Edit Flavor – ELO Integration Client – me23n* menu.

6. Now you have to select where you want to embed the ELO Integration Client within the transaction. In the SAP Screen Personas menu, select *Insert* and then *HTML Viewer*.

   The *HTML Viewer* window opens.

7. Leave the *URL* entry blank and confirm with *Done*.

   A separate frame for the HTML Viewer appears, which you can now place on the screen of the transaction. You can also adjust the size of the frame.

   > **Information**
   >
   > You can also resize the individual transaction frames. Note, however, that frames contain other frames that you may also need to resize as a result.

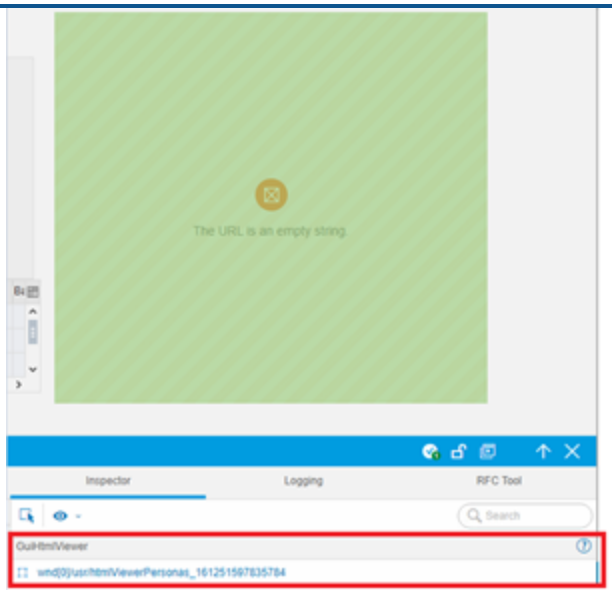
8. Save your settings with *Save* at the top right corner and select *Exit* to close editing mode.

Script development

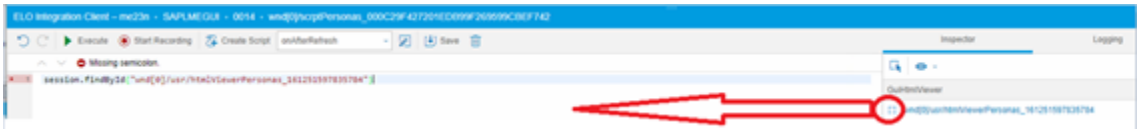
Once you have created the flavor, you need to create a script for it.

1. Open the *SAP Screen Personas* menu again.
2. Select the flavor you just created, *ELO Integration Client – me23n*, and click the *Scripting* button.
3. This opens a scripting window. Select the button *Create Script* here.

4. As we want the script to run when the transaction is refreshed (screen event), we will name the script here *onAfterRefresh*.
5. Next, we need to read the ID of the HTML viewer we just created. After creating the script, click *Inspector* and then the *Object Selector* icon.



6. Click the HTML viewer you just created to display the ID in the *Inspector* info area.



7. Use the icon to the left of the ID to transfer the value to the script window.

8. Copy the following script and correct the ID value of the HTML viewer (source code: `wnd[0]/usr/htmlViewerPersonas_161244953637589`) which you just applied.

```
try {
    var htmlViewer = session.findById("wnd[0]/usr/htmlViewerPersonas_161244953637589"

    var rfc = session.createRFC("/ELO/GET_URL_FROM_MEMORY");
    rfc.requestResults(["RV_URL"]);
```

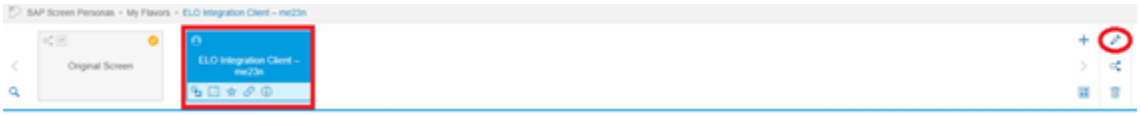
```
    rfc.send();
    var icUrl = rfc.getResult("RV_URL");
    if(!icUrl || !icUrl.length) {
        // todo: handling
        return;
    }
    var currentUrl = session.utils.get("RV_URL");
    if(currentUrl !== icUrl || !htmlViewer.url || !htmlViewer.url.length) {
        session.utils.put("RV_URL", icUrl);
        htmlViewer.url = icUrl;
    }

}   catch(e) {
    session.utils.log(e.message);
    console.log(e);
}
```

9. Use the *Save* button to save your changes.

10. You can test the previous configuration steps using the *Execute*.

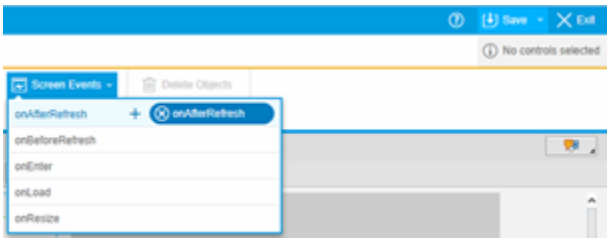
Assigning an event in a flavor



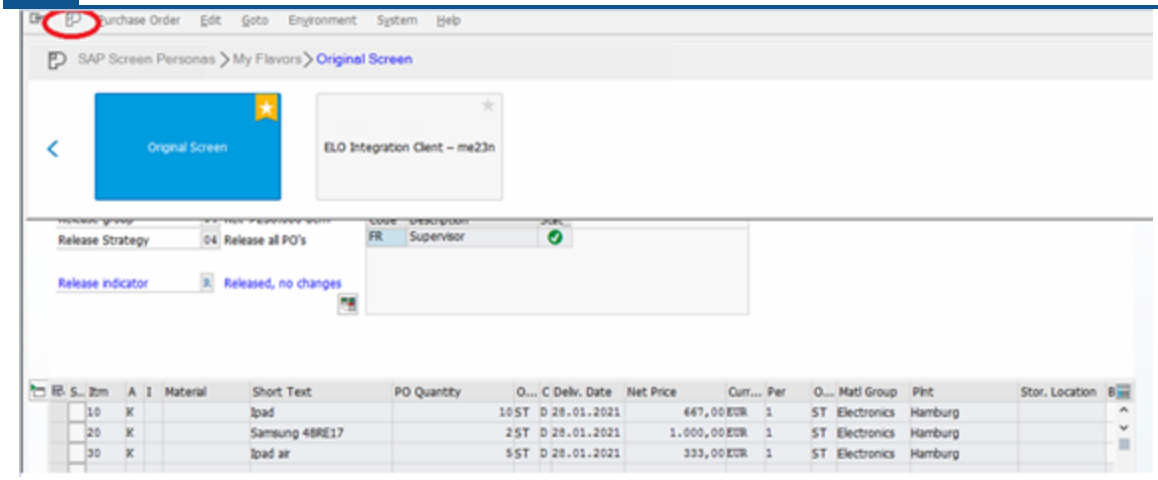
1. Close the *Scripting* window after you have saved the script. We recommend that you reload WebGUI and the transaction to configure the next steps.

2. In the previously configured transaction (*me23n* in this example), select the flavor you just created and click *Edit*.

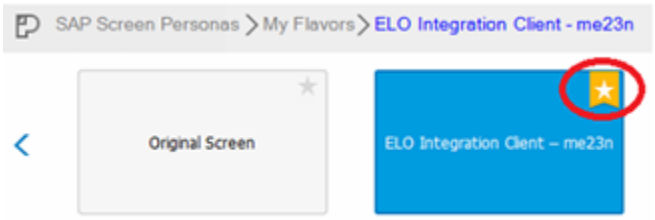
3. Switch to the *Insert* menu.



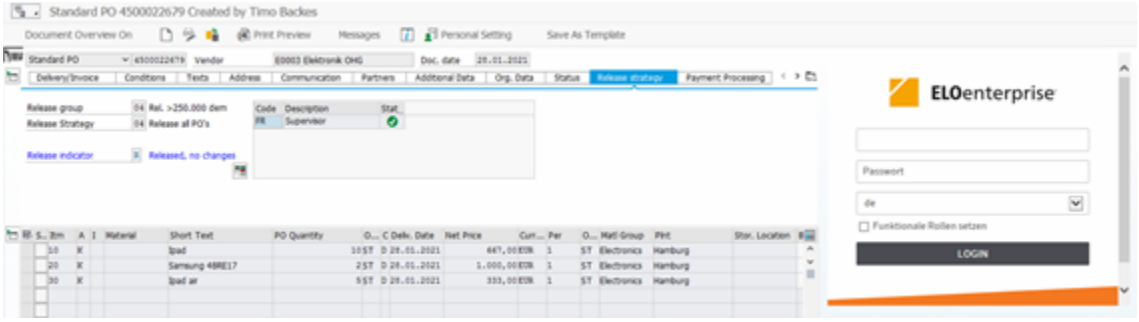
4. Under the *Screen Events* menu item for the *onAfterRefresh* event, select the script you just created (*onAfterRefresh* in this case) and save the entries using the *Save* button.



You have now completed the configuration for the transaction *me23n* and the flavor is available to users with the corresponding permissions in WebGUI and SAP GUI. The user can view the flavor by selecting the *SAP Screen Personas* icon.



The user can set this flavor as the default with the star icon.

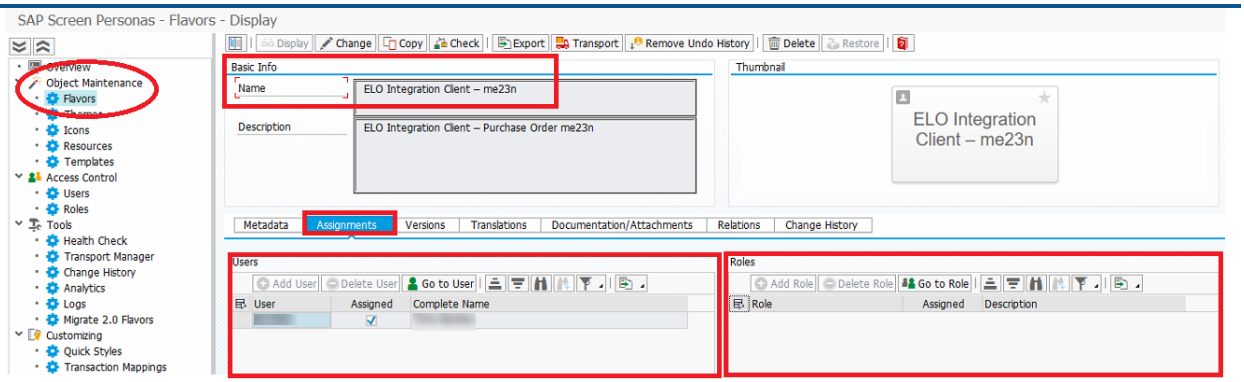


Note that the views in WebGUI and SAP GUI may be different. In particular, the size of the HTML viewer window may differ and so you may need to adjust the size.

Assigning SAP permissions

To give users access to the new flavor, you still need to assign the appropriate permissions or roles.

1. Switch to the administration interface of SAP Screen Personas using the transaction code */n/Personas/admin*.



2. Under *Object Maintenance*, search for the flavor you created and switch to the *Assignments* tab.

   You can assign permissions for users or SAP roles here.

3. Save your entries by selecting the floppy disk icon.

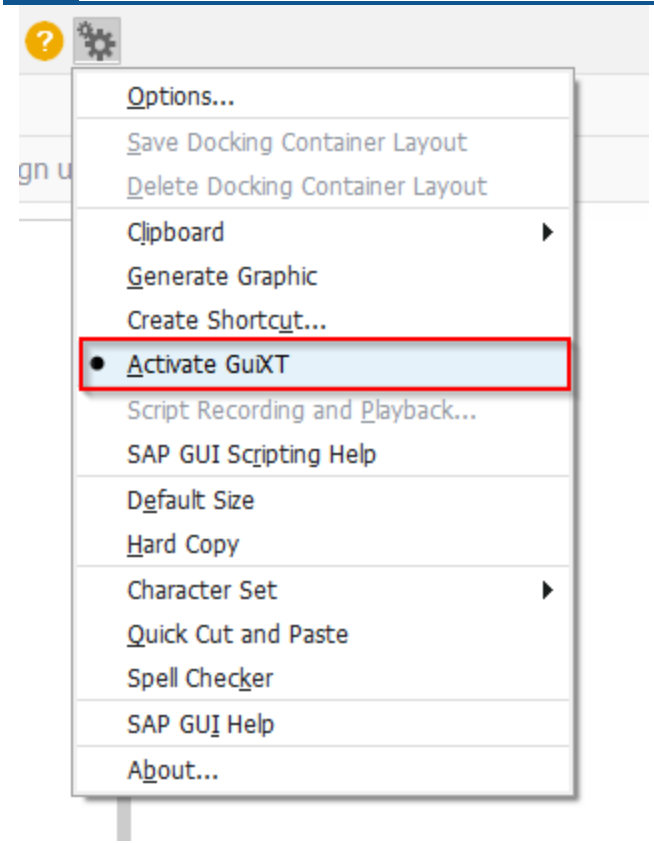
GuiXT

As an alternative to integration via custom SAP Screen Personas flavors, the ELO Integration Client can also be embedded directly in an SAP transaction within the SAP GUI for Windows (SAP GUI) using GuiXT. This chapter describes an example implementation using GuiXT.

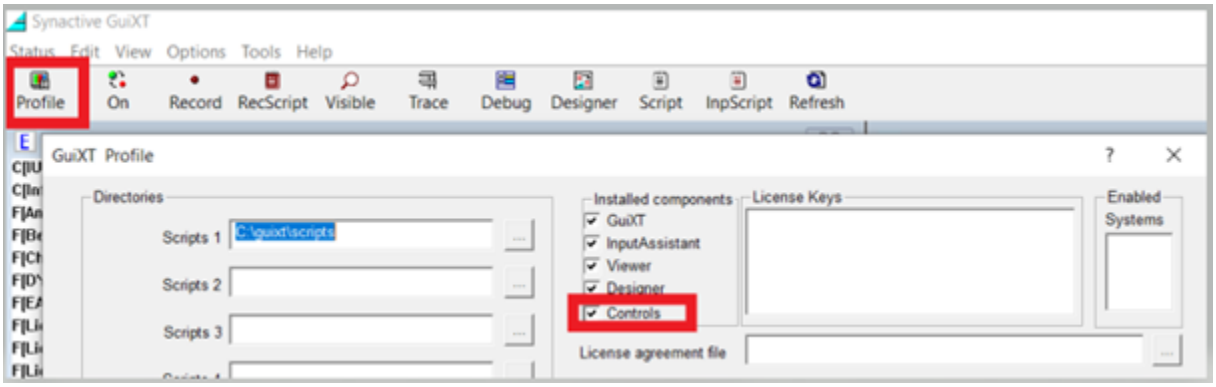
> **Information**
>
> GuiXT allows you to simplify SAP ERP forms and adapt them to the requirements of individual user groups without having to modify SAP programs or forms (dynpros). Source: Synactive.

Requirements

Certain requirements must be met if you want to use the ELO Integration Client in an SAP transaction with GuiXT.

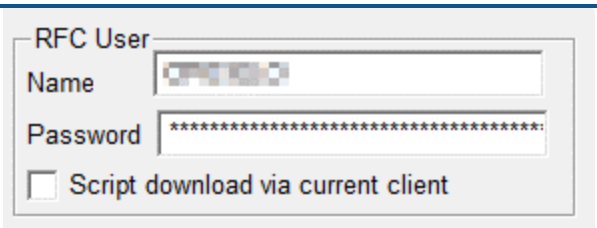


1. You need to activate GuiXT in your SAP client to allow the scripts to run.

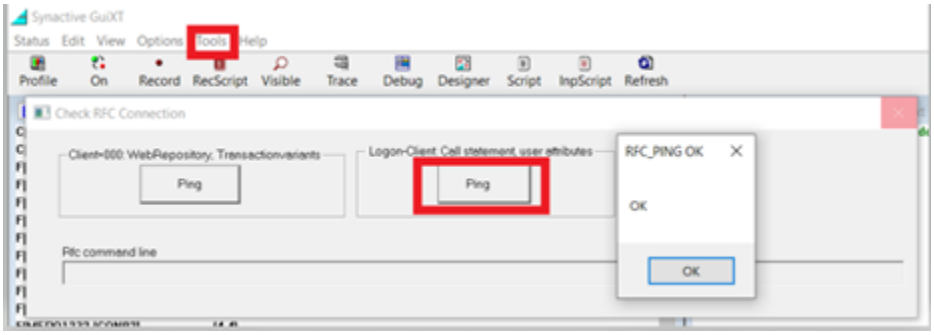


After you have activated the option, the GuiXT window opens.

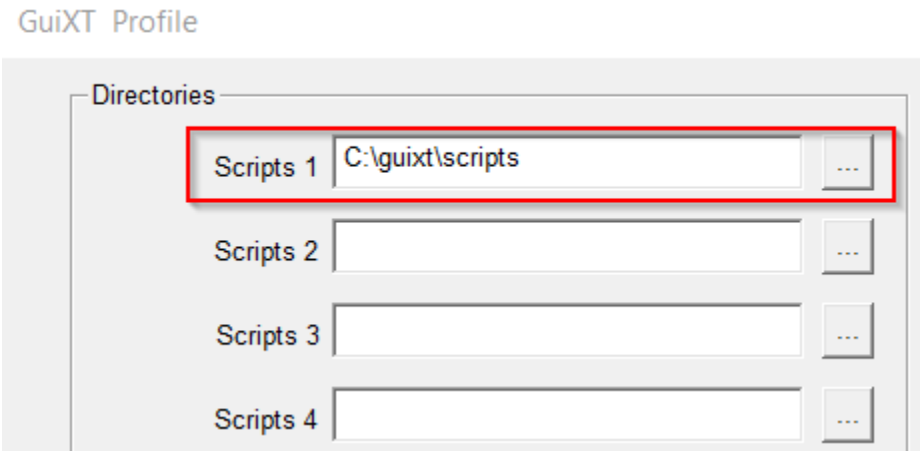
The following steps are required for the integration of the ELO Integration Client within SAP® ERP. This documentation is not GuiXT developer documentation, but requires prior knowledge of GuiXT. The additional component *Controls* is required. This can be purchased with a corresponding license from Synactive. The *Controls* component can be used to call external programs, functions, and scripts.



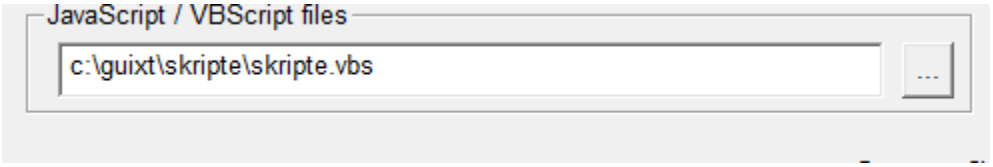
2. Set an RFC user with sufficient permissions in the GuiXT profile. You can view a list of the required permissions on the Synactive website.



3. The menu item *Tools > Check RFC Connection* can be used to check whether a connection can be established.



4. The path to the GuiXT scripts must be known, i.e. must have been created. This is where you will store the scripts used to execute GuiXT.



5. Furthermore, the corresponding path to an external VBS/JavaScript script file must be stored in the profile, since a VB script must also be included for the desired functionality in addition to the actual GuiXT script. If this file doesn't exist, it needs to be created.

   You need to modify the path and the name of the *.vbs* file to meet your own requirements.

Information

If you are already using GuiXT, use your script paths. You also have the option to use your existing scripts for transactions and adapt them where necessary.

VBScript development

1. Extend your *.vbs* file with the following function.

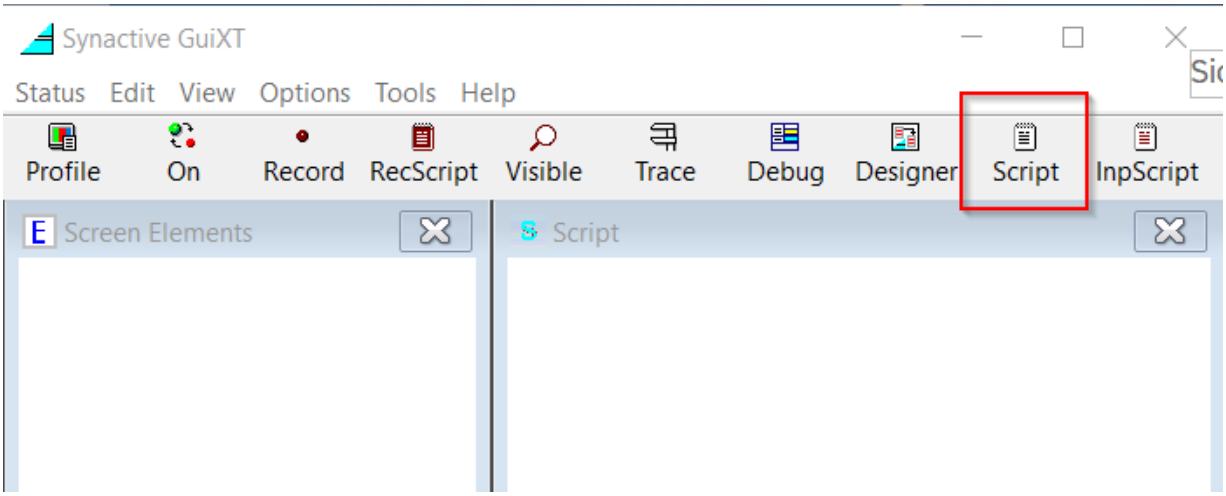
   Alternative: If the file doesn't exist, create a corresponding file with the following content.

```
Function ie_init(ie, url)
    ie.Navigate(url)
End Function
```

GuiXT script development

You need to create and maintain a GuiXT script for each SAP transaction you are going to use the ELO Integration Client in. The following script can be used as a template for additional transactions.

1. Switch to the transaction in which you want to embed the ELO Integration Client. This implementation example uses the transaction *me23n – Display purchase order*.



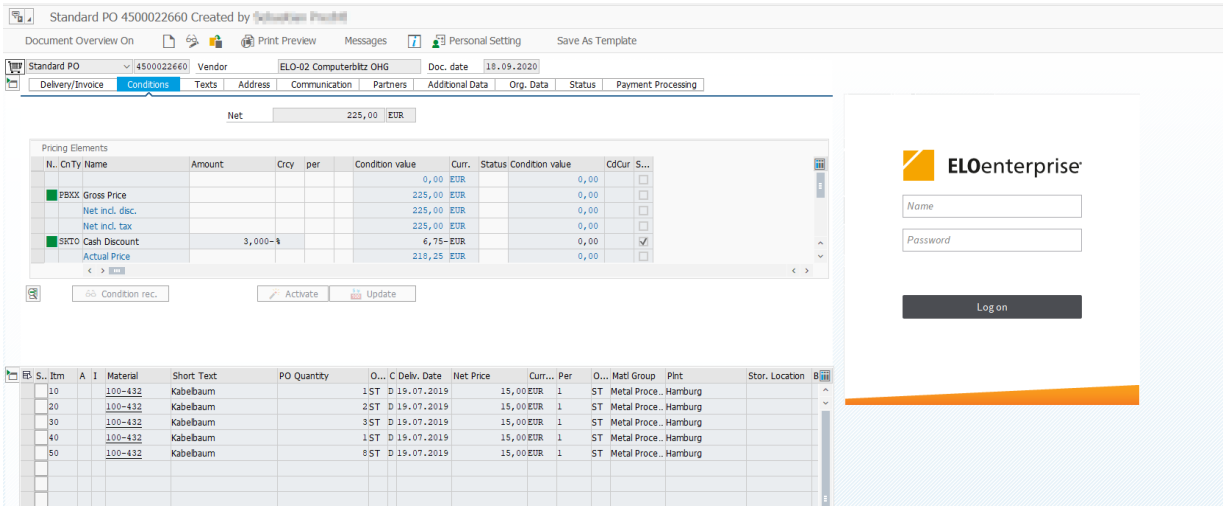
2. Start transaction *me23n* and select the *Script* entry in the GuiXT window. This opens the GuiXT editor for the corresponding SAP dynpro. Enter the code here.

```
Set V[busobj] "BUS2012"
Set V[objID] &F[MEPO_TOPLINE-EBELN]

Call /ELO/GET_URL_FROM_BO cache="transaction" in.IV_SAP_OBJECT=&V[busobj] in.IV_OBJEC
box (0,165) (15,200) //"ELO Integration Client"
Control (0,165) (15,200) progid="Shell.Explorer" name="elo_client"
```

```
CallVbs ie_init "&V[elo_client]" "&V[url]" //“the VB script is called here
connectHTML object="&V[elo_client]"
```

You can change the position and size of the ELO Integration Client by adjusting the coordinates of the `box` and `control` elements.



3. Save your file and go back to the transaction you just customized.

   You should now be able to see the ELO Integration Client.

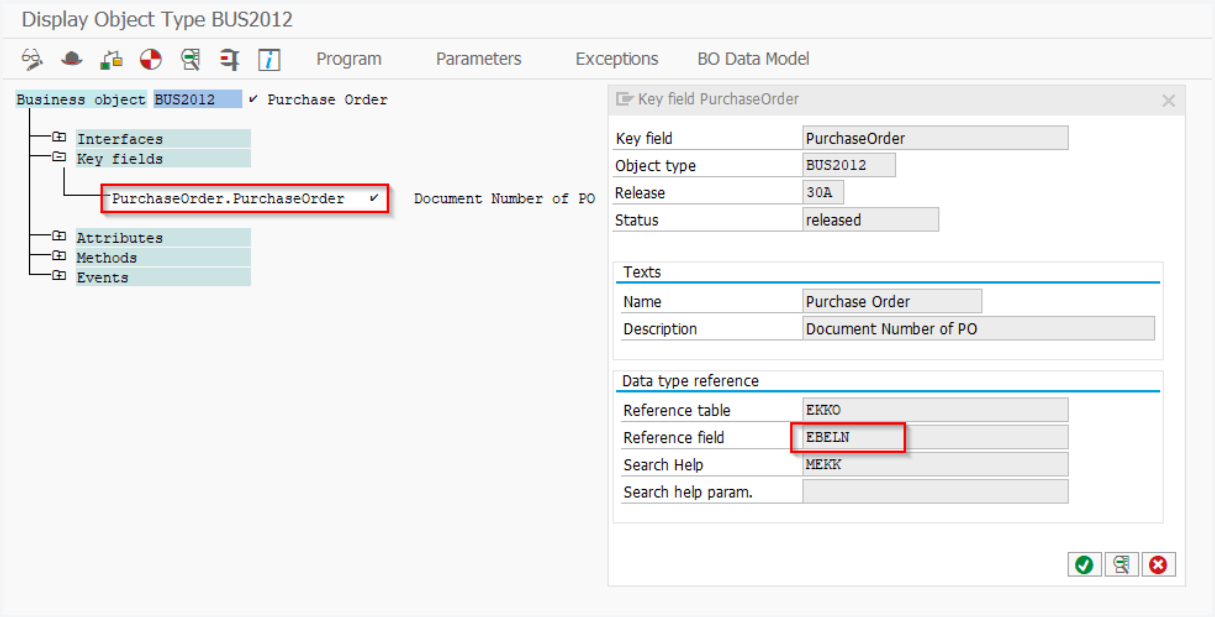
Information

If you want to integrate the ELO Integration Client in other transactions, you have to modify the BUS object (`busobj`) and the object ID (`objID`) in the respective script accordingly.

```
Set V[busobj] "BUS2012"                          //<- the desired BUS object
Set V[objID] &F[MEPO_TOPLINE-EBELN]              //<- the ObjectID
```


Business Object Repository Browser: Display
Nodes
Subtree
Displayed object types: Complete Business Object Repository (only transportable)
Displayed relationship types: passes to/contains
SAP Business Information Warehouse
Cross-Application Components
Data Quality Management
Enterprise Portal
Customer Relationship Management
Web Channel
Enterprise information management solutions
Accounting - General
Financial Accounting
Financials
Financial Services
Governance, Risk and Compliance
SAP HANA
Knowledge Management
Treasury
Controlling
Investment Management
Enterprise Controlling
Real Estate Management
Incentive and Commission Management (ICM)
Logistics - General
Manufacturing
Sales and Distribution
Materials Management
/KYK/CONTR Outline Agreement (Contract)
/KYK/IDOC Invoice Document
/KYK/INFRC MM Info Record
/KYK/MAT Operations on Material Master
/KYK/MDOC Material Document
/KYK/PO Kayak MM Purchase Order
/KYK/SOURC Operations on Source List
/KYK/VEND Kayak MM Vendor
BBPBUS2081 EBP Incoming Invoice
Consumption-Based Planning (See Also PP-MRP)
Purchasing
BUS0007 Purchasing Organization
BUS2009 Purchase requisition item
BUS2010 Request for quotation
BUS2011 Vendor quotation
BUS2012 Purchase Order
BUS2013 Purch.scheduling agreement
BUS2013002 Purchase scheduling agreement release
BUS2014 Purchase contract
BUS2052 Outline purchase agreement
BUS2053 Source list
BUS2105 Purchase requisition
BUS2161 Purchase Order - Accounting Share
BUS2162 Accounting Share of Purchase Scheduling Agreement
BUS3003 Purchasing information
EKKO Purchasing document
IDOCBLAOCH IDoc for contract changes
IDOCBLAORD IDoc for contracts
IDOCBLAREL IDoc for release order statistics for distributed contracts
IDOCINFREC IDOC for purchasing info record
IDOCREQRES IDoc for purchase requisition/reservation
IDOCSRCLST IDOC for order book
IDPKBLAOCH IDoc packet with message type BLAOCH
IDPKBLAORD IDoc packet of message type BLAORD
IDPKBLAREL IDoc packet of message type BLAREL
IDPKINFREC Packet of IDOCs with message type INFREC
IDPKREQRES Packet of IDOCs with message type REQRES
IDPKSRCLST Packet of IDOCs with message type SRCLST
T024 Purchasing group

You will find a corresponding overview via the SAP transaction *SWO3*.



You can find the required object ID structure in the respective BUS object.

Configuring ELO Toolbox in SAP

Applications in the ELO Toolbox in SAP

- Easy storage in SAP
  - Upload selected file(s) from Explorer
  - Upload selected mail(s) from Outlook
- ELO Integration Client

can be activated/deactivated or hidden as required based on user roles. This makes sense, for example, if there are different groups of users in SAP. I.e. those who should have access to the Integration Client, and those who should not use it and therefore should not be able to view it.

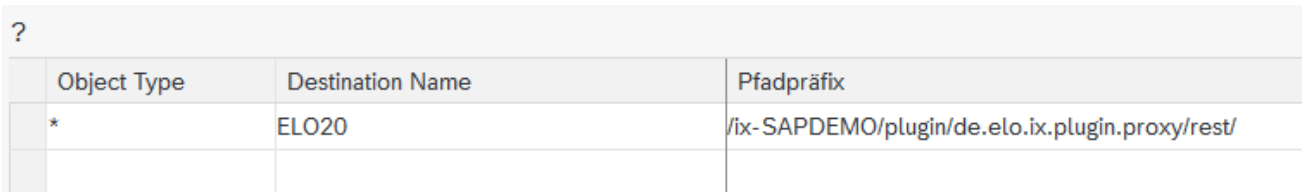
Up to version 1.0.8

This functionality is not available in all versions of the ELO Toolbox for SAP® ERP < 1.0.8.

From version 1.0.8

To configure which applications should be activated/deactivated or switched to hidden for a user group, a configuration must be made using the transaction */N/ELO/TB_CONF*. This configuration is empty as default, and therefore all applications in ELO Toolbox for SAP® ERP are available to users.

The basis for the configuration table looks like this:



Name	Meaning
Application	Application in the toolbox to which the configuration should be applied.
Object type	Bus object for which the entry is valid
Role	Role used to identify the *user group* and for which the entry should be applied
inact. stat	Behavior of the assigned application in the affected object to the associated user role in the case *inact.stat*
act.status	Behavior of the assigned application in the affected object to the associated user role in the case *act.status*

> **Information**
>
> The column *inact. stat* controls how the application should behave if the object is either not available (for example, the *Purchase order* object has not yet been saved) or if the user

does not have valid permission based on their user role. There is no permission if the used role is not assigned or it has expired.

The column *act.status* determines how the application should behave if the user has the appropriate permission and the object is available.

The user roles must first be created to configure which user can use which applications. These user roles can then be added to the user in the user master record (transaction: su01).

Example for determining the valid entry using the Integration Client

ELO Toolbox configuration

Application	Object Type	Role	inact.stat	act.status
ELO GOS Integ…	*	*	Inactive	Inactive
ELO GOS Integ…	*	Z_IC_ELO	Inactive	Active
ELO GOS Integ…	BUS2012	*	Inactive	Active
ELO GOS Integ…	BUS2012	Z_IC_ELO	Inactive	Active

In the following example, we explain how the most precise match can be compared to the roughest match to control the corresponding application, depending on the set status:

1. First, the biggest object type and role match is sought for each set application. In our example, ELO Integration Client is shown as available for selection in the toolbox if the object type is *BUS2012* and the role *Z_IC_ELO* has been added to the user's master record. If the object has the status inactive then the ELO Integration Client entry is switched to inactive.

2. If no results are found, a check is performed to determine whether an entry with the available object type and role * exists.

3. If there is no match here either, a search is performed for a result for the object type * and the suitable role *Z_IC_ELO*, therefore, the respective value given (inactive/active/hidden) is applied independently of the object type.

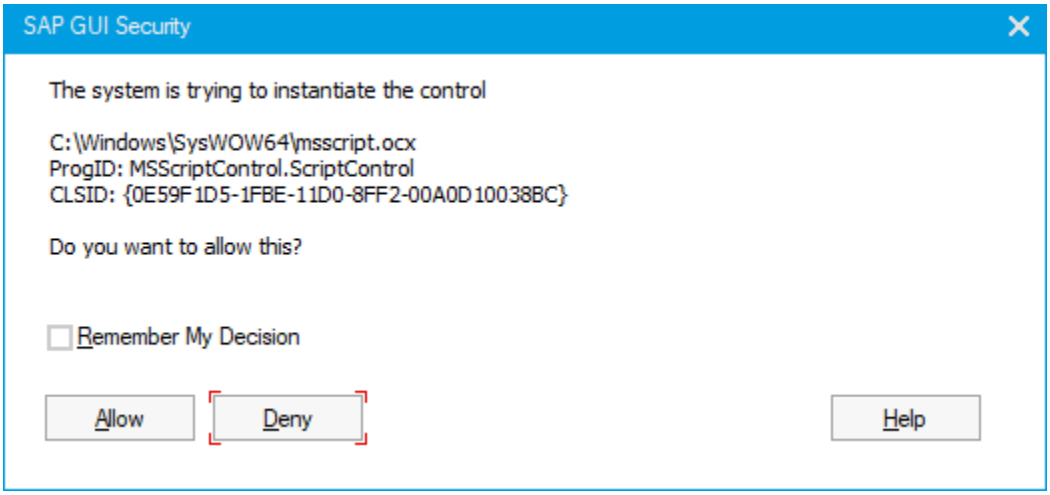
4. If there is no match there either, a result for the object type * and the role * is sought, therefore the respective value given (inactive/active/hidden) is applied independently of the object type and independently of the role.

5. If no matching entry is found, because no entry exists for object type * and role *, the application is shown as default.

Information and tips

This chapter contains additional useful information. You will learn how to disable security information in the SAP GUI as well as how to store documents with Generic Object Services.

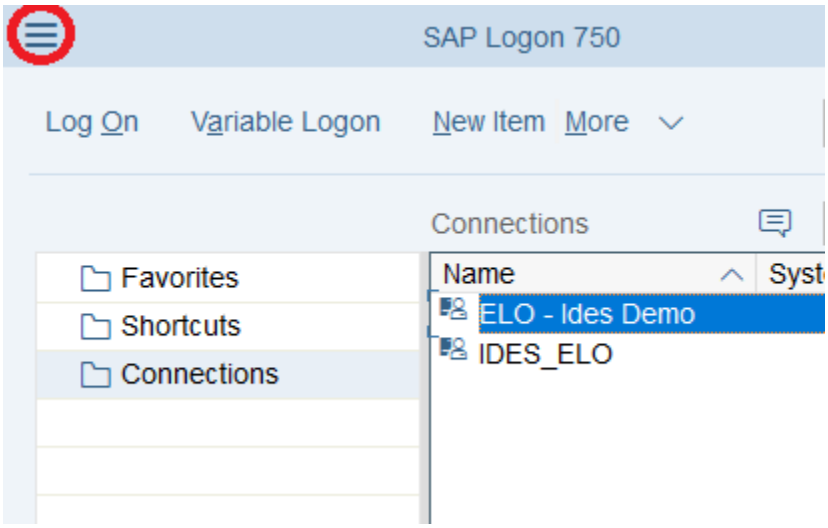
Security information in the SAP GUI



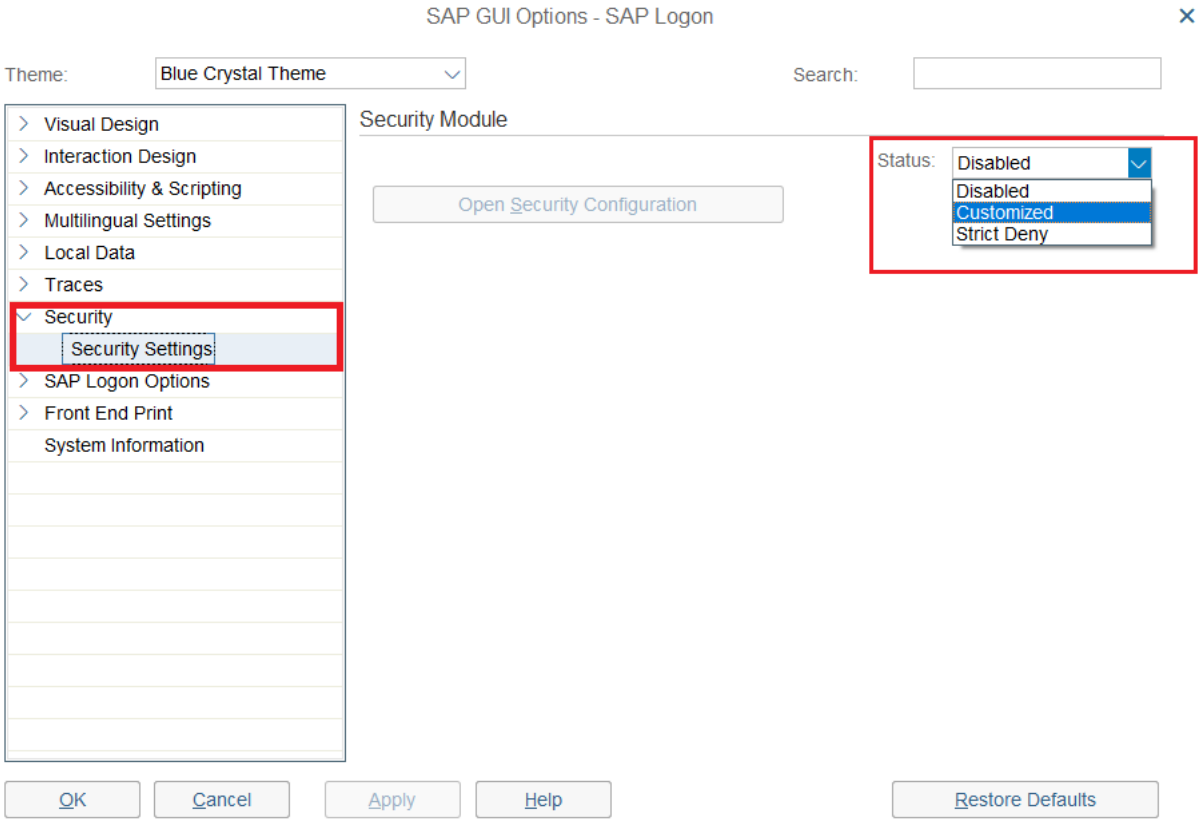
When using the *Upload selected file(s) from Explorer* and *Upload selected mail(s) from Outlook* functions, a security prompt may appear depending on how the local SAP GUI client is configured.

1. With the *Allow* button, you enable the function to upload a document.
2. Check the box next to *Remember My Decision* to prevent the message from appearing again.

However, the security prompt is file-dependent in this case: If the user opens a document from within another transaction, the security prompt will appear again. The local system administrator can choose between two SAP GUI settings to disable the message.



1. Open the *Options* menu item for your SAP logon using the menu icon.



The *SAP GUI Options– SAP Logon* dialog box opens.

2. On the left side of the dialog box, select *Security* > *Security Settings*. Now, you can choose one of the three status options.

> **Information**
>
> The status option *Strict Deny* blocks use of ELO Toolbox.

Security module – 'Disabled' status

If you set the status to *Disabled*, no security check is performed when uploading documents. The security prompt is therefore also disabled and no longer shown to the user.

Security module – 'Customized' status

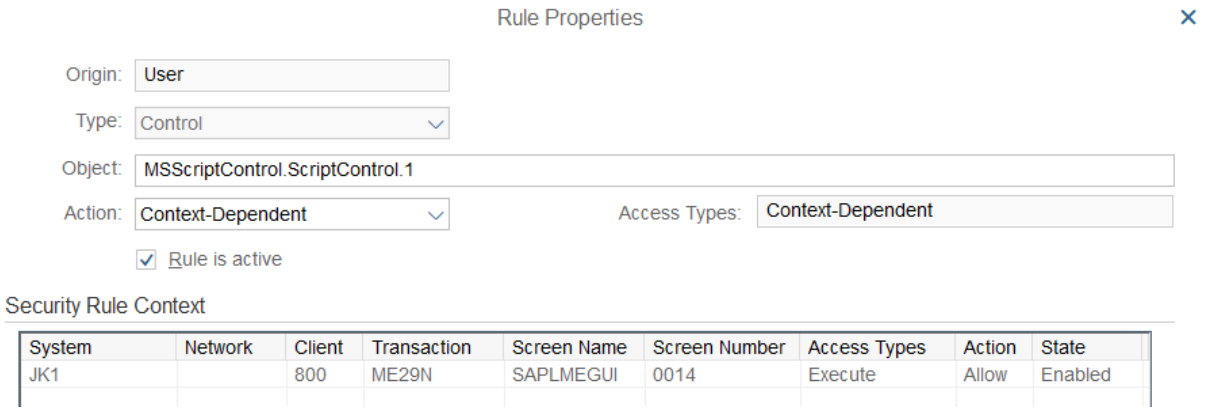
Once you have set the status to *Customized*, you can adjust other settings by selecting the *Open Security Configuration* button.

Prio...	Object	Type	Access Types	Action	St
724	/H/10.49.110.187/S/3200	Command Li	Execute	Cont...	Enabl
725	elo.enterprise.1	Control	Execute	Cont...	Enabl
726	elo.enterprise.1	Control	Execute	Cont...	Enabl

If you set *Remember my Decision* to disable the previous security prompt, the security configuration will already contain two entries.

The *MSScriptControl.ScriptControl.1* entry stands for the script call within SAP. This entry is transaction-independent.

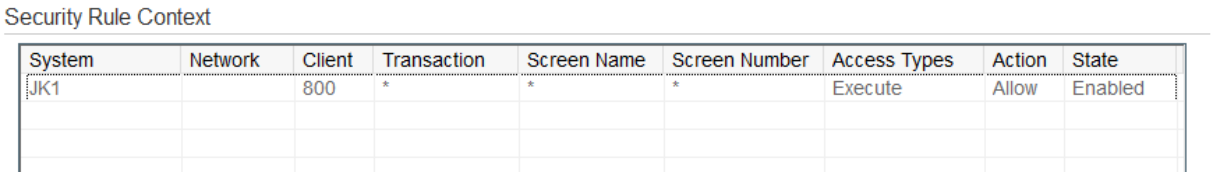
1. Double-click it to see the entry details.



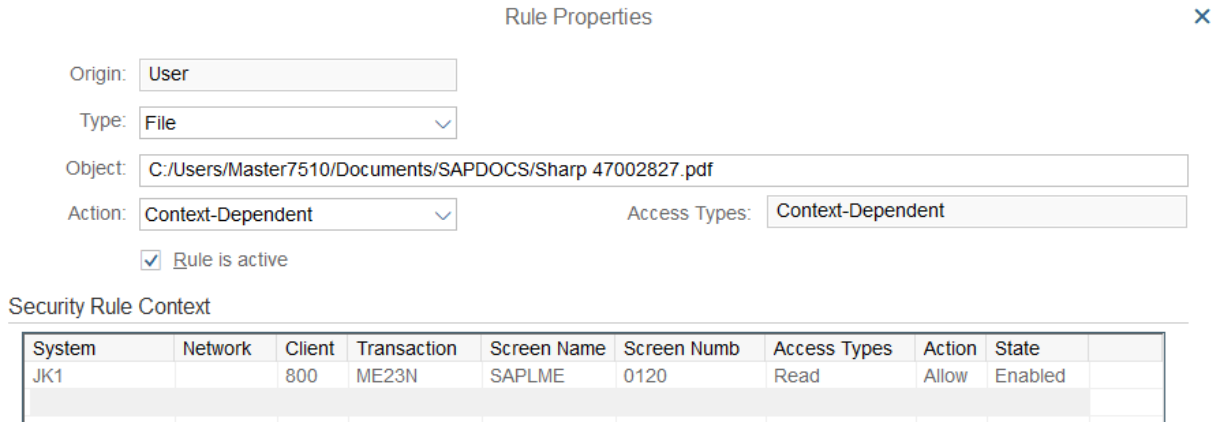
   In this example, the call was performed via transaction *ME23N – Display Purchase Order*.

2. To make sure this message shows up for every further transaction/screen, in the table, click the *Transaction* field and enter an asterisk (*) in place of the transaction code (`ME23N`).

3. Also replace the entry next to *Screen Name* and *Screen Number* with *.

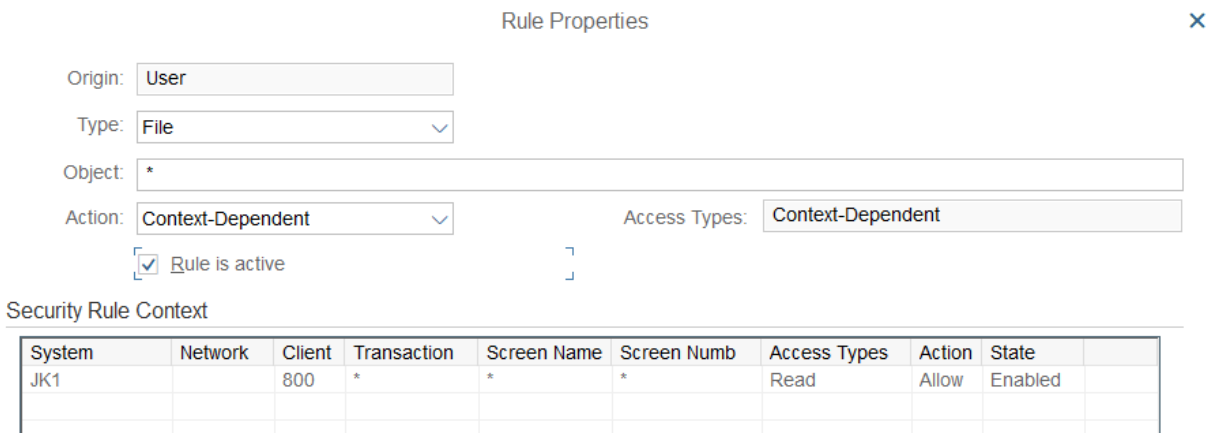


   In the example below, a PDF file was uploaded from the following path: *C:/Users/<user name>/Documents/SAPDOCS/Sharp 47002827.pdf*



This entry now exists in the security configuration. You have the option to add individual file types or enable all data types.

4. Double-click the entry to do this.



5. To enable all file types for all transactions, go to the *Object* field and replace the specified path with an asterisk (*).

   Alternative: If you only want to enable PDF files without a security prompt, enter `*.pdf` here.

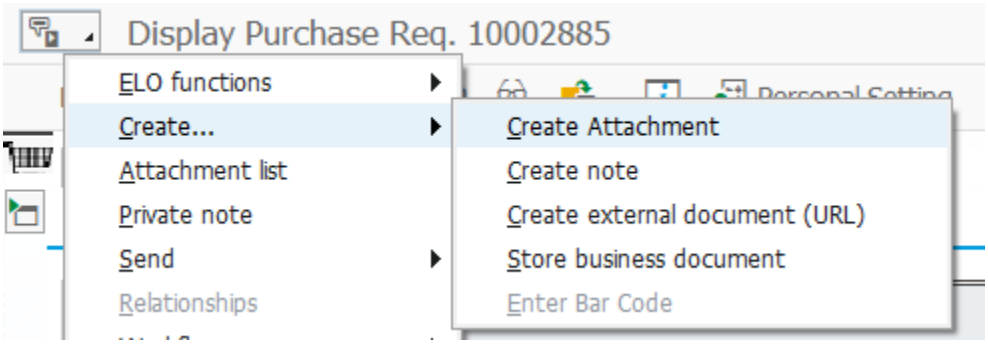
6. In addition, the values in the table fields *Transaction*, *Screen Name*, and *Screen Number* must be changed to an asterisk *.

> **Information**
>
> The settings made here depend on the system and client. If needed, they can also be replaced with an asterisk (*).

If these two settings have been made, the security prompt is no longer shown to the SAP GUI user. Deleting these entries restores the state on initial installation.

Disable – Create Attachment

In standard SAP, it is possible to file documents in the Generic Object Services.

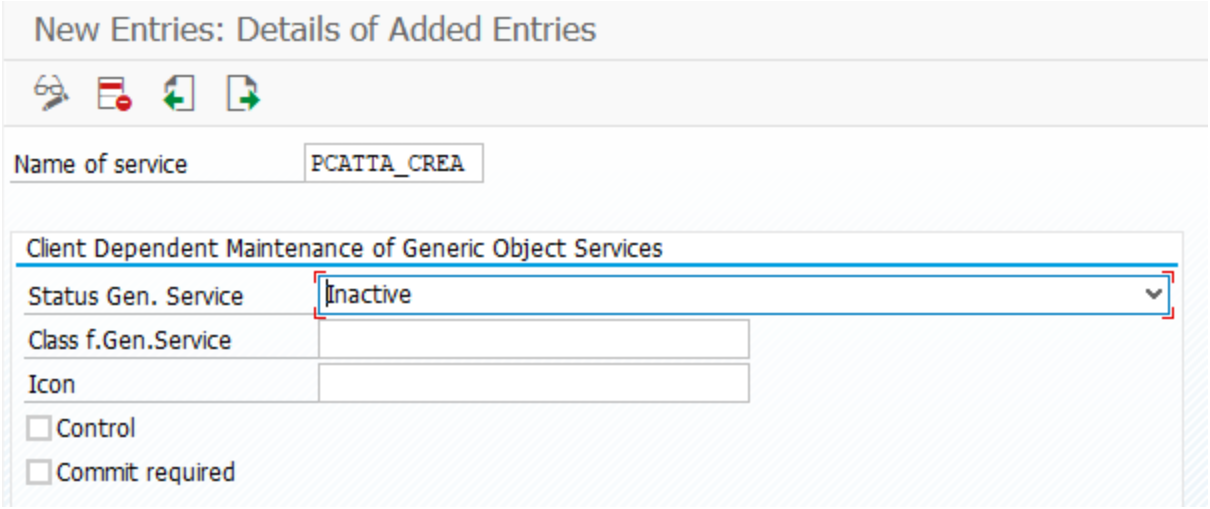


1. In the Generic Object Services menu, go to *Create... > Create Attachment*.

In this form of filing, the document is not filed to ELO or a repository/content server, but instead straight to the SAP database. No link entry is written to the TOA tables.

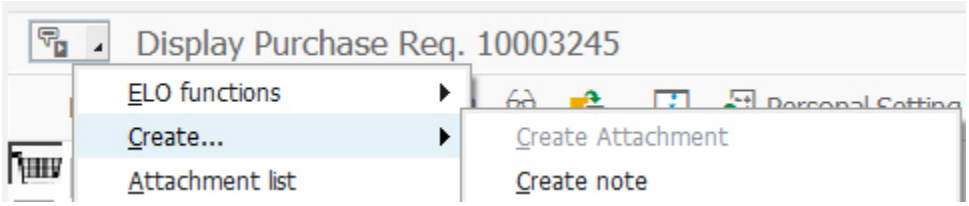
However, it is also possible to disable this function and restrict users to ELO Toolbox or the standard SAP method via *Store business document*.

1. Now, switch to SAP transaction *SGOS* and select *New Entries*.



Name of service: `PCATTA_CREA`

Status Gen. Service: *Inactive*



After saving the settings, the *Create Attachment* function is disabled for all transactions in the Generic Object Services. You also have the option to mark the entire entry as invisible.