



GALSYNC® v8.5

Quick Start Guide

NETsec

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Introduction

GALsync

GALsync synchronizes the Global Address List (GAL) between different Exchange environments, which can be on-premises Exchange environments or Exchange Online of Microsoft 365 tenants.

For each Exchange environment, you can configure which mail-enabled objects will be synchronized as mail-enabled contacts to the other Exchange environments. Also, you can configure how the received mail-enabled objects from the other Exchange environments will be synchronized as mail-enabled contacts to your own Exchange environment.

This will make the mail-enabled objects from the other Exchange environments visible as contacts in the Global Address List (GAL).

This **Quick Start Guide** describes with examples how to create an **Environment Configuration** for an Exchange environment and how to configure the policies for export and import between two Exchange environments.

For more information about different synchronization scenarios and the configuration settings, please take a look at the GALsync manual.

GALsync Documentation

<https://www.netsec.de/en/products/galsync/documentation.html>

contactSync

contactSync synchronizes contacts contained in a Shared Mailbox or in a modern Public Folder into users' mailboxes in the same Exchange environment.

It also synchronizes the Global Address List (GAL) into users' mailboxes, that are in the same environment. Mail-enabled objects in an on-premises Active Directory can be synchronized into Exchange mailboxes in the same Exchange environment and mail-enabled objects in a Microsoft 365 tenant can be synchronized into Exchange mailboxes in the same Exchange environment.

contactSync synchronizes the contacts into a subfolder within the user's mailbox contacts.

Please take a look at the contactSync documentation for additional information.

contactSync Documentation

<https://www.netsec.de/en/products/contactsync/documentation.html>

Prerequisites

System Requirements

Components	Required
OS (64Bit)	Windows Server 2016 Windows Server 2019 Windows Server 2022 Windows Server 2025
Hardware	Processor: minimum dual core RAM: minimum 4GB
Software	.NET Framework 4.8.0 or later Windows PowerShell 5.1 and ExchangeOnlineManagement PowerShell module version 3.6 or later for Exchange Online PowerShell V3
Recommendations	Exchange On-Premises: We recommend to install GALsync on a member server within the domain (e.g., dedicated GALsync server or file server). The machine should be uncritical (e.g., may be restarted without complications). The GALsync server must have a high bandwidth connection to the DC/GC. Exchange Online: See recommendations for on-premises; but you can use also a standalone computer.
Supported Exchange Versions*	Exchange 2013* SP1 and later Exchange 2016* and later Exchange 2019* and later Microsoft 365 Exchange Online

** Microsoft will be stopping support for Exchange 2026 and Exchange 2019 on the 14th October 2025.*

Microsoft stopped supporting Exchange 2013 on the 11th April 2023.

Microsoft stopped supporting for Windows Server 2012 and Windows Server 2012 R2 on the 10th October 2023.

As much as we would like to keep up compatibility for all versions, we cannot support an Environment, which is no longer supported by the manufacturer.

*Microsoft will start blocking EWS requests to Exchange Online on 1st October 2026.
<https://techcommunity.microsoft.com/blog/exchange/retirement-of-exchange-web-services-in-exchange-online/3924440>*

Overview

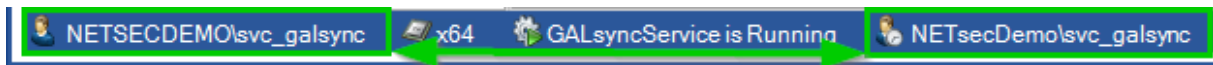
GALsync requires a service account. The GALsync service account is only a domain user in the Active Directory and has an Exchange mailbox. The mailbox of the GALsync service account can be located at the on-premises Exchange or in Exchange Online.

On your GALsync server, the service account should be the local administrator and it should be possible to log on to the server as this account. Remote desktop connectivity may also be required.

Furthermore, the service account on the GALsync server needs the right to run as a service.

It is recommended to run the GALsync GUI always in the credentials of the local GALsync service account.

This can be confirmed on the information bar at the bottom of the GALsync GUI.



Exchange on-premises and on-premises Active Directory:

The on-premises GALsync service account needs the permission to create, modify and delete objects and their attributes below your defined Import-OUTs of the on-premises Active Directory for synchronizing into an on-premises Exchange environment.

Please take a look at the chapter

Active Directory Permission for the Import OU (on-premises).

Exchange Online:

Synchronizing directly with Exchange Online, you have the option of user-based authentication or certificate-based authentication. Certificate-based authentication for Exchange Online is recommended so the GALsync service account will not require any additional authorizations.

The certificate-based authentication for Exchange Online is described in the chapter **Exchange Online certificate-based authentication via App Registration**

Service Account (on-premises)

The on-premises GALsync service account is a domain user of the on-premises Active Directory.

The on-premises service account is a member of the **Local Administrators** group on the Windows Server, where GALsync is installed.

The on-premises service account needs the local right to **run as a service** on the Windows Server, where GALsync is installed. This permission is added to the service account during the installation.

Make sure you can logon as the on-premises service account to the Windows Server, where GALsync is installed. It is likely that the on-premises service account requires membership in the local **Remote Desktop Users** group.

Note: We strongly recommend logging on as the service account to run the GALsync GUI.

The GALsync Service must run in the credentials of the on-premises service account.

In order to install GALsync you need administrative permission. Setup will also install the GALsync Service on the Windows Server you install GALsync on.

Important: If you configure the logon information for the Active Directory domain service account in the GALsync GUI using on-premises Exchange, it will be necessary use the format domain\username.

The on-premises GALsync service account needs the permission to create, modify and delete objects and their attributes below your defined Import-OUs for synchronizing into an on-premises Exchange environment.

Please take a look at the chapter

Active Directory Permission for the Import OU (on-premises).

Exchange mailbox for the GALsync Service Account

The GALsync service account needs a licensed Exchange mailbox in the environment.

- GALsync must have direct access to the user mailbox of the service account via Exchange Web Services (EWS) for Exchange on-premises.
- Ensure the mailbox is accessible (e.g., by Outlook Web Access).
- Ensure the mailbox can send to and receive email from the other organization.
- Ensure incoming mail from the other organization does not get caught by your spam filter or firewall.

On-premises mailbox

For an on-premises Exchange scenario, the on-premises GALsync service account needs a mailbox located on the on-premises Exchange Server.

Exchange Online mailbox

An Exchange Online mailbox for the GALsync service account needs to be licensed with an Exchange Online license in the Microsoft 365 tenant.

For example: Microsoft 365 Business Basic, Exchange Online (Plan 1) or Microsoft 365 E1 license will work for the service account.

Local service account on a standalone server

If you run GALsync on a standalone Windows Server, please create a local account for GALsync. This is only valid for Exchange Online cloud-only scenarios.

Please use the local account to configure and run the GALsync Service and the GALsync GUI in the credentials of this local account.

The local account needs the same local permissions as a domain user described above.

The local account will be required to use Modern Authentication for Microsoft 365 Exchange Online. The GALsync Service Account of the Microsoft 365 Exchange Online tenant is independent of this local account.

For example: **galsync** is a local account of the **standalone Windows Server**.

Please run also the GALsync GUI in the credentials of this local account.

Important: If you configure the logon information for the local service account in the GALsync GUI, it will be necessary use the format `computername\username`.

Execution Policy (Microsoft 365 Exchange Online)

If you configure a policy for Microsoft 365 Exchange Online, GALsync needs the parameter **ExecutionPolicy** to be set to **RemoteSigned** for the Windows PowerShell to connect to Exchange Online.

The reason for this is a security setting built into **Windows PowerShell** called execution policy. Execution policy determines how (or if) PowerShell runs scripts. By default, PowerShell's execution policy is set to Restricted; this means that scripts will not run. GALsync requires that scripts can be run.

```
Get-ExecutionPolicy
```

<http://technet.microsoft.com/en-us/library/hh849821.aspx>

```
Set-ExecutionPolicy RemoteSigned
```

<https://technet.microsoft.com/en-us/library/hh849812.aspx>

ExchangeOnlineManagement PowerShell module (Microsoft 365 Exchange Online)

GALsync requires **Windows PowerShell 5.1** and **ExchangeOnlineManagement PowerShell module version 3.6 or later** for Exchange Online PowerShell V3.

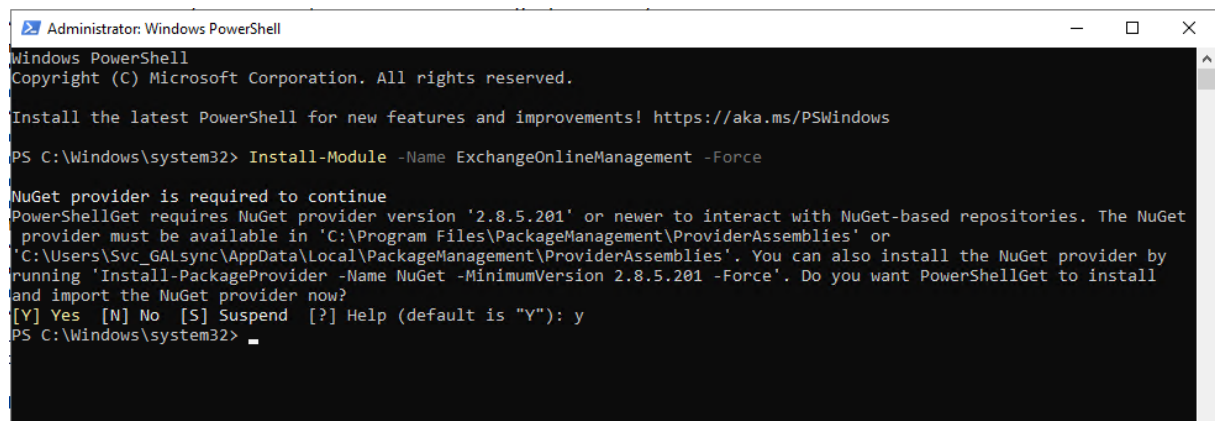
On the GALsync Server you need to install the **ExchangeOnlineManagement PowerShell module** so GALsync can directly communicate with a Microsoft 365 Exchange Online tenant.

Install ExchangeOnlineManagement PowerShell module

On the GALsync Server, open **Windows PowerShell** as **Administrator**, then run the following to install:

```
Install-Module -Name ExchangeOnlineManagement -Force
```

When prompted, enter **Y** for Yes then Return



Please have look at the **Prerequisites for the Exchange Online PowerShell module** chapter of the **Microsoft Docs: About the Exchange Online PowerShell module**

<https://learn.microsoft.com/en-us/powershell/exchange/exchange-online-powershell-v2?view=exchange-ps#install-the-exchange-online-powershell-module>

Update ExchangeOnlineManagement PowerShell module

On the GALsync Server, open **Windows PowerShell** as **Administrator**, then run the following to update:

```
Update-Module -Name ExchangeOnlineManagement -Force
```

Please have look at the **Prerequisites for the Exchange Online PowerShell module** chapter of the **Microsoft Docs: About the Exchange Online PowerShell module**

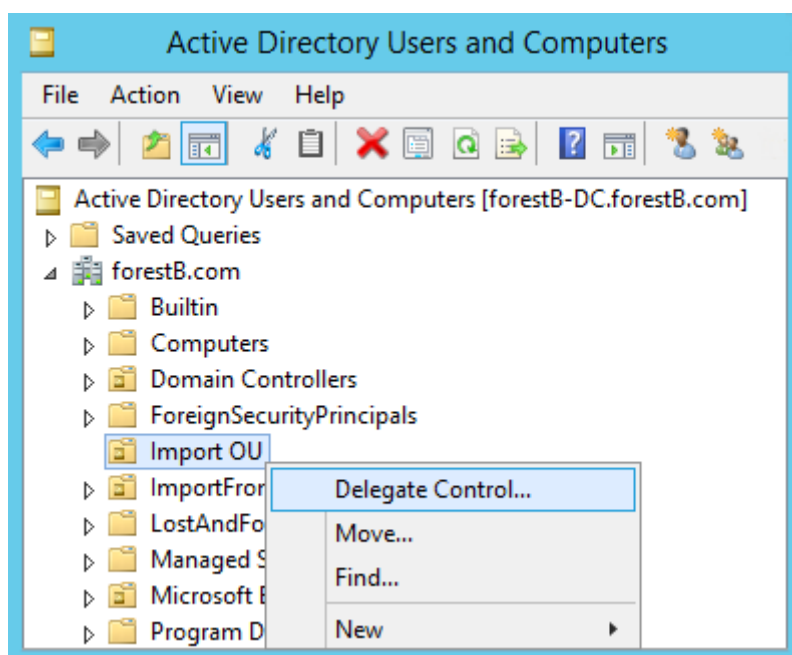
<https://learn.microsoft.com/en-us/powershell/exchange/exchange-online-powershell-v2?view=exchange-ps#update-the-exchange-online-powershell-module>

Active Directory Permission for the Import OU (on-premises)

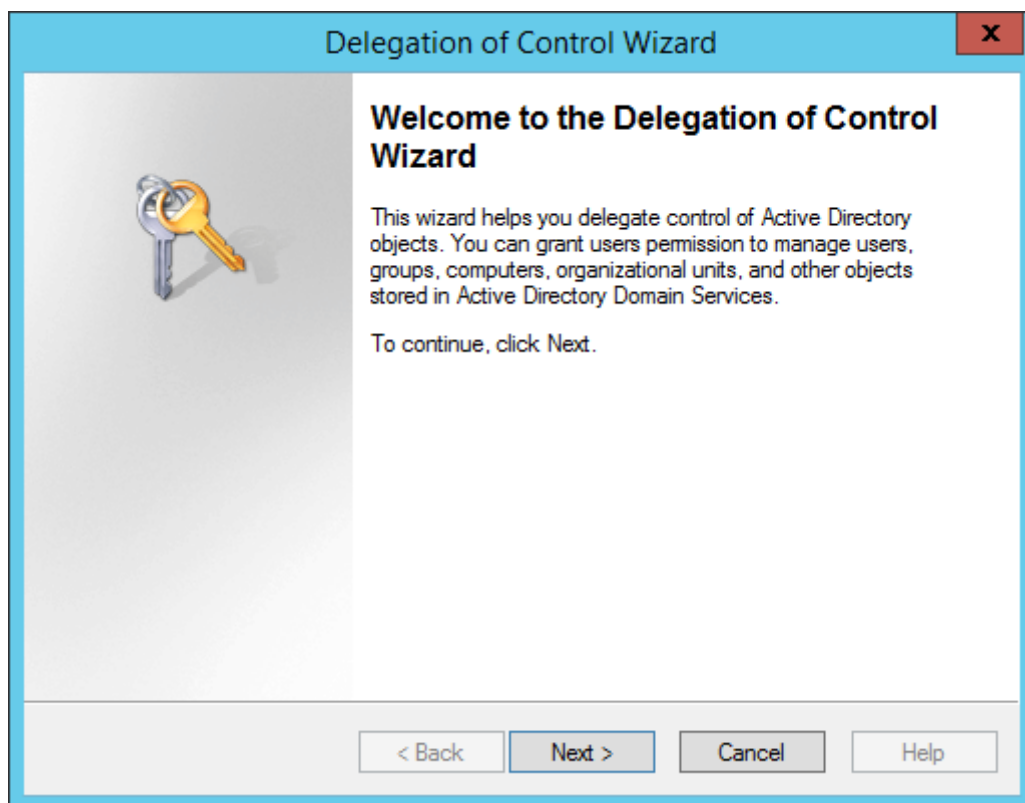
The GALsync Service Account needs write permissions to all Organizational Units where you want to import data to with GALsync.

Note: The resulting permissions must be for "This object and all descendant objects" and for all properties.

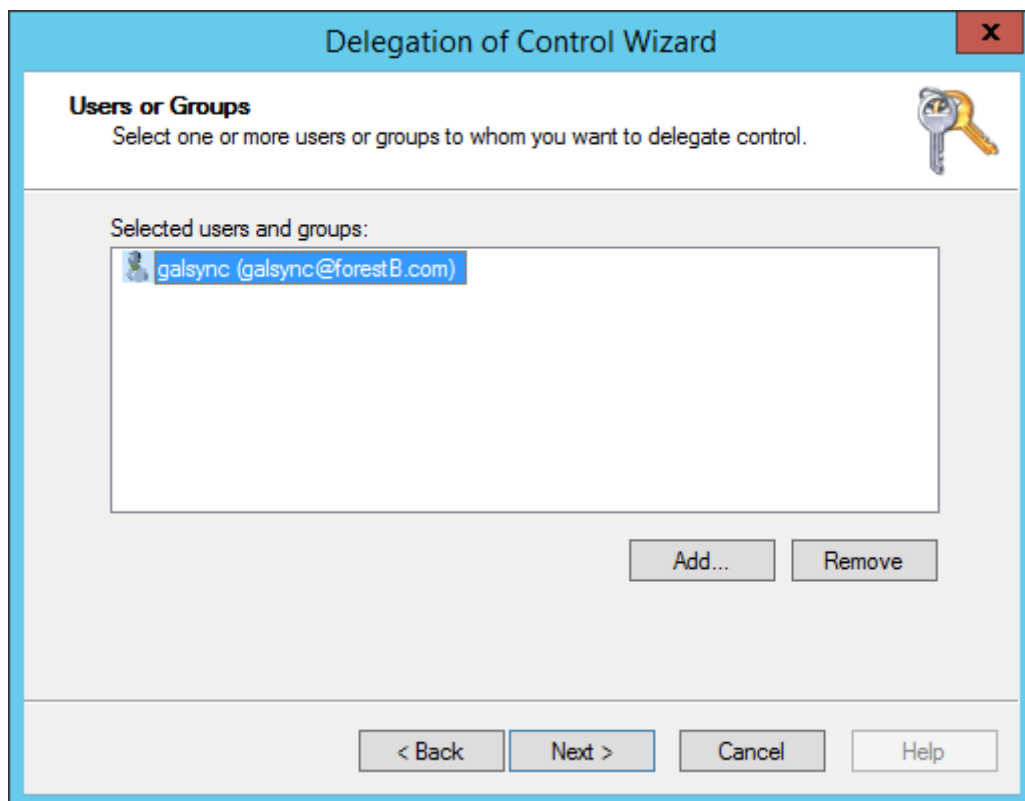
Use **Active Directory Users and Computers**. After creating the OU right-click the OU and choose **Delegate Control**.



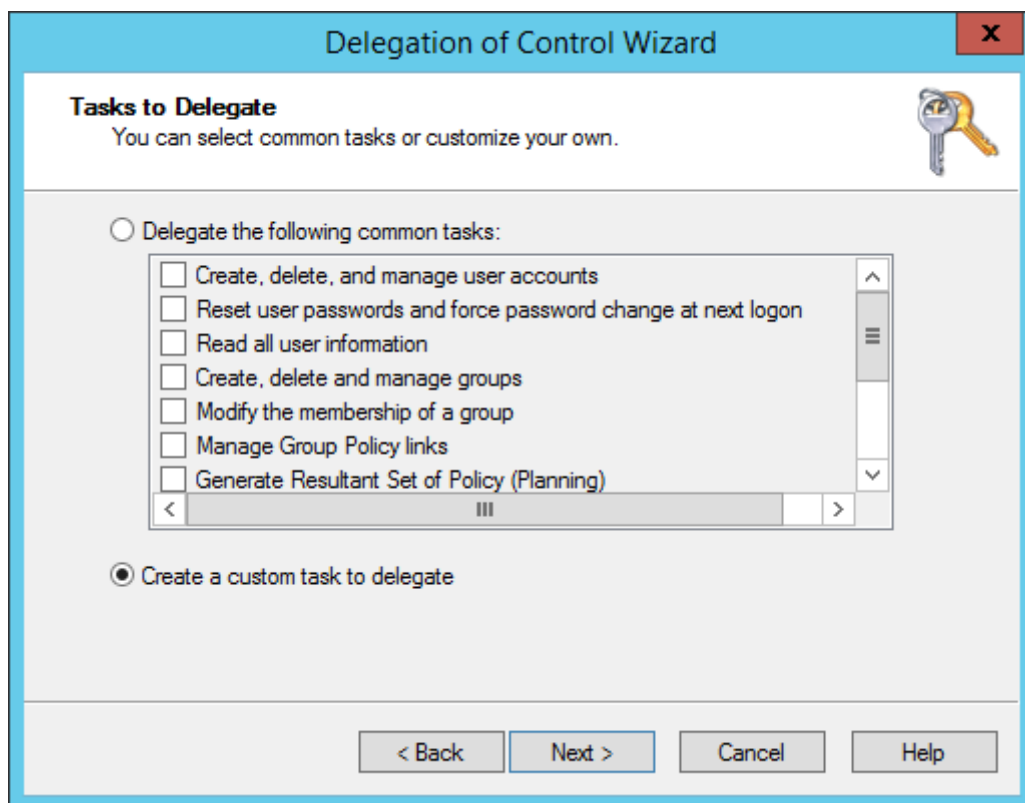
Follow the wizard and click **Next**.



Add the GALsync Service account to the list and click **Next**.



Choose the option **Create a custom task** to delegate and click **Next**.



The screenshot shows the 'Delegation of Control Wizard' window. The title bar is blue with a close button (X) on the right. The main area has a light blue header with the text 'Tasks to Delegate' and a sub-header 'You can select common tasks or customize your own.' To the right of the header is a key icon. Below the header, there are two radio buttons. The first is 'Delegate the following common tasks:' and the second is 'Create a custom task to delegate', which is selected. Below the first radio button is a list box containing several tasks: 'Create, delete, and manage user accounts', 'Reset user passwords and force password change at next logon', 'Read all user information', 'Create, delete and manage groups', 'Modify the membership of a group', 'Manage Group Policy links', and 'Generate Resultant Set of Policy (Planning)'. At the bottom of the window are four buttons: '< Back', 'Next >', 'Cancel', and 'Help'.

Delegation of Control Wizard

Tasks to Delegate
You can select common tasks or customize your own.

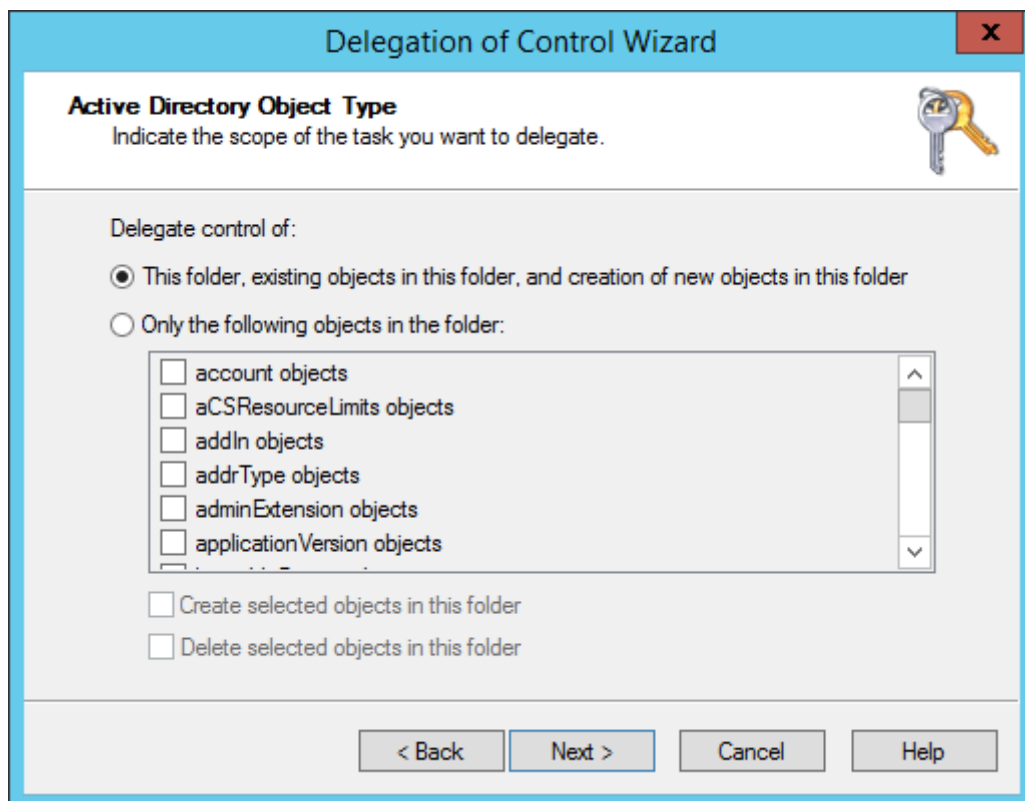
☐ Delegate the following common tasks:

- ☐ Create, delete, and manage user accounts
- ☐ Reset user passwords and force password change at next logon
- ☐ Read all user information
- ☐ Create, delete and manage groups
- ☐ Modify the membership of a group
- ☐ Manage Group Policy links
- ☐ Generate Resultant Set of Policy (Planning)

☒ Create a custom task to delegate

< Back Next > Cancel Help

Leave the next window as it is and click **Next**.



The screenshot shows the 'Delegation of Control Wizard' window. The title bar is blue with a close button (X) on the right. The main area has a light blue header with the text 'Active Directory Object Type' and a sub-header 'Indicate the scope of the task you want to delegate.' To the right of the header is a key icon. Below the header, there is a label 'Delegate control of:' followed by two radio buttons. The first is 'This folder, existing objects in this folder, and creation of new objects in this folder', which is selected. The second is 'Only the following objects in the folder:'. Below the second radio button is a list box containing several object types: 'account objects', 'aCSResourceLimits objects', 'addIn objects', 'addrType objects', 'adminExtension objects', and 'applicationVersion objects'. Below the list box are two checkboxes: 'Create selected objects in this folder' and 'Delete selected objects in this folder'. At the bottom of the window are four buttons: '< Back', 'Next >', 'Cancel', and 'Help'.

Delegation of Control Wizard

Active Directory Object Type
Indicate the scope of the task you want to delegate.

Delegate control of:

☒ This folder, existing objects in this folder, and creation of new objects in this folder

☐ Only the following objects in the folder:

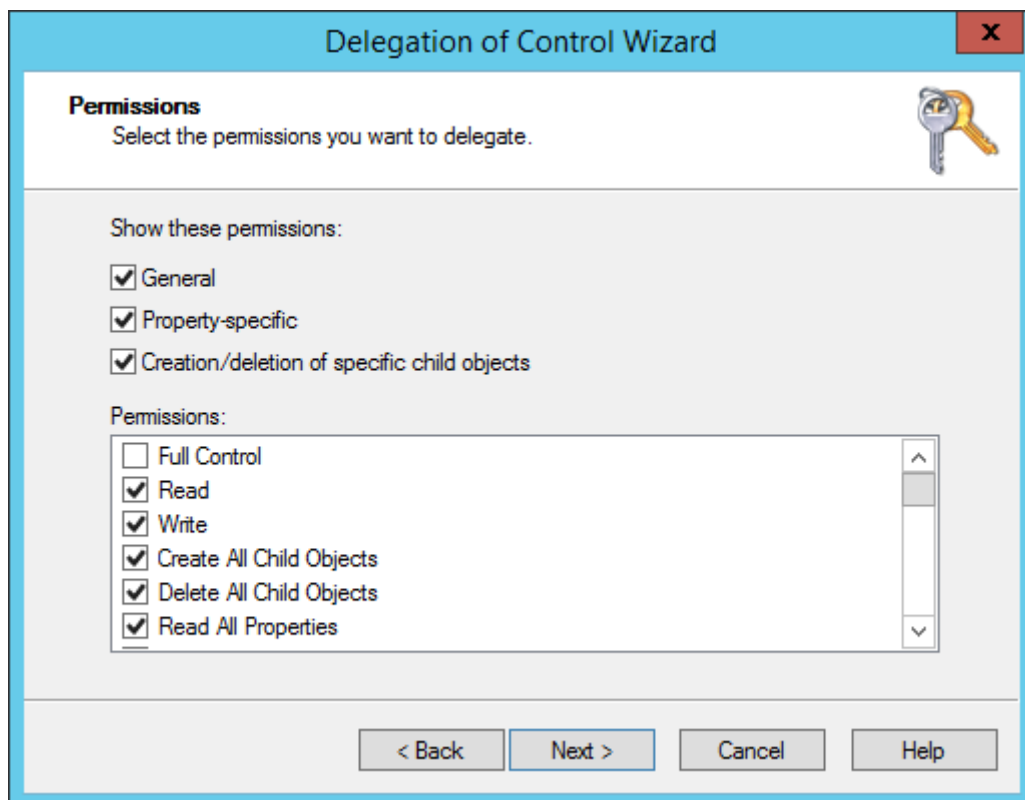
- ☐ account objects
- ☐ aCSResourceLimits objects
- ☐ addIn objects
- ☐ addrType objects
- ☐ adminExtension objects
- ☐ applicationVersion objects

☐ Create selected objects in this folder

☐ Delete selected objects in this folder

< Back Next > Cancel Help

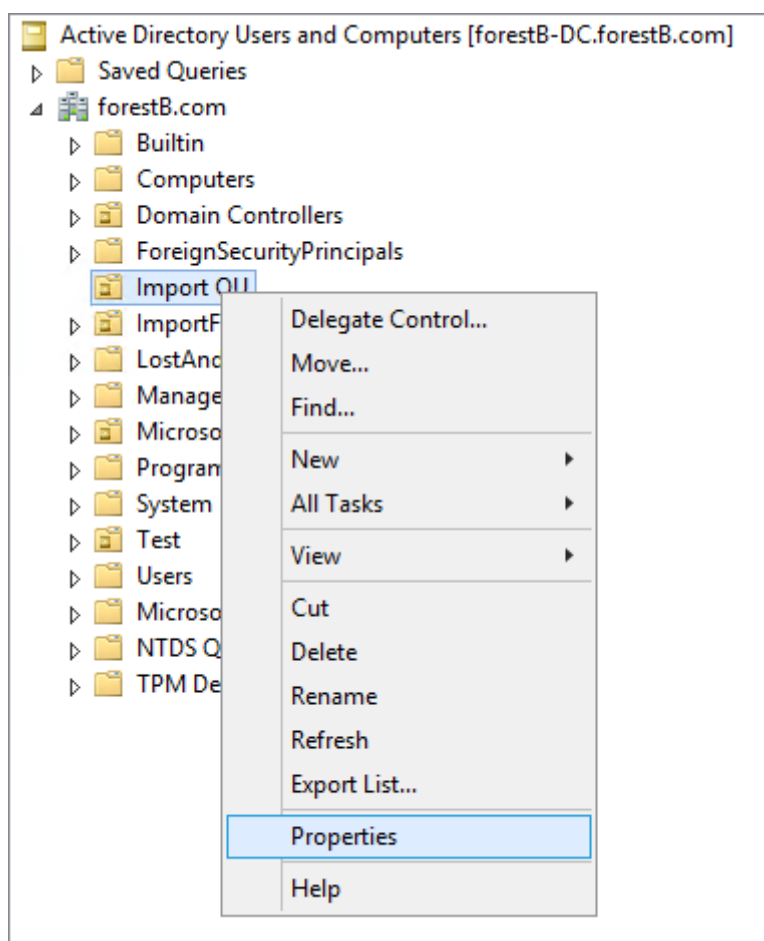
In the next dialog select all permissions except **Full Control** in the **Permissions:** list and click **Next**.



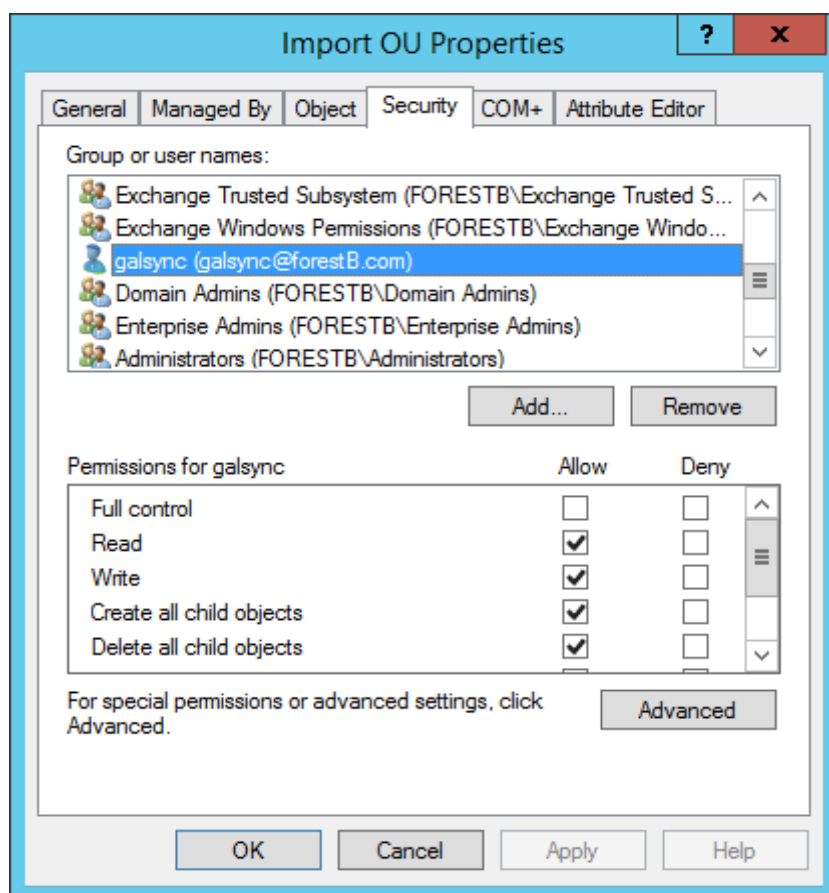
You complete the wizard clicking **Finish**.



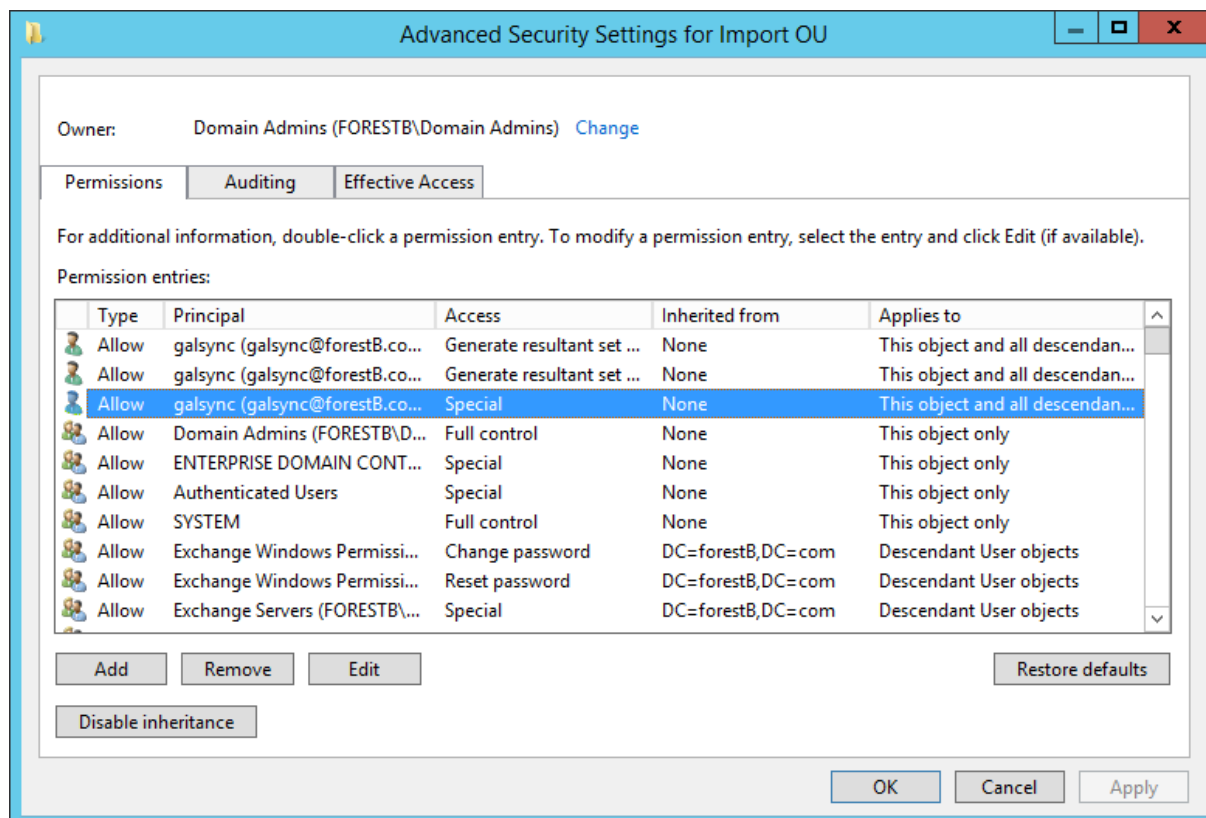
After that, right-click the OU and choose **Properties**.



Select the GALsync Service account and click **Advanced**.

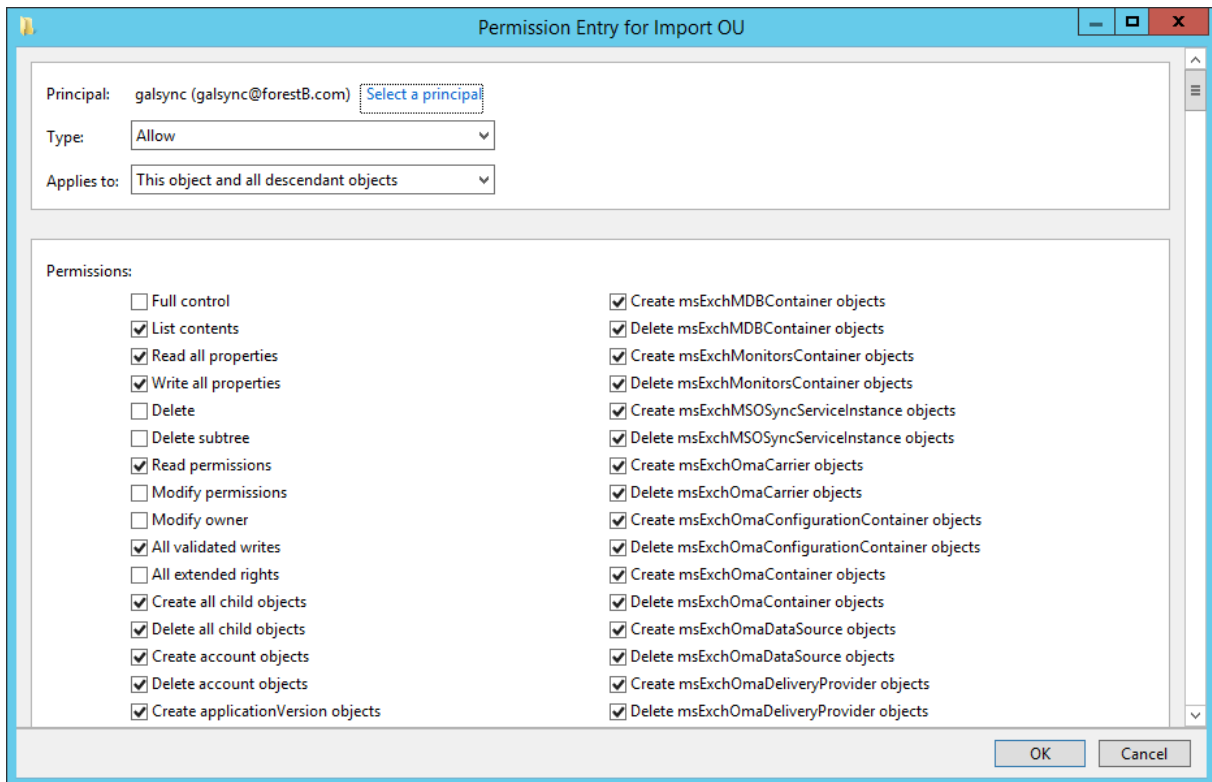


Select the GALsync Service account again and click **Edit**.

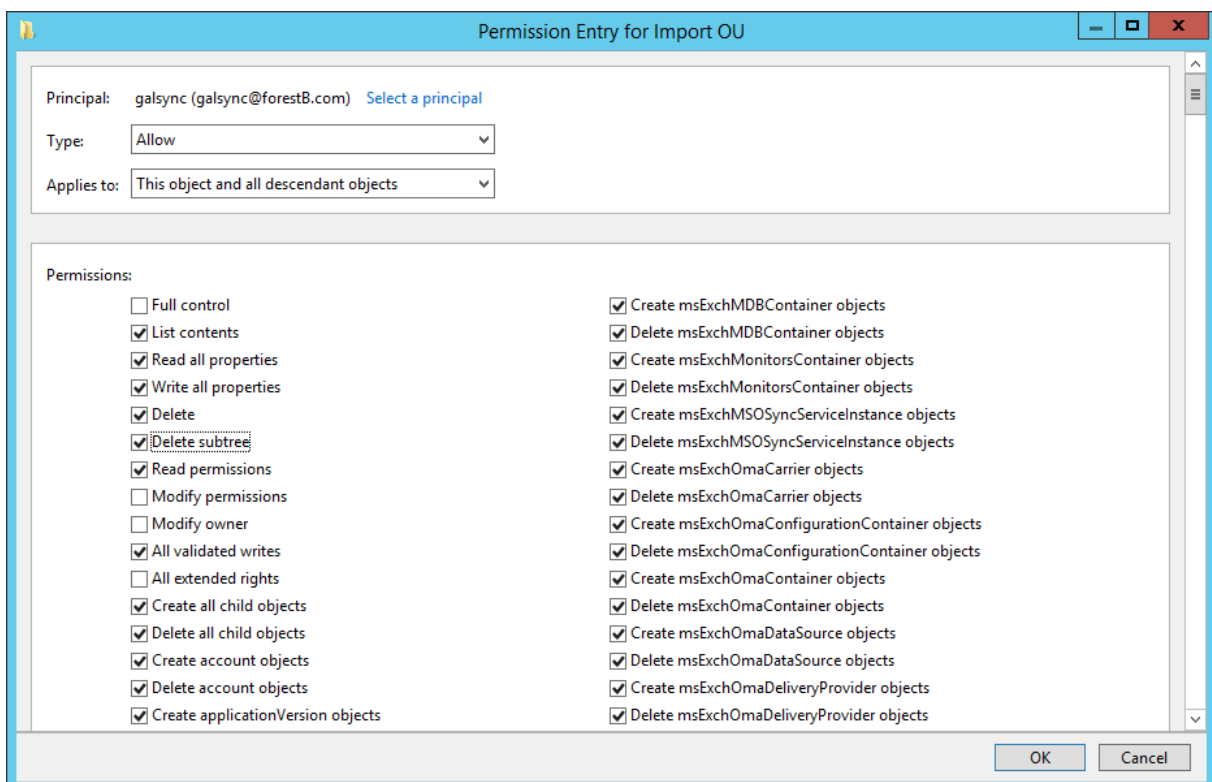


Check that the permission applies to:

This object and all descendant objects



Select the permissions: **Delete** and **Delete subtree**

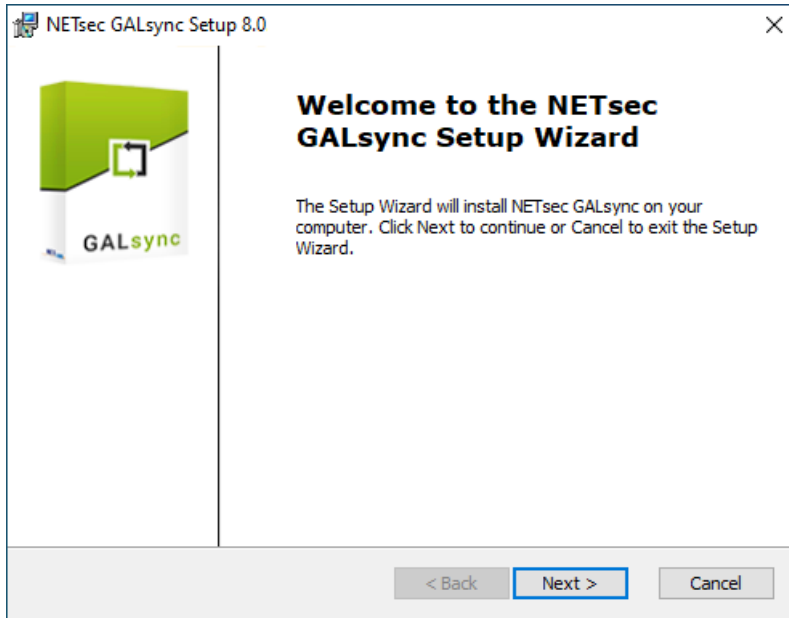


Click **OK** to close all Dialogs.

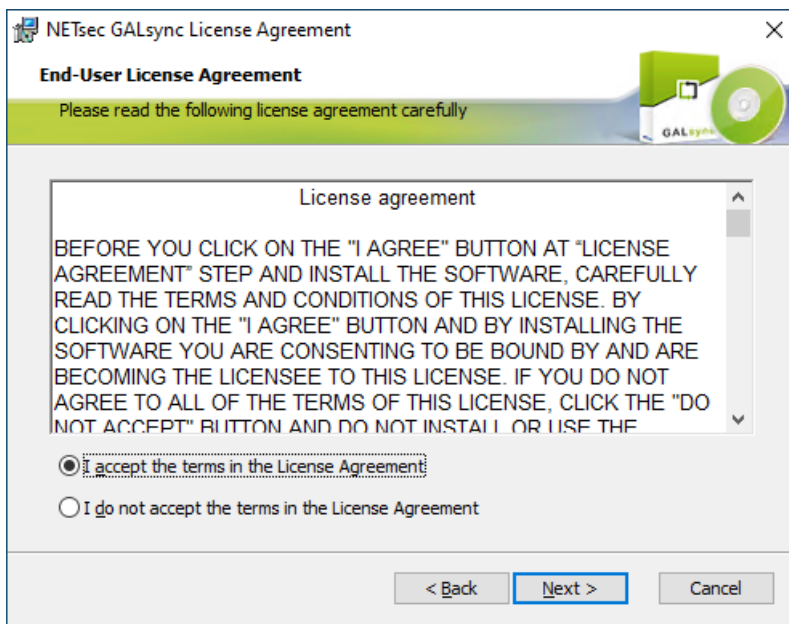
Installation

Install GALsync

Open the **GALsyncSetup.msi** file and click **Next**.



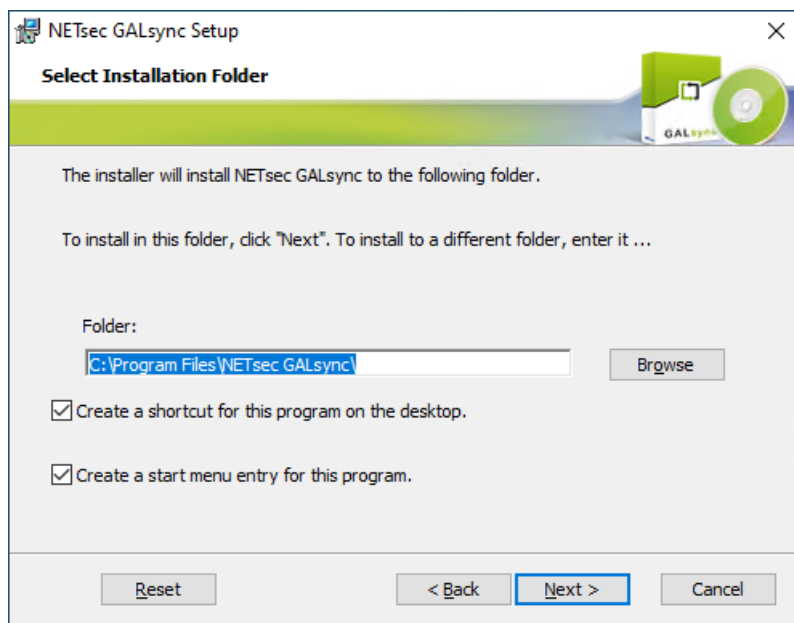
Accept the End-User License Agreement, then click **Next**.



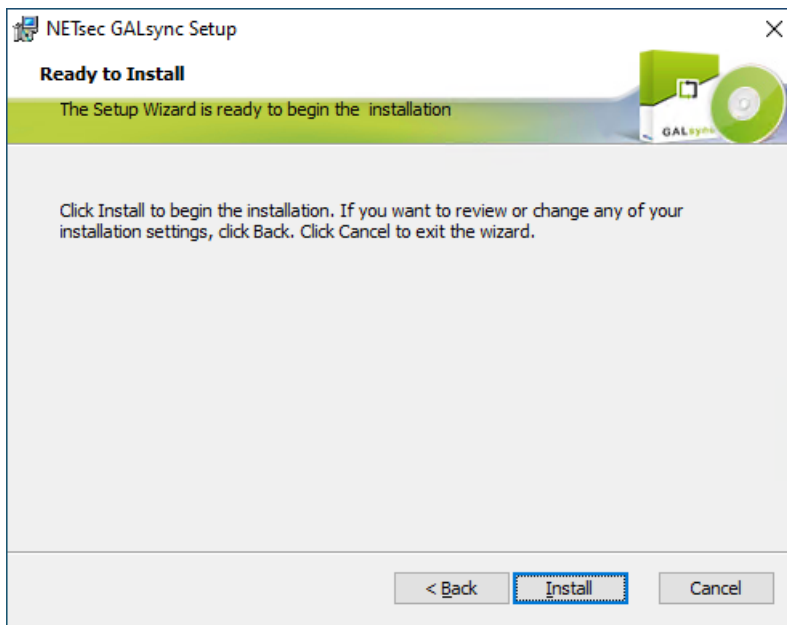
Accept third party license agreement to use the libraries and tools, then click **Next**.



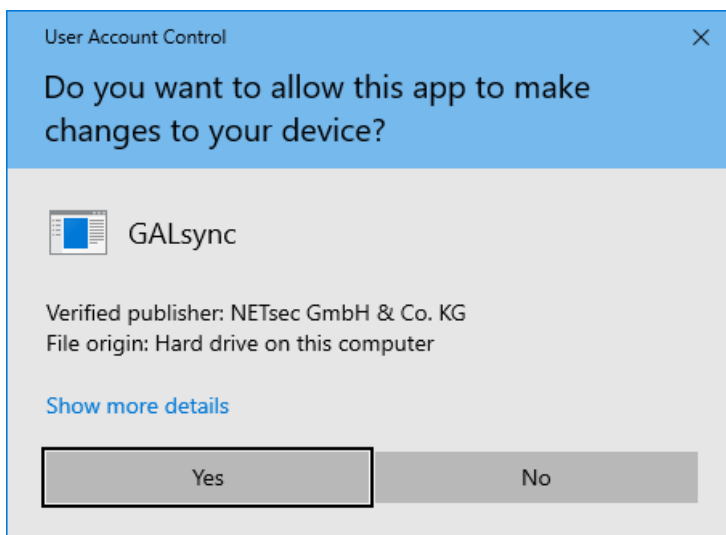
Select the install path for the GALsync binaries, then click **Next**.



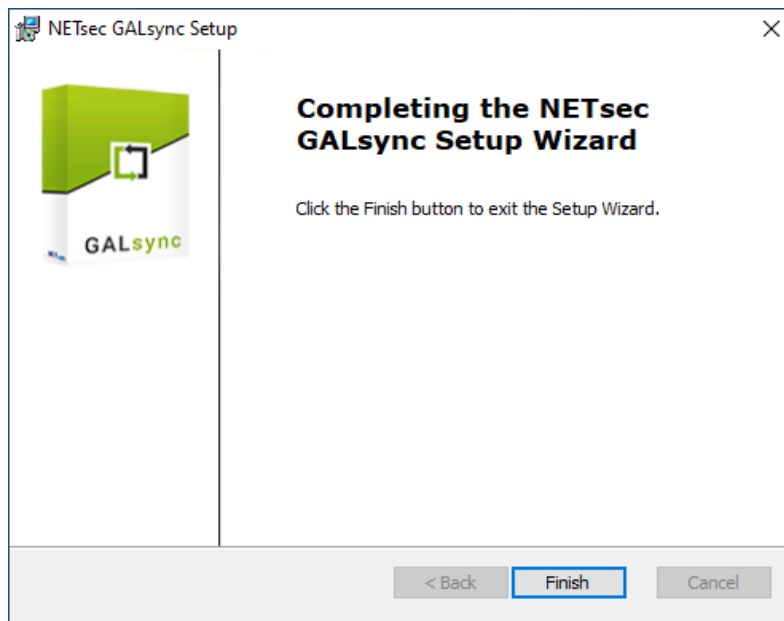
Click **Install**.



Click **Yes**, if prompted.



Click **Finish**.



Configure GALsync Service

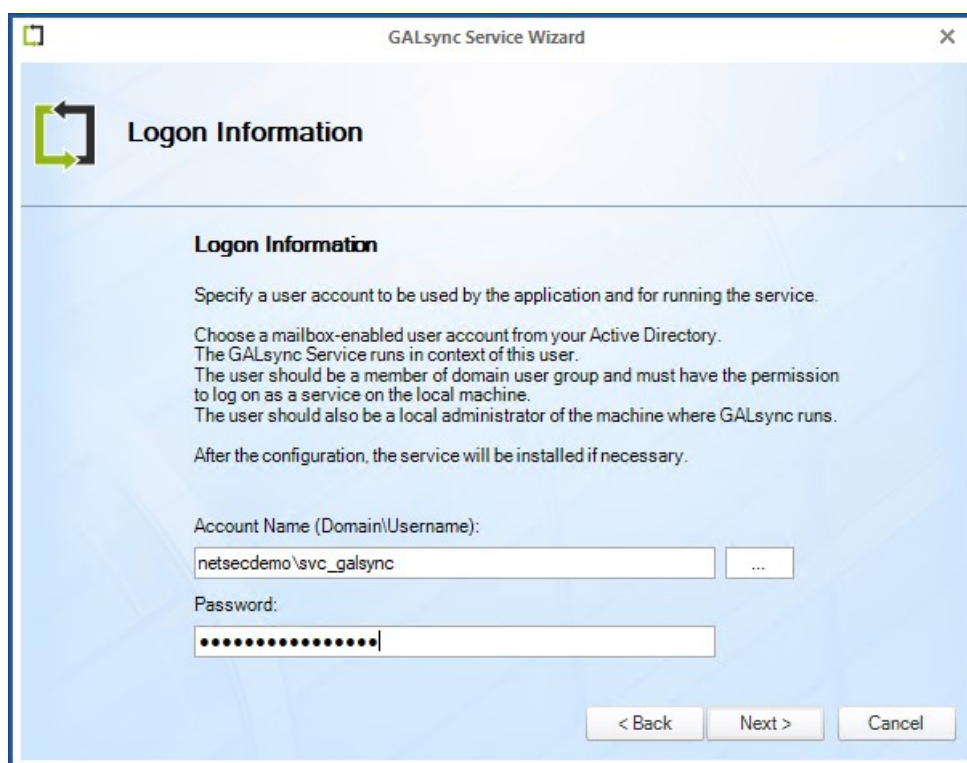
Click the **NETsec GALsync** icon to launch GALsync.



When opened for the first time, the GALsync Service Wizard will open, prompting the user to enter the GALsync Service account credentials.

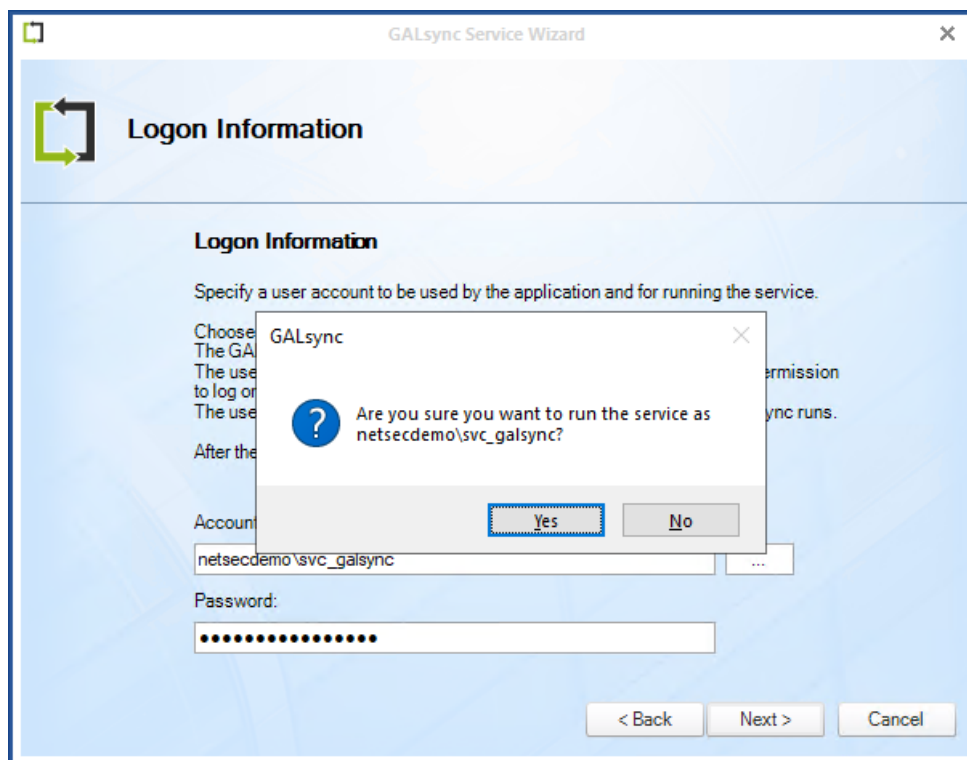


Enter the account credentials in **Domain\Username** format, then click **Next**.



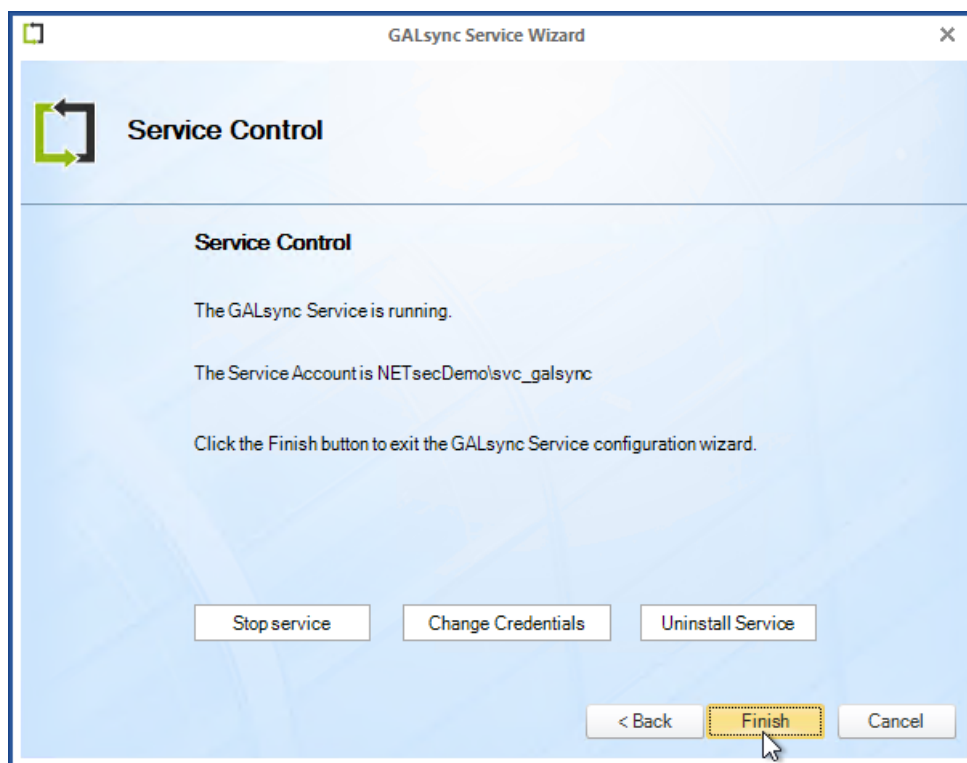
The screenshot shows the 'GALsync Service Wizard' window with the 'Logon Information' tab selected. The window has a title bar with the text 'GALsync Service Wizard' and a close button. The main content area has a light blue background with a green circular arrow icon on the left. The title 'Logon Information' is centered at the top of the content area. Below the title, there is a section with the same title 'Logon Information' and a paragraph of instructions: 'Specify a user account to be used by the application and for running the service. Choose a mailbox-enabled user account from your Active Directory. The GALsync Service runs in context of this user. The user should be a member of domain user group and must have the permission to log on as a service on the local machine. The user should also be a local administrator of the machine where GALsync runs. After the configuration, the service will be installed if necessary.' Below this text are two input fields: 'Account Name (Domain\Username):' with the text 'netsecdemo\svc_galsync' and a browse button '...', and 'Password:' with a masked password field. At the bottom right are three buttons: '< Back', 'Next >', and 'Cancel'.

If authentication is successful, the user is prompted to confirm the is the correct account to use. Click **Yes**, then click **Next**.

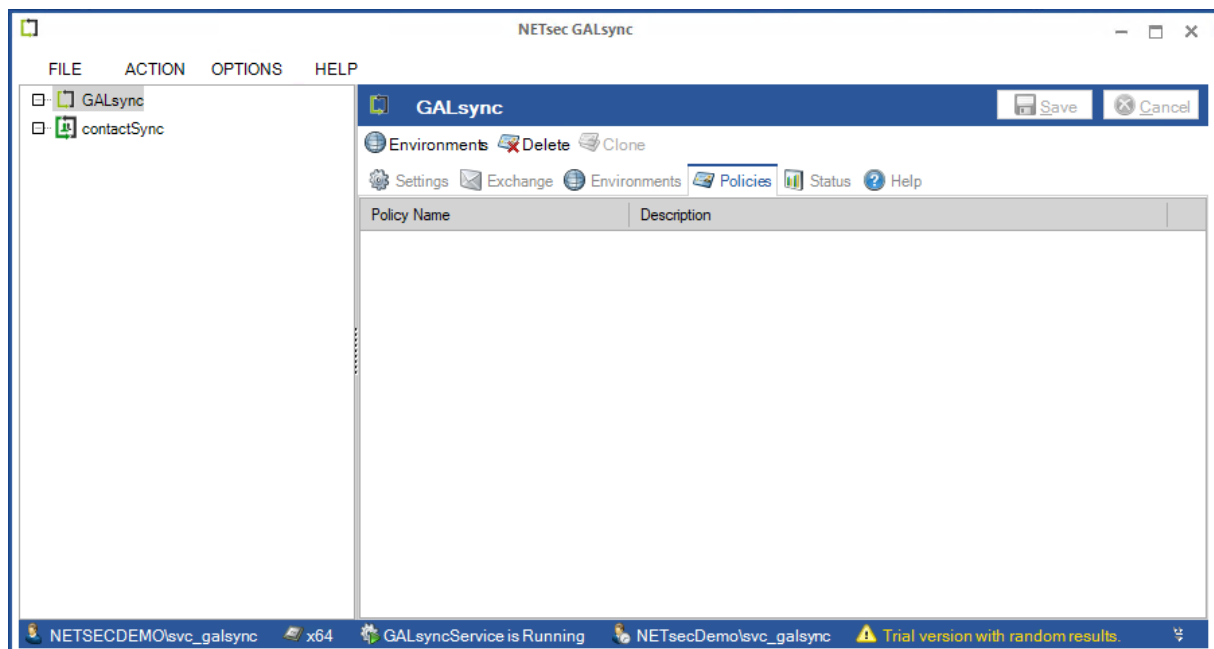


This screenshot shows the same 'GALsync Service Wizard' window as the previous one, but with a confirmation dialog box overlaid in the center. The dialog box has a title bar with the text 'GALsync' and a close button. It contains a question mark icon and the text: 'Are you sure you want to run the service as netsecdemo\svc_galsync?'. At the bottom of the dialog are two buttons: 'Yes' and 'No'. The background window is partially obscured by the dialog box.

Click **Finish**.

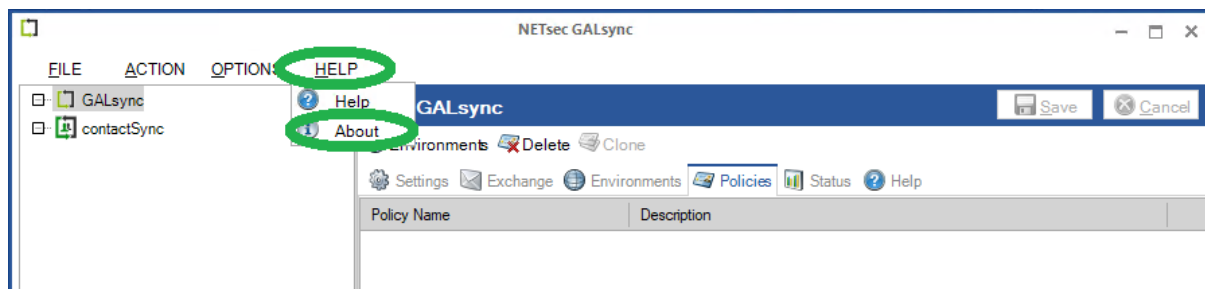


The GALsync user interface opens upon completion of this wizard.

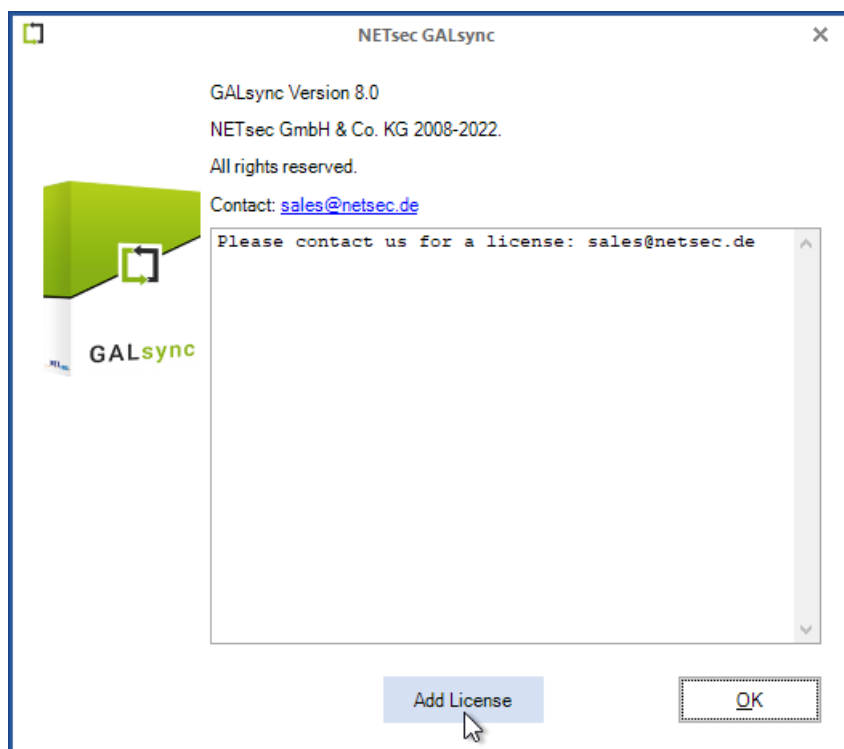


Apply GALsync License

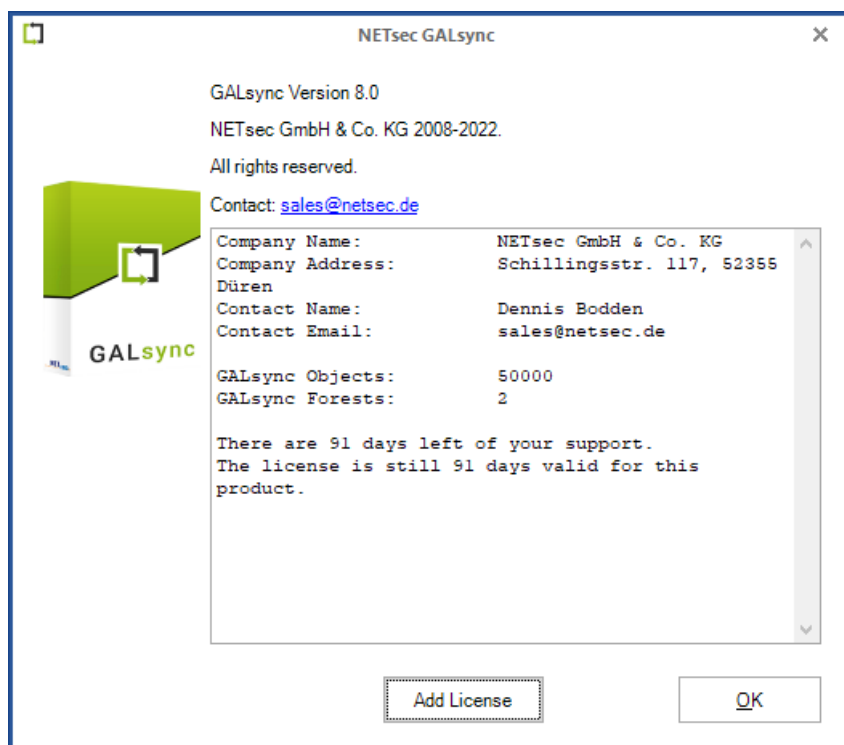
Click the **Help** menu, then **About**.



Click **Add license**, then browse to the location where the GALsync license was saved on the server, then select it and click **Open**.



Click **OK**.

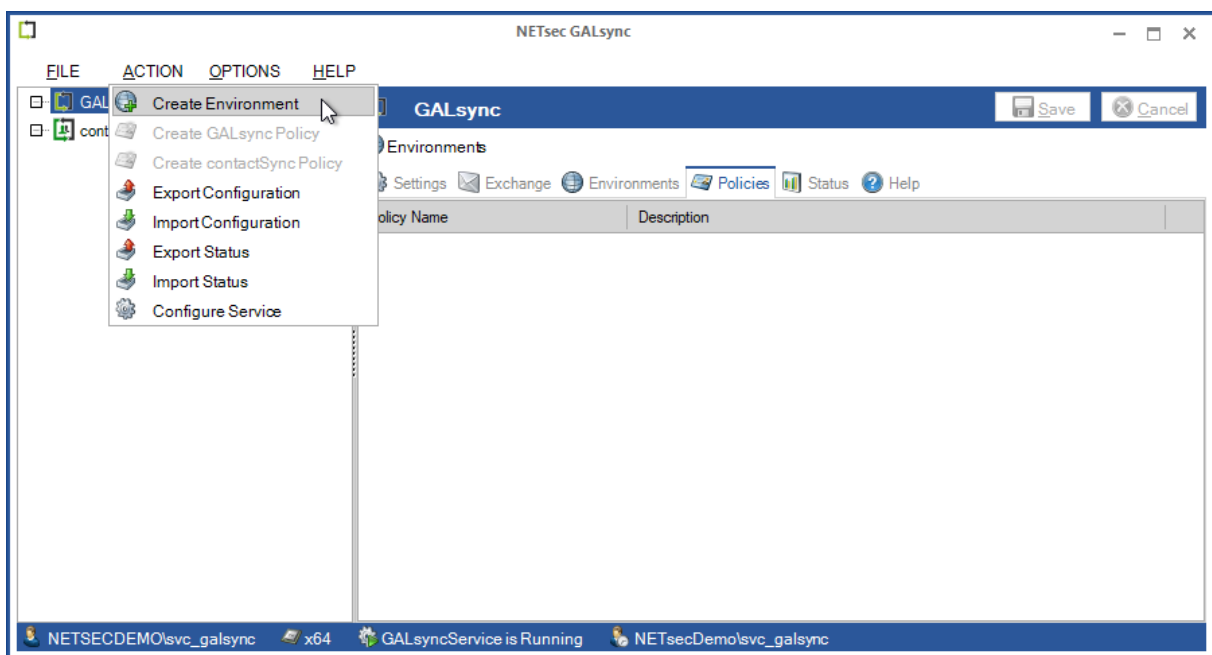


Create an Environment Configuration

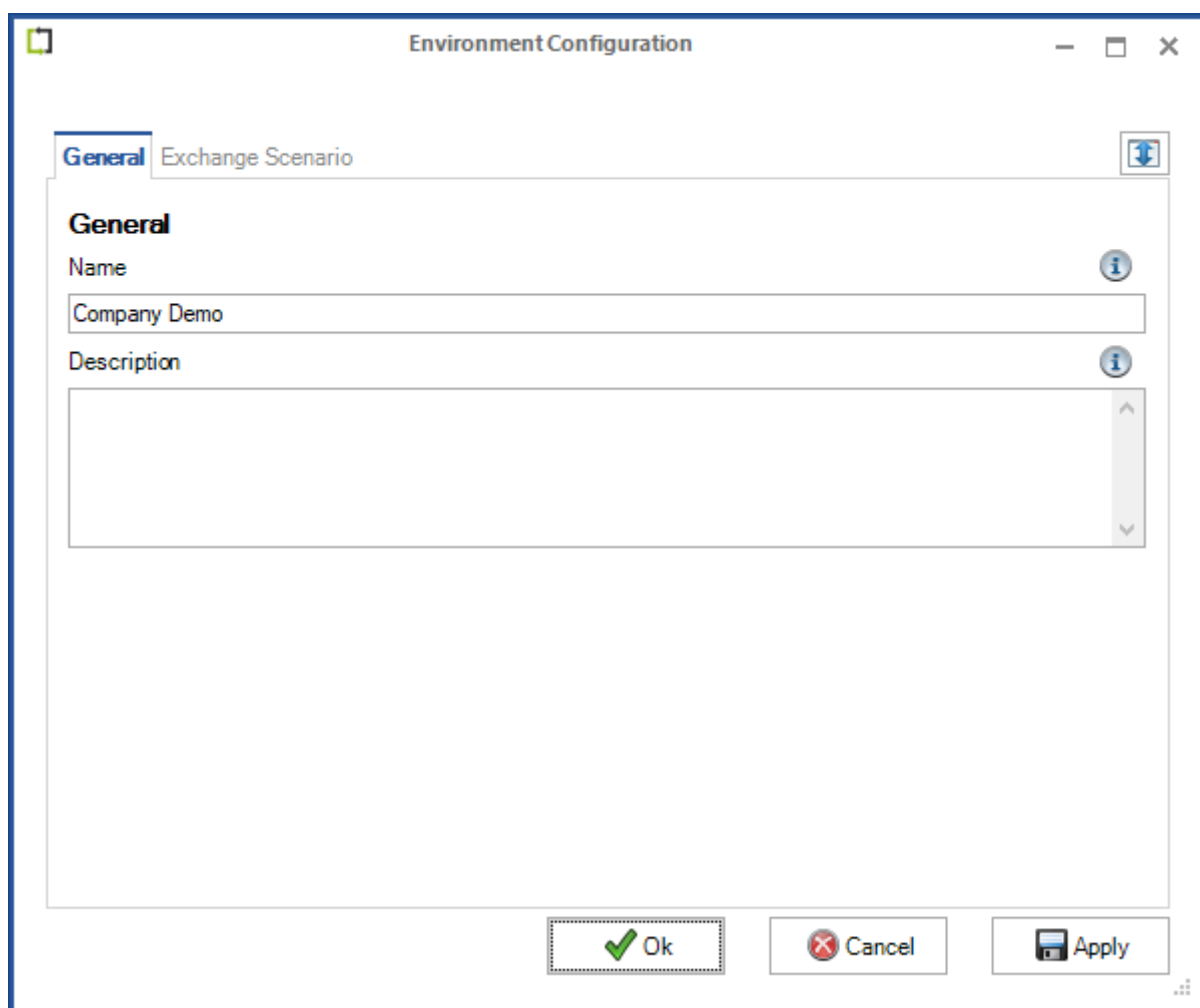
Create an Environment Configuration for on-premises Exchange environment

Important: When creating an environment, it is necessary that you logon to the GALsync server as the GALsync Service account. GALsync uses Windows authentication when accessing its mailbox (when on-premises). When creating an Exchange Online environment with certificate-based authentication the certificate will be stored in the certificate store of the current logged on user. The GALsync account will not be able to find and read the certificate when logged on as a different user.

From the **Action** menu, select **Create Environment**.



In the **General** tab, enter a name for the environment and optional description.



The image shows a screenshot of the "Environment Configuration" dialog box. The "General" tab is selected, and the "Exchange Scenario" sub-tab is active. The "Name" field contains "Company Demo". The "Description" field is empty. The "Ok" button is highlighted with a green checkmark icon. The "Cancel" button has a red X icon, and the "Apply" button has a floppy disk icon. The dialog box has a standard Windows title bar with minimize, maximize, and close buttons.

Environment Configuration

General Exchange Scenario

General

Name i

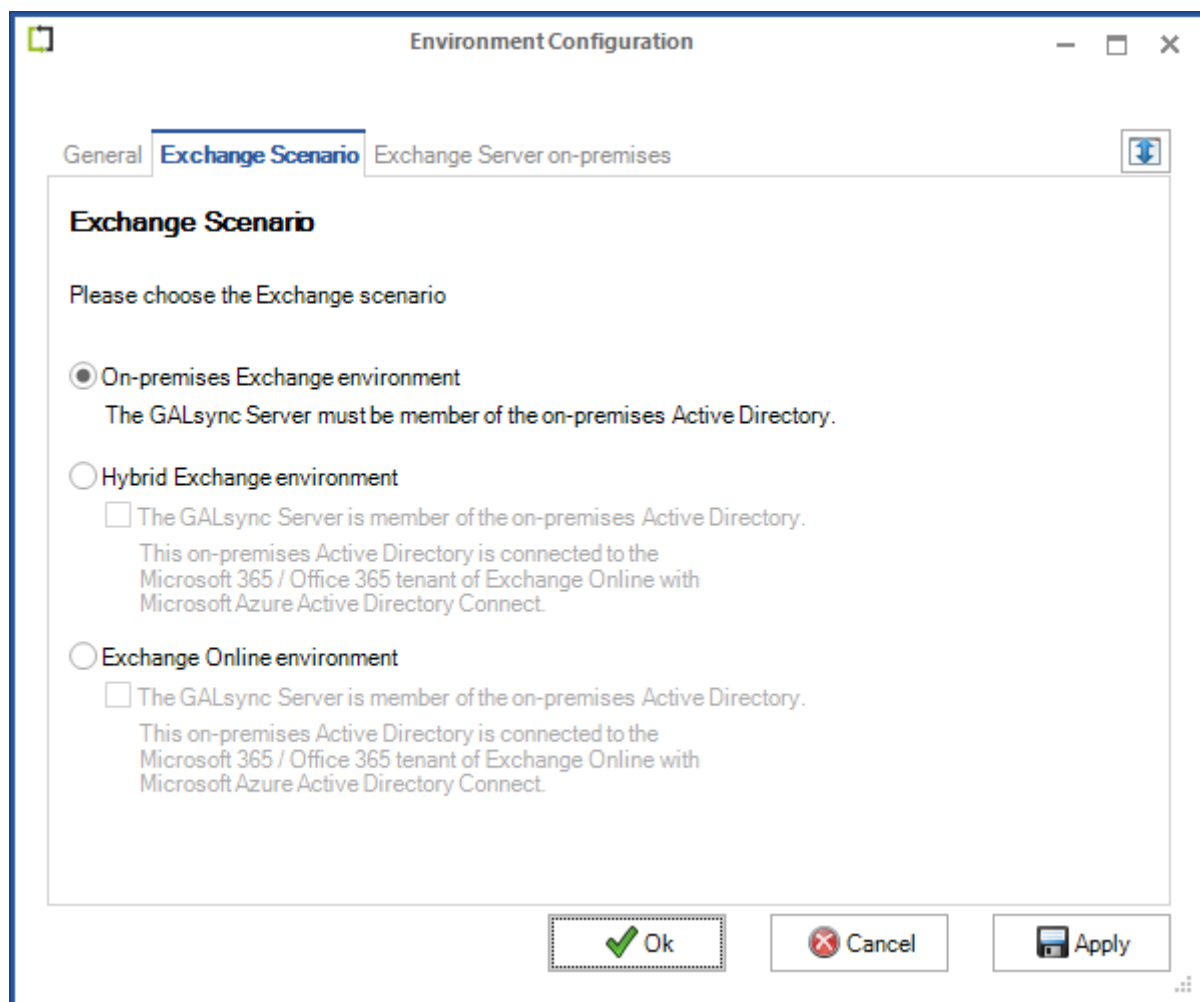
Company Demo

Description i

Ok Cancel Apply

Click the **Exchange Scenario** tab, and select the **On-premises Exchange environment**.

When an 'On-premises Exchange environment' is selected, GALsync will authenticate to the mailbox of the account that runs the GALsync service.



To verify connectivity to the mailbox, enter a recipient email then click **Send test email**.

Autodiscover is used by default to locate the Exchange Web Services URL and connect to its mailbox. If an error is returned which indicates the EWS URL cannot be resolved, a manual setting has been provided to enter a valid Exchange Web Services URL, such as the one shown below, which resolves the issue in most situations.

If the connection to the mailbox is successful, a test email will be sent to the specified recipient, and a popup message similar to the one below will be returned.

Environment Configuration

General Exchange Scenario **Exchange Server on-premises**

Exchange Server on-premises

Manage the settings for the on-premises Exchange environment.

☒ Use Autodiscover to find the Exchange Web Services URL ?
☐ Manual setting 🔍
 e.g. `https://casserver.domain.local/EWS/Exchange.asmx`

Only for GALsync

Note: This setting is only for GALsync in a special synchronization scenario with a hub-spoke topology. ?

☐ No Exchange Server available. Only Active Directory Preparation. ?
☐ Use Exchange Online mailbox of an external Microsoft 365 tenant for mailing
☐ Use Exchange Online mailbox for mailing
The Exchange Online mailbox must be hosted by Microsoft Azure public cloud

Exchange Mailbox Test

Send a test email to the recipient:

Email address

?

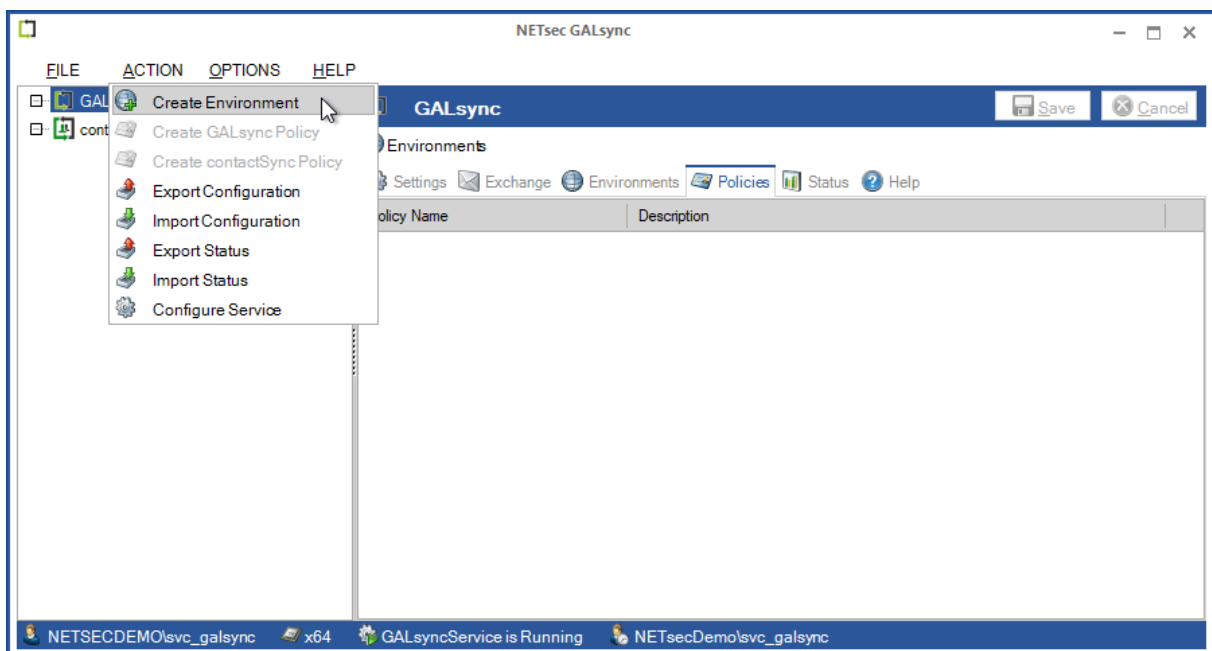
Apply the changes, then click **OK**.

Create an Environment Configuration for Hybrid Exchange environment

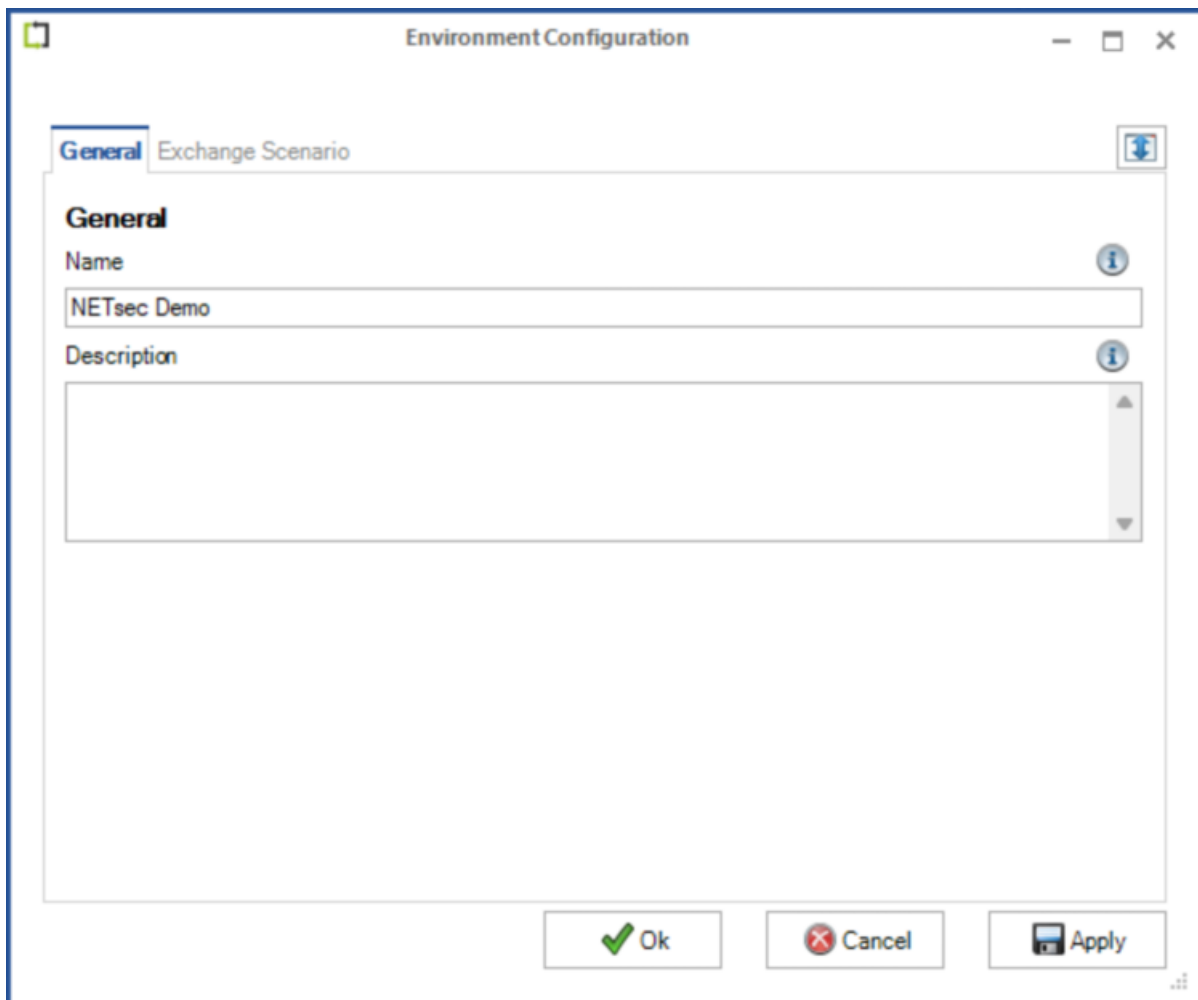
Important: When creating an environment, it is necessary that you logon to the GALsync server as the GALsync Service account. GALsync uses Windows authentication when accessing its mailbox (when on-premises). When creating an Exchange Online environment with certificate-based authentication the certificate will be stored in the certificate store of the current logged on user. The GALsync account will not be able to find and read the certificate when logged on as a different user.

If your Exchange Environment is a hybrid, you have the option to establish your synchronization focal point to either on-premises Exchange (Active Directory), or Exchange Online. A connection to on-premises Exchange and Exchange Online is configured in a hybrid environment. Since on-premises Active Directory hosts the master copy of all objects synced through Azure AD Connect, it is recommended an on-premises connection is used.

From the **Action** menu select **Create Environment**.



In the **General** tab, enter a name for the environment and optional description.



The image shows a Windows-style dialog box titled "Environment Configuration". It has a tabbed interface with the "General" tab selected. The "General" tab contains a "Name" field with the text "NETsec Demo" and a "Description" field which is empty. Both fields have information icons (i) to their right. At the bottom of the dialog are three buttons: "Ok" with a green checkmark, "Cancel" with a red X, and "Apply" with a floppy disk icon. The "Exchange Scenario" tab is also visible and contains a plus icon.

Environment Configuration

General Exchange Scenario

General

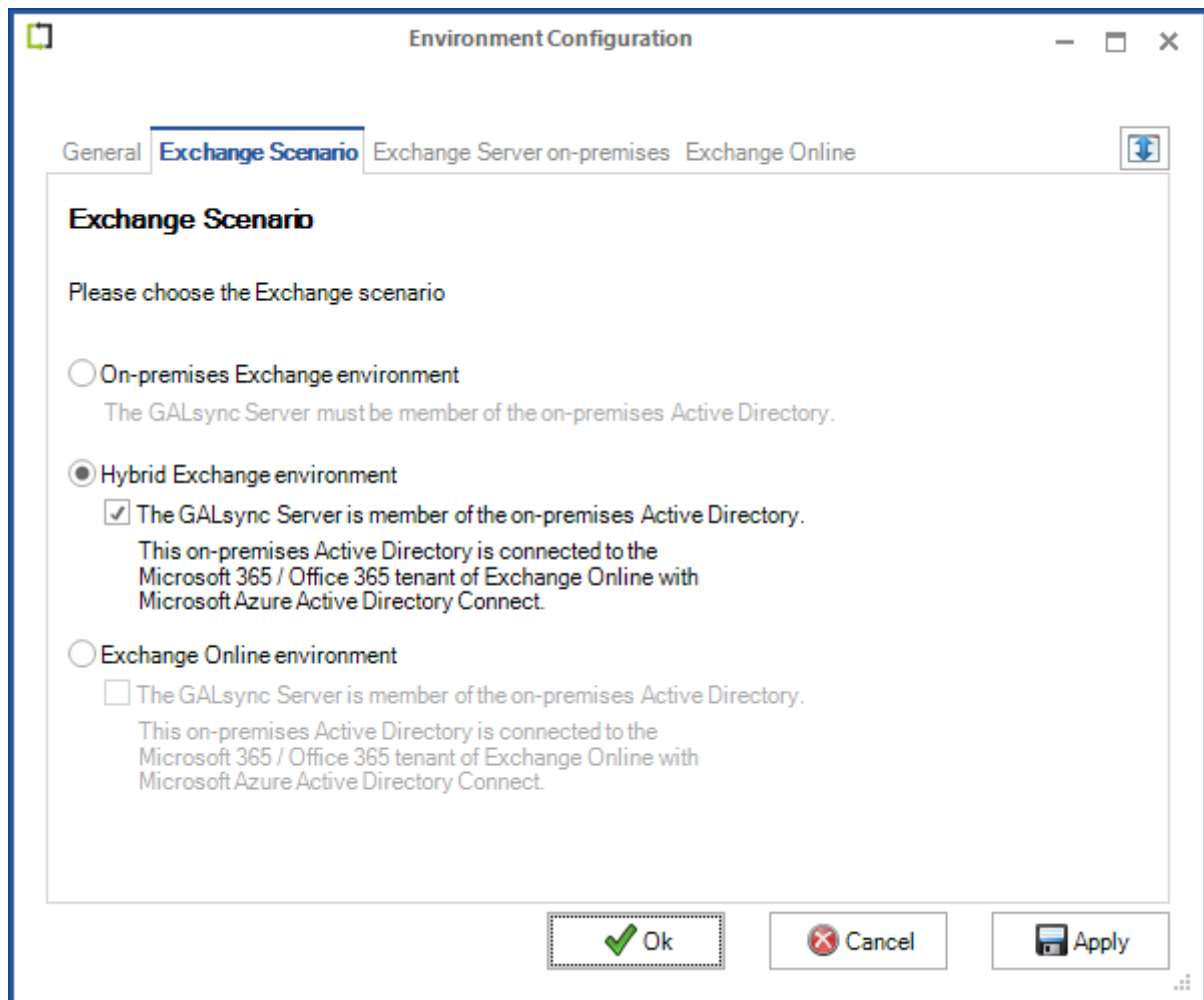
Name i

NETsec Demo

Description i

Ok Cancel Apply

Click the **Exchange Scenario** tab, then select **Hybrid Exchange environment**. The **Exchange Online** tab will be displayed. After checking the checkbox: **The GALsync Server is a member of the on-premises Active Directory**, the **Exchange Server on-premises** tab will be displayed. Select this tab.



The screenshot shows a Windows-style dialog box titled "Environment Configuration". It has four tabs: "General", "Exchange Scenario" (which is selected), "Exchange Server on-premises", and "Exchange Online". The "Exchange Scenario" tab contains the following content:

Exchange Scenario

Please choose the Exchange scenario

- ☐ On-premises Exchange environment
The GALsync Server must be member of the on-premises Active Directory.
- ☒ Hybrid Exchange environment
 - ☒ The GALsync Server is member of the on-premises Active Directory.
This on-premises Active Directory is connected to the Microsoft 365 / Office 365 tenant of Exchange Online with Microsoft Azure Active Directory Connect.
- ☐ Exchange Online environment
 - ☐ The GALsync Server is member of the on-premises Active Directory.
This on-premises Active Directory is connected to the Microsoft 365 / Office 365 tenant of Exchange Online with Microsoft Azure Active Directory Connect.

At the bottom of the dialog box are three buttons: "Ok" (with a green checkmark icon), "Cancel" (with a red X icon), and "Apply" (with a floppy disk icon).

Select the **Exchange Server on-premises** tab.

GALsync connects to the on-premises mailbox of the GALsync service account. To test this connection, enter a recipient email address and click **Send test email**.

Autodiscover is used by default to locate the Exchange Web Services URL and connect to its mailbox. If an error is returned which indicates the EWS URL cannot be resolved, a manual setting has been provided to enter a valid Exchange Web Services URL, such as the one shown below, which resolves the issue in most situations.

Please note: If the mailbox of the GALsync on-premises service account is located in Exchange Online, it will be necessary to enter the Exchange Web Services URL for the on-premises Exchange Server.

A popup will be returned similar to the one below upon a successful connection to the GALsync mailbox, indicating the email was successfully sent to the target mailbox.

The screenshot shows the 'Environment Configuration' dialog box with the 'Exchange Server on-premises' tab selected. The dialog has three tabs: 'General', 'Exchange Scenario', and 'Exchange Online'. The 'Exchange Server on-premises' tab is active, showing options to 'Use Autodiscover to find the Exchange Web Services URL' (selected) or 'Manual setting'. A text box for the manual setting contains the example URL 'e.g. https://casserver.domain.local/EWS/Exchange.asmx'. Below this is a section titled 'Exchange Mailbox Test' with a label 'Send a test email to the recipient:'. It contains an 'Email address' text box and a 'Send test email' button. At the bottom of the dialog are 'Ok', 'Cancel', and 'Apply' buttons.

Environment Configuration

General Exchange Scenario **Exchange Server on-premises** Exchange Online

Exchange Server on-premises

Manage the settings for the on-premises Exchange environment.

☒ Use Autodiscover to find the Exchange Web Services URL

☐ Manual setting

Exchange Mailbox Test

Send a test email to the recipient:

Email address

Select the **Exchange Online** tab.

The screenshot shows the 'Environment Configuration' window with the 'Exchange Online' tab selected. The window has a title bar with standard Windows controls. Below the title bar, there are four tabs: 'General', 'Exchange Scenario', 'Exchange Server on-premises', and 'Exchange Online'. The 'Exchange Online' tab is active, showing a section titled 'Exchange Online' with a subtitle: 'Manage the settings for the Exchange Online tenant. Please use the certificate-based authentication via App registrations in the Microsoft Entra ID.' Below this, there are three main sections: 'Credentials', 'Organization Settings', and 'Remote PowerShell Connection Test'. The 'Credentials' section has a toolbar with 'Add', 'Add', 'Modify', and 'Remove' buttons, each with an information icon. Below the toolbar is a table with two columns: 'Username' and 'Max. Connection'. The 'Organization Settings' section has two rows: 'Instance hosted by' with the value 'Microsoft 365 or Microsoft 365 GCC Microsoft Azure public cloud', and 'Exchange Web Services URL' with the value 'https://outlook.office365.com/EWS/Exchange.asmx'. Below this is a button labeled 'Organization Settings'. The 'Remote PowerShell Connection Test' section has a subtitle 'Please test the Remote PowerShell connection to Exchange Online' and a 'Test' button with an information icon. Below the 'Test' button is a 'Show log' button and a text area. The 'Exchange Mailbox Test' section has a subtitle 'Send a test email to the recipient:' and an 'Email address' label with a text input field. Below the input field is a 'Send test email' button with an information icon. At the bottom of the window are three buttons: 'Ok' (with a green checkmark), 'Cancel' (with a red X), and 'Apply' (with a floppy disk icon).

Environment Configuration

General Exchange Scenario Exchange Server on-premises **Exchange Online**

Exchange Online

Manage the settings for the Exchange Online tenant.
Please use the certificate-based authentication via App registrations in the Microsoft Entra ID.

Credentials

Add Add Modify Remove

Username	Max. Connection
----------	-----------------

Organization Settings

Instance hosted by Microsoft 365 or Microsoft 365 GCC
Microsoft Azure public cloud

Exchange Web Services URL https://outlook.office365.com/EWS/Exchange.asmx

Organization Settings

Remote PowerShell Connection Test

Please test the Remote PowerShell connection to Exchange Online

Test Show log

Exchange Mailbox Test

Send a test email to the recipient:

Email address

Send test email

Ok Cancel Apply

The **Add** button on the left, will open a dialog window in which to configure **certificate-based authentication** via **App registration** for the Exchange Online tenant.

The screenshot shows the 'Exchange Online' tab in a management console. Below the tab, there's a section titled 'Exchange Online' with instructions: 'Manage the settings for the Exchange Online tenant. Please use the certificate-based authentication via App registrations in the Microsoft Entra ID.' Below this is a 'Credentials' section with buttons: 'Add' (with a plus icon), 'Add' (with a person icon), 'Modify' (with a pencil icon), and 'Remove' (with a red X icon). Each button has an information icon (i) to its right. Below the buttons is a dialog box titled 'Exchange Online App Registration' with a close button (X). Inside the dialog, there's a description: 'Corresponding settings for the Enterprise Application in the Microsoft Entra ID (formerly Azure AD) App registrations that enables access to Exchange Online.' Below this are three input fields: 'Organization / Tenant', 'Application Display Name', and 'Application ID', each with an information icon (i) to its right. Below these fields is a 'Certificate' section with a table of properties. The table has two columns: 'Property' and 'Value'. The rows are: 'Friendly Name' (value: FriendlyName), 'Not After' (value: Not After), 'Subject' (value: Subject), 'Thumbprint' (value: Thumbprint), 'Has PrivateKey' (value: Has PrivateKey), and 'User' (value: User). Below the table are two buttons: 'Choose Certificate' and 'Create Certificate', each with an information icon (i) to its right. At the bottom of the dialog is a section titled 'Assigned API permissions'.

General Exchange Scenario Exchange Server on-premises **Exchange Online**

Exchange Online

Manage the settings for the Exchange Online tenant.
Please use the certificate-based authentication via App registrations in the Microsoft Entra ID.

Credentials

Add Add Modify Remove

Exchange Online App Registration [X]

Corresponding settings for the Enterprise Application in the Microsoft Entra ID (formerly Azure AD) App registrations that enables access to Exchange Online.

Organization / Tenant

Application Display Name

Application ID

Certificate

Friendly Name	FriendlyName
Not After	Not After
Subject	Subject
Thumbprint	Thumbprint
Has PrivateKey	Has PrivateKey
User	User

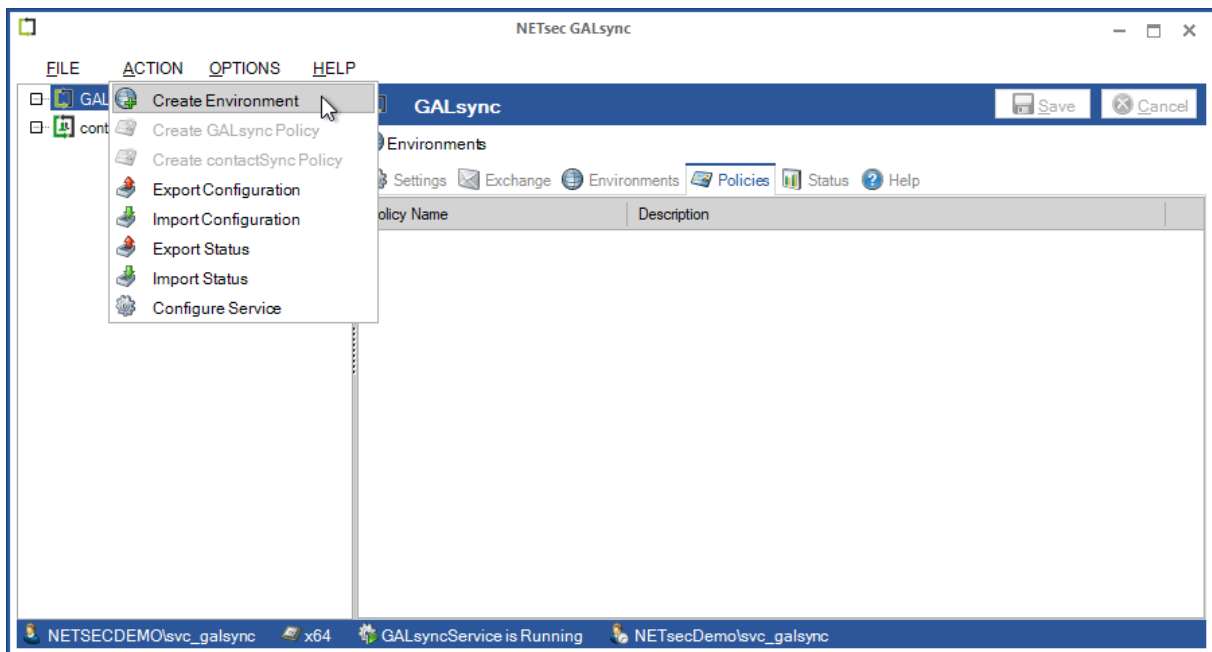
Assigned API permissions

A detailed description is in chapter
Exchange Online certificate-based authentication via App Registration

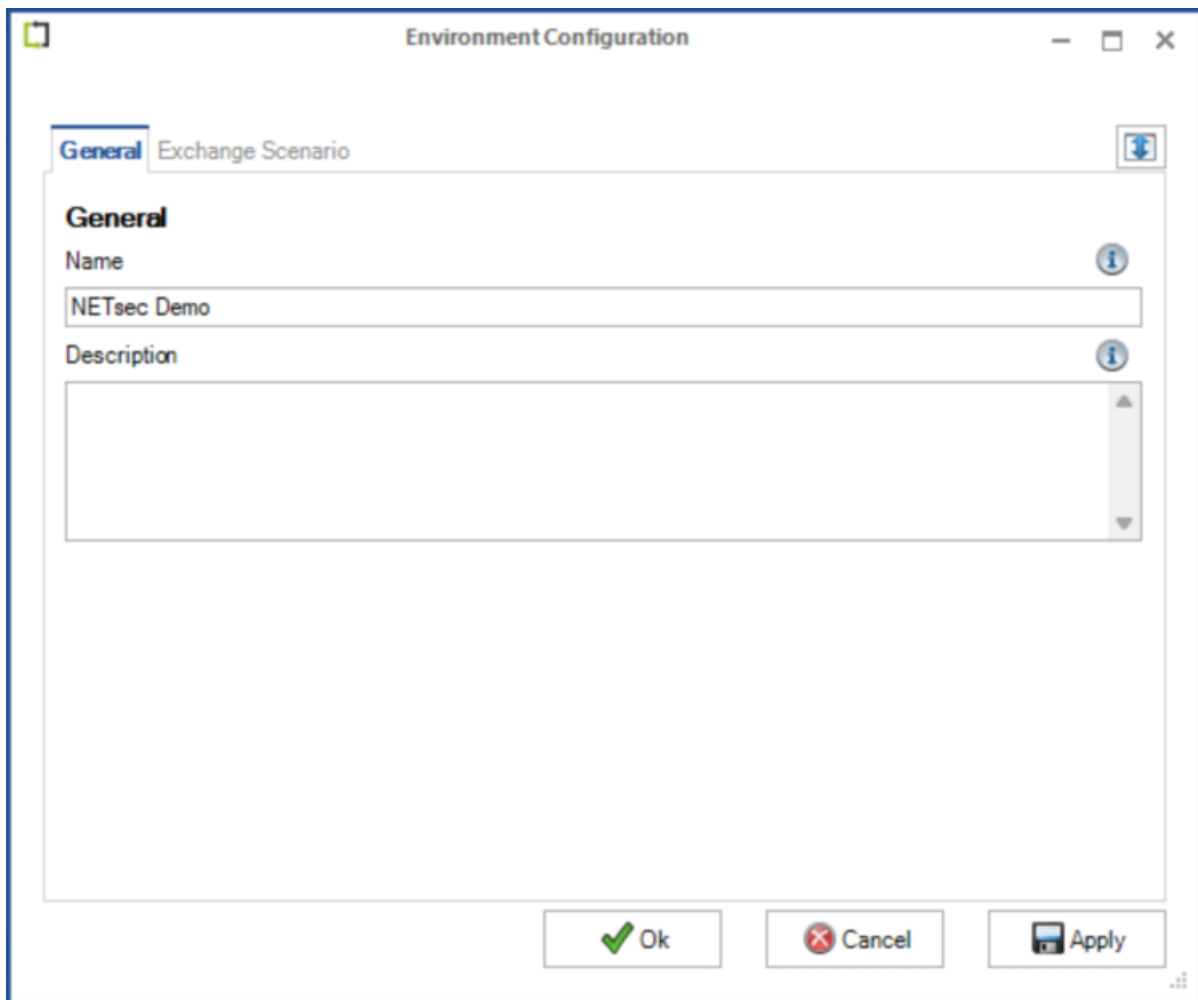
Create Environment Configuration for Exchange Online environment

Important: When creating an environment, it is necessary that you logon to the GALsync server as the GALsync Service account. GALsync uses Windows authentication when accessing its mailbox (when on-premises). When creating an Exchange Online environment with certificate-based authentication the certificate will be stored in the certificate store of the current logged on user. The GALsync account will not be able to find and read the certificate when logged on as a different user.

From the **Action** menu select **Create Environment**.



In the **General** tab, enter a name for the environment and an optional description.



The image shows a Windows-style dialog box titled "Environment Configuration". It has a standard title bar with minimize, maximize, and close buttons. The dialog features a tabbed interface with two tabs: "General" (selected) and "Exchange Scenario". The "General" tab contains a "Name" label with an information icon, a text input field containing "NETsec Demo", a "Description" label with an information icon, and a large text area for the description. At the bottom of the dialog are three buttons: "Ok" with a green checkmark icon, "Cancel" with a red X icon, and "Apply" with a floppy disk icon.

Environment Configuration

General Exchange Scenario

General

Name i

NETsec Demo

Description i

Ok Cancel Apply

Select the **Exchange Scenario** tab, then select **Exchange Online environment**.

Check **The GALsync server is a member of the on-premises Active Directory**, if applicable.

The screenshot shows a window titled "Environment Configuration" with three tabs: "General", "Exchange Scenario", and "Exchange Online". The "Exchange Scenario" tab is selected. Inside the tab, there is a section titled "Exchange Scenario" with the instruction "Please choose the Exchange scenario". There are three radio button options: "On-premises Exchange environment", "Hybrid Exchange environment", and "Exchange Online environment". The "Exchange Online environment" option is selected. Below it, there is a checkbox labeled "The GALsync Server is member of the on-premises Active Directory.." which is checked. Below the checkbox, there is a description: "This on-premises Active Directory is connected to the Microsoft 365 / Office 365 tenant of Exchange Online with Microsoft Azure Active Directory Connect." At the bottom of the dialog, there are three buttons: "Ok", "Cancel", and "Apply".

Environment Configuration

General Exchange Scenario Exchange Online

Exchange Scenario

Please choose the Exchange scenario

☐ On-premises Exchange environment
The GALsync Server must be member of the on-premises Active Directory.

☐ Hybrid Exchange environment
☐ The GALsync Server is member of the on-premises Active Directory.
This on-premises Active Directory is connected to the Microsoft 365 / Office 365 tenant of Exchange Online with Microsoft Azure Active Directory Connect.

☒ Exchange Online environment
☒ The GALsync Server is member of the on-premises Active Directory..
This on-premises Active Directory is connected to the Microsoft 365 / Office 365 tenant of Exchange Online with Microsoft Azure Active Directory Connect.

Ok Cancel Apply

Select the **Exchange Online** tab.

The screenshot shows the 'Environment Configuration' window with the 'Exchange Online' tab selected. The window has a title bar with standard minimize, maximize, and close buttons. Below the title bar, there are three tabs: 'General', 'Exchange Scenario', and 'Exchange Online'. The 'Exchange Online' tab is active and contains the following content:

Exchange Online

Manage the settings for the Exchange Online tenant.
Please use the certificate-based authentication via App registrations in the Microsoft Entra ID.

Credentials

At the top of the Credentials section, there are four buttons: 'Add' (with a plus icon), 'Add' (with a person icon), 'Modify' (with a pencil icon), and 'Remove' (with a red X icon). Each button has an information icon (i) to its right.

Below the buttons is a table with two columns: 'Username' and 'Max. Connection'. The table is currently empty.

Organization Settings

Below the Credentials section, there is a section titled 'Organization Settings'. It contains a label 'Instance hosted by' and a text area with the following text: 'Microsoft 365 or Microsoft 365 GCC' and 'Microsoft Azure public cloud'.

At the bottom of the window, there are three buttons: 'Ok' (with a green checkmark icon), 'Cancel' (with a red X icon), and 'Apply' (with a floppy disk icon).

The **Add** button on the left, will open a dialog window in which to configure **certificate-based authentication** via **App registration** for the Exchange Online tenant.

The screenshot shows the 'Exchange Online' tab in a management console. Below the tab, there's a section titled 'Exchange Online' with instructions: 'Manage the settings for the Exchange Online tenant. Please use the certificate-based authentication via App registrations in the Microsoft Entra ID.' Below this is a 'Credentials' section with buttons: 'Add' (with a plus icon), 'Add' (with a person icon), 'Modify' (with a pencil icon), and 'Remove' (with a red X icon). Each button has an information icon (i) to its right. Below the buttons is a dialog box titled 'Exchange Online App Registration'. Inside the dialog, there's a description: 'Corresponding settings for the Enterprise Application in the Microsoft Entra ID (formerly Azure AD) App registrations that enables access to Exchange Online.' Below this are three text input fields: 'Organization / Tenant', 'Application Display Name', and 'Application ID', each with an information icon (i) to its right. Below these fields is a 'Certificate' section with a table of fields and their corresponding values in the Microsoft Entra ID. The table has two columns: the first column lists the fields, and the second column lists the values. The fields are: 'Friedly Name' (value: 'FriedlyName'), 'Not After' (value: 'Not After'), 'Subject' (value: 'Subject'), 'Thumbprint' (value: 'Thumbprint'), 'Has PrivateKey' (value: 'Has PrivateKey'), and 'User' (value: 'User'). Below the table are two buttons: 'Choose Certificate' and 'Create Certificate', each with an information icon (i) to its right. Below the buttons is a section titled 'Assigned API permissions'.

General Exchange Scenario **Exchange Online**

Exchange Online

Manage the settings for the Exchange Online tenant.
Please use the certificate-based authentication via App registrations in the Microsoft Entra ID.

Credentials

Add Add Modify Remove

Exchange Online App Registration

Corresponding settings for the Enterprise Application in the Microsoft Entra ID (formerly Azure AD) App registrations that enables access to Exchange Online.

Organization / Tenant

Application Display Name

Application ID

Certificate

Friedly Name	FriedlyName
Not After	Not After
Subject	Subject
Thumbprint	Thumbprint
Has PrivateKey	Has PrivateKey
User	User

Choose Certificate Create Certificate

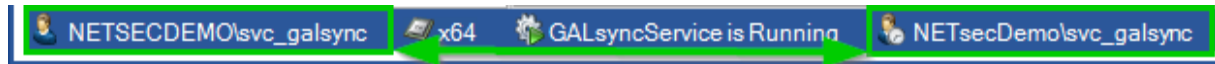
Assigned API permissions

A detailed description is in chapter
Exchange Online certificate-based authentication via App Registration

Exchange Online certificate-based authentication via App Registration

First, please verify the GALsync GUI is running in the credentials of the local GALsync service account, otherwise GALsync cannot decrypt the Application Id and cannot find the certificate later.

This can be confirmed on the information bar at the bottom of the GALsync GUI.



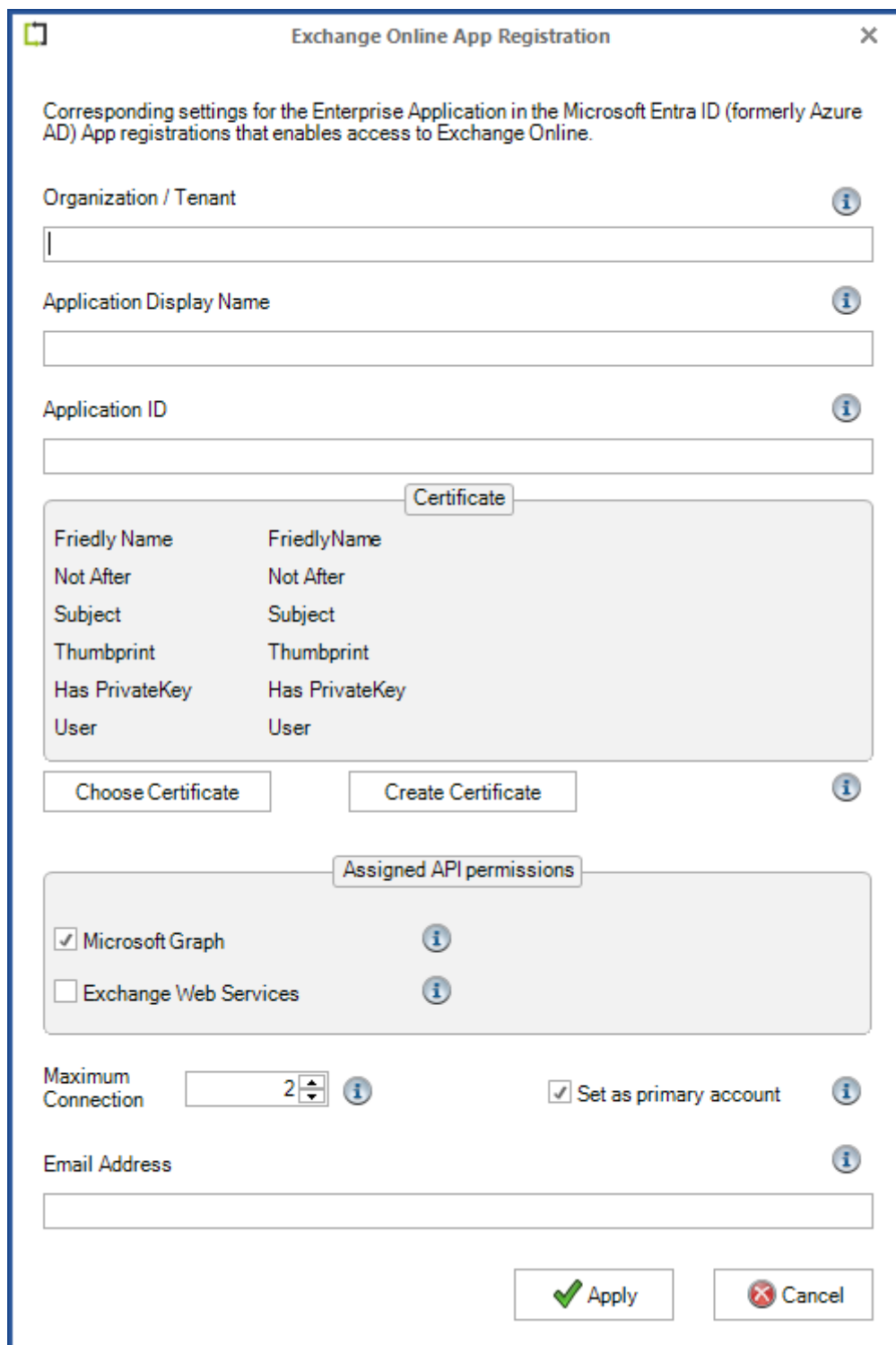
Register an Enterprise Application in the **Microsoft Entra admin center** (formerly known as **Azure Active Directory admin center**) and enter the corresponding values in the **Exchange Online App Registration** dialog.

A screenshot of the 'Exchange Online App Registration' dialog box. The dialog box has a title bar with 'Exchange Online App Registration' and a close button. Below the title bar, there is a section titled 'Exchange Online' with a subtitle 'Manage the settings for the Exchange Online tenant. Please use the certificate-based authentication via App registrations in the Microsoft Entra ID.' Below this, there is a 'Credentials' tab with buttons for 'Add', 'Add', 'Modify', and 'Remove'. Below the 'Credentials' tab, there are three input fields: 'Organization / Tenant', 'Application Display Name', and 'Application ID'. Below these fields, there is a 'Certificate' tab with a table of certificate details. The table has two columns: 'Friendly Name' and 'FriendlyName', 'Not After' and 'Not After', 'Subject' and 'Subject', 'Thumbprint' and 'Thumbprint', 'Has PrivateKey' and 'Has PrivateKey', and 'User' and 'User'. Below the table, there are two buttons: 'Choose Certificate' and 'Create Certificate'. At the bottom, there is a section titled 'Assigned API permissions'.

The following description is based on the **Microsoft Documentation** article:

App-only authentication for unattended scripts in Exchange Online PowerShell and Security & Compliance PowerShell

<https://learn.microsoft.com/en-us/powershell/exchange/app-only-auth-powershell-v2?view=exchange-ps>



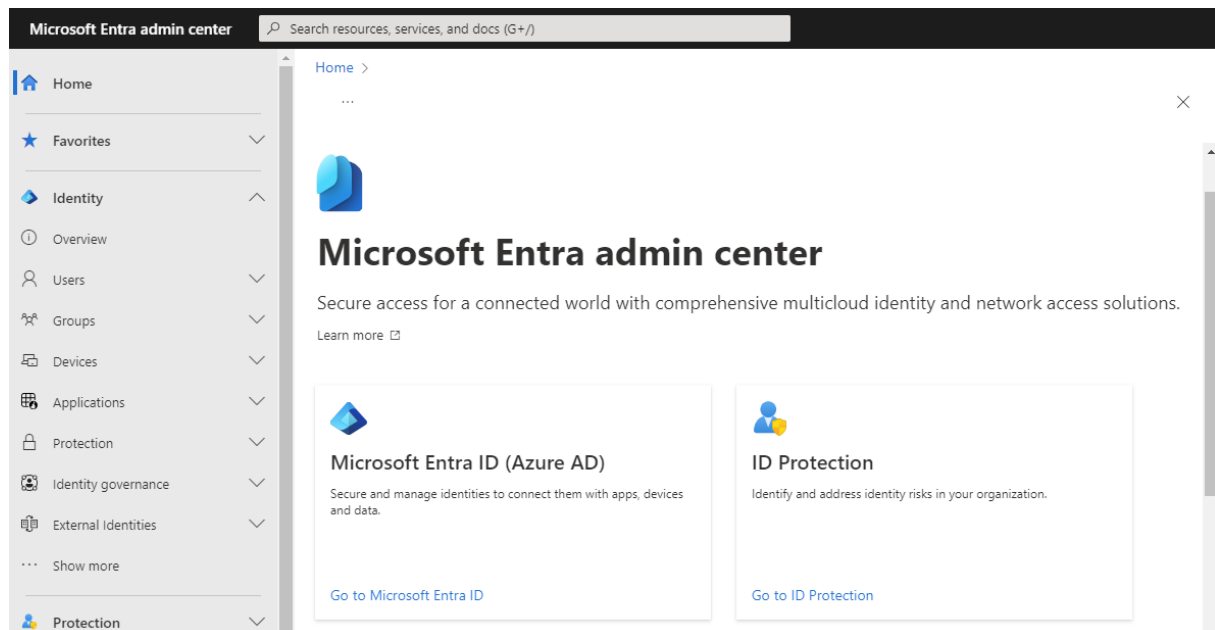
The image shows a screenshot of the "Exchange Online App Registration" dialog box. The dialog has a title bar with a close button. Below the title bar, there is a descriptive text: "Corresponding settings for the Enterprise Application in the Microsoft Entra ID (formerly Azure AD) App registrations that enables access to Exchange Online." The form contains several input fields and sections:

- Organization / Tenant:** A text input field with an information icon.
- Application Display Name:** A text input field with an information icon.
- Application ID:** A text input field with an information icon.
- Certificate:** A section with a tab labeled "Certificate". It contains a table with two columns: "Property" and "Value". The rows are: "Friendly Name" (FriendlyName), "Not After" (Not After), "Subject" (Subject), "Thumbprint" (Thumbprint), "Has PrivateKey" (Has PrivateKey), and "User" (User). Below the table are two buttons: "Choose Certificate" and "Create Certificate", followed by an information icon.
- Assigned API permissions:** A section with a tab labeled "Assigned API permissions". It contains two checkboxes: "Microsoft Graph" (checked) and "Exchange Web Services" (unchecked). Each checkbox has an information icon.
- Maximum Connection:** A numeric input field with a value of "2" and an information icon.
- Set as primary account:** A checked checkbox with an information icon.
- Email Address:** A text input field with an information icon.
- Buttons:** At the bottom right, there are two buttons: "Apply" (with a green checkmark icon) and "Cancel" (with a red X icon).

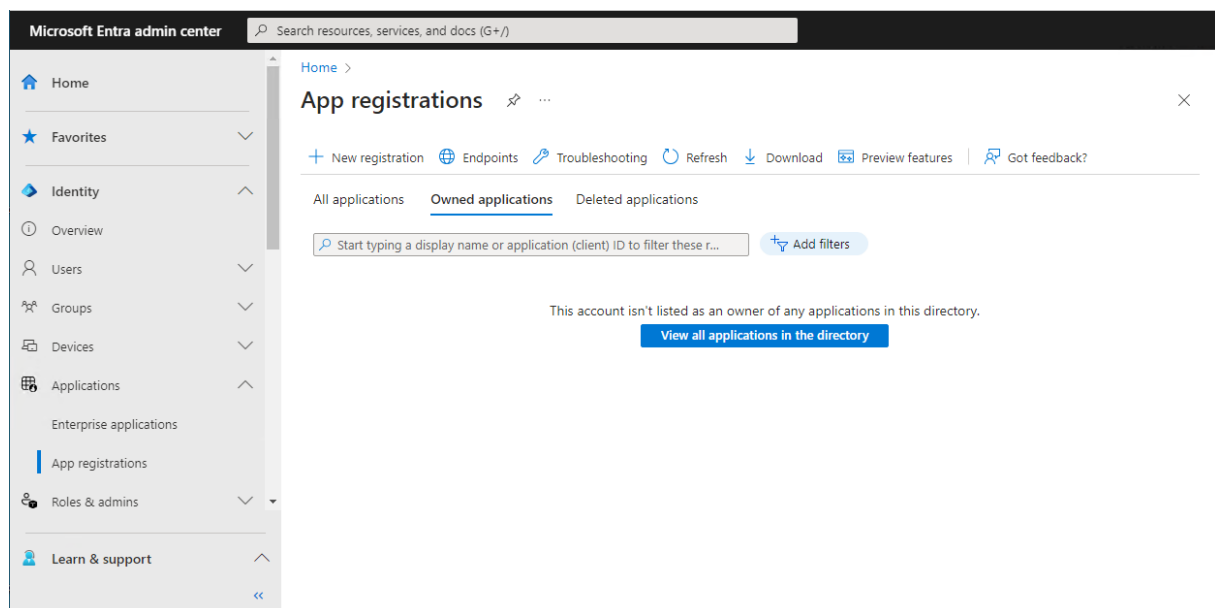
Register an Enterprise Application in Microsoft Entra ID

Login to the **Microsoft Entra admin center** <https://entra.microsoft.com>

as a global administrator and expand **Identity** (formerly Azure Active Directory).



Expand **Applications** and go to **App registrations**. Then select **New registration**.



Microsoft Entra admin center

Home > App registrations >

Register an application

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

GALsync Enterprise App

Supported account types
Who can use this application or access this API?

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

[Help me choose...](#)

By proceeding, you agree to the [Microsoft Platform Policies](#)

Register

Enter a name for the **Application**.

In this example, it has been named **GALsync Enterprise App**.

Select the **Accounts in this organizational directory only (<YourOrganizationName> only - Single tenant)** radio button and click **Register**.

Transfer the information of the registered Application to the **Exchange Online App Registration** dialog.

Microsoft Entra admin center

Home > App registrations >

GALsync Enterprise App

Delete Endpoints Preview features

Got a second? We would love your feedback on Microsoft identity platform (previously Azure AD for developer).

Essentials

Display name
GALsync Enterprise App

Application (client) ID
9b5fb788-77e1-4225-af74-a96f7c8fed5d

Object ID
8b7f64a5-68a3-4ec9-84eb-16dca3bd90e1

Directory (tenant) ID
e9148e4a-2027-4845-8c11-8c056e5acb8c

Supported account types
[My organization only](#)

Client credentials
[Add a certificate or secret](#)

Redirect URIs
[Add a Redirect URI](#)

Application ID URI
[Add an Application ID URI](#)

Managed application in local directory
[GALsync Enterprise App](#)

Welcome to the new and improved App registrations. Looking to learn how it's changed from App registrations (Legacy)? [Learn more](#)

Exchange Online App Registration

Corresponding settings for the Enterprise Application in the Microsoft Entra ID (formerly Azure AD) App registrations that enables access to Exchange Online.

Organization / Tenant
netsecdemotenant.onmicrosoft.com

Application Display Name
GALsync Enterprise App

Application ID
9b5fb788-77e1-4225-af74-a96f7c8fed5d

Certificate

Friendly Name	FriendlyName
Not After	Not After
Subject	Subject
Thumbprint	Thumbprint
Has PrivateKey	Has PrivateKey
User	User

[Choose Certificate](#) [Create Certificate](#)

Maximum Connection: 2 ☒ Set as primary account

Email Address

Apply **Cancel**

Build your application with the Microsoft identity platform

[Get Started](#) [Documentation](#)

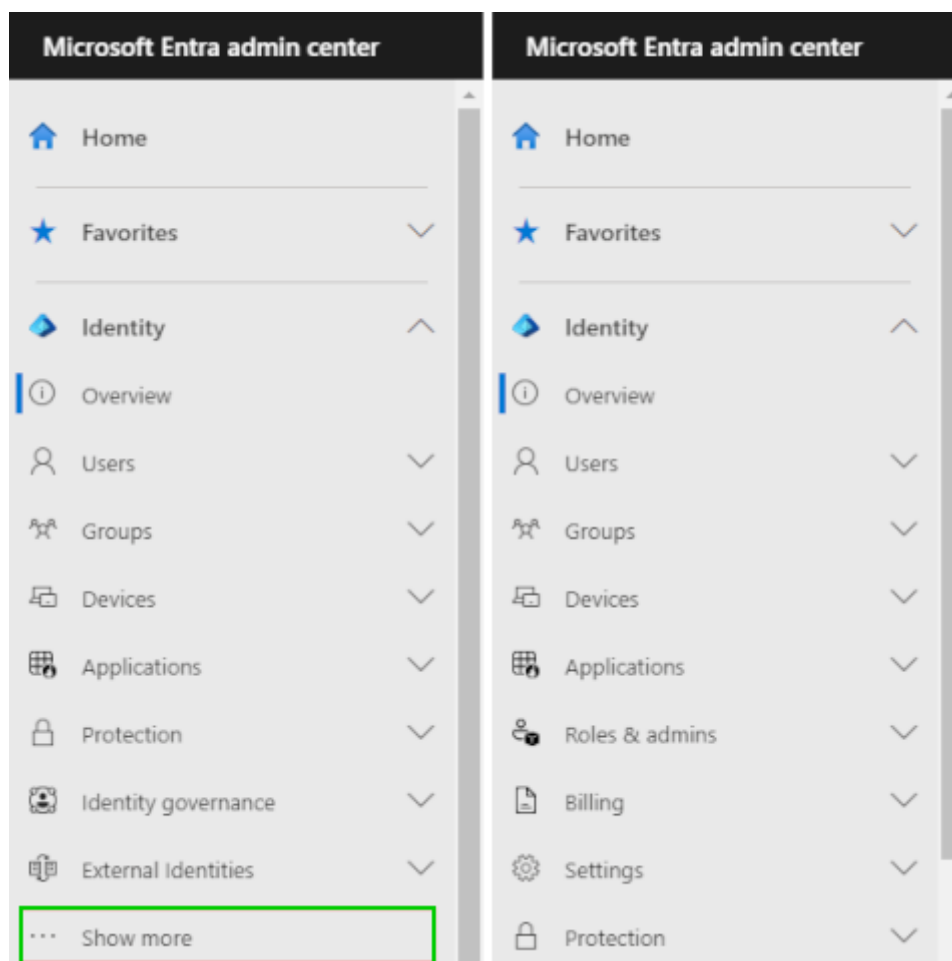
Organization / Tenant needs the **.onmicrosoft.com** domain name of the Microsoft 365 tenant. Otherwise, you may encounter cryptic permission issues when you run a policy in the app context. The next chapter will describe where to find the domain name of the Microsoft 365 tenant.

Application Display Name must have the value of the **Display name** of the registered Application.

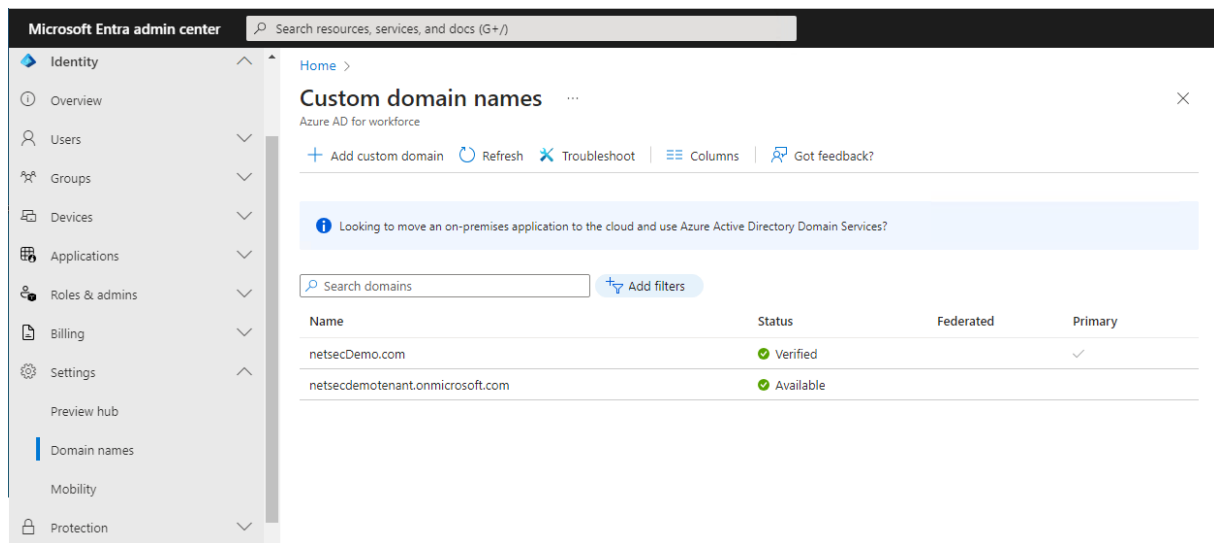
Application ID must have the value of the **Application (Client) ID** of the registered Application.

Where to find the domain name of the Microsoft 365 tenant?

Click **Show more** to see **Settings**



Expand **Settings**, go to **Domain names** and use the **.onmicrosoft.com** domain name.



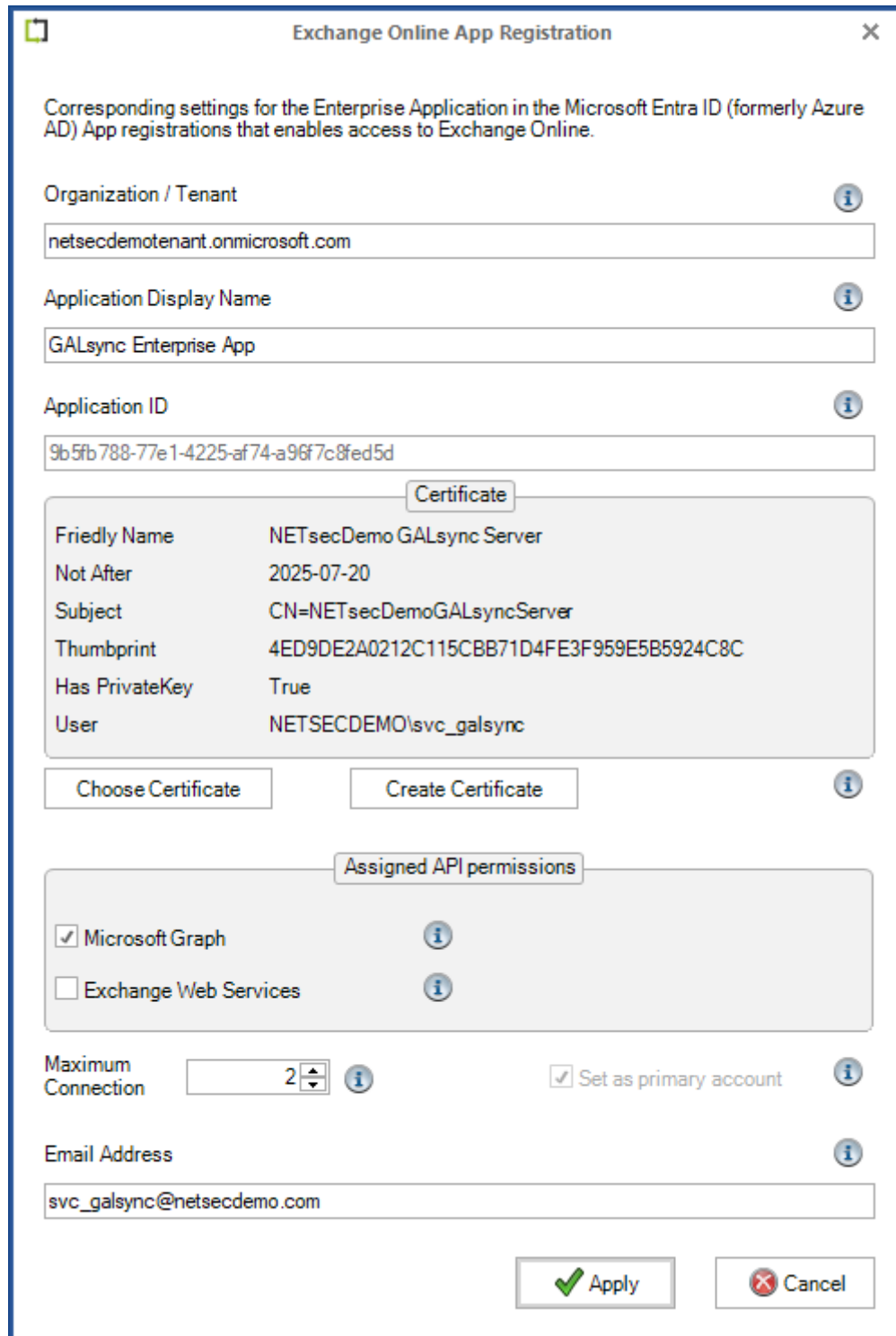
The screenshot shows the Microsoft Entra admin center interface. The left sidebar contains the following navigation items: Identity, Overview, Users, Groups, Devices, Applications, Roles & admins, Billing, Settings, Preview hub, Domain names (selected), Mobility, and Protection. The main content area is titled 'Custom domain names' and includes a search bar, a table of domains, and a 'Add filters' button.

Name	Status	Federated	Primary
netsecDemo.com	Verified		✓
netsecdemotenant.onmicrosoft.com	Available		

Please do not confuse the Microsoft 365 tenant domain names with the Exchange Online accepted domains.

Certificate for the registered Application

For app-only authentication in **Microsoft Entra ID** (formerly known as Azure Active Directory), you typically use a certificate to request access. Anyone who has the certificate and its private key can use the application, and the permissions granted to the application.



The image shows a screenshot of the "Exchange Online App Registration" dialog box. The dialog has a title bar with a close button. Below the title bar, there is a descriptive text: "Corresponding settings for the Enterprise Application in the Microsoft Entra ID (formerly Azure AD) App registrations that enables access to Exchange Online." The form contains several fields and sections:

- Organization / Tenant:** A text field containing "netsecdemo.onmicrosoft.com".
- Application Display Name:** A text field containing "GALsync Enterprise App".
- Application ID:** A text field containing "9b5fb788-77e1-4225-af74-a96f7c8fed5d".
- Certificate Section:** A tabbed section with a "Certificate" tab. It contains a table with the following details:

Friendly Name	NETsecDemo GALsync Server
Not After	2025-07-20
Subject	CN=NETsecDemoGALsyncServer
Thumbprint	4ED9DE2A0212C115CBB71D4FE3F959E5B5924C8C
Has PrivateKey	True
User	NETSECDEMO\svc_galsync

Below the table are two buttons: "Choose Certificate" and "Create Certificate".
- Assigned API permissions Section:** A tabbed section with an "Assigned API permissions" tab. It contains two checkboxes:
 - ☒ Microsoft Graph
 - ☐ Exchange Web Services
- Maximum Connection:** A numeric field set to "2".
- Set as primary account:** A checkbox that is checked.
- Email Address:** A text field containing "svc_galsync@netsecdemo.com".
- Buttons:** At the bottom right, there are "Apply" and "Cancel" buttons.

Choose Certificate

Choose an existing certificate and its private key from the user certificate store of the current user, which runs the GALsync GUI.

The corresponding public key file of this selected certificate must be uploaded to the registered Application.

Create Certificate

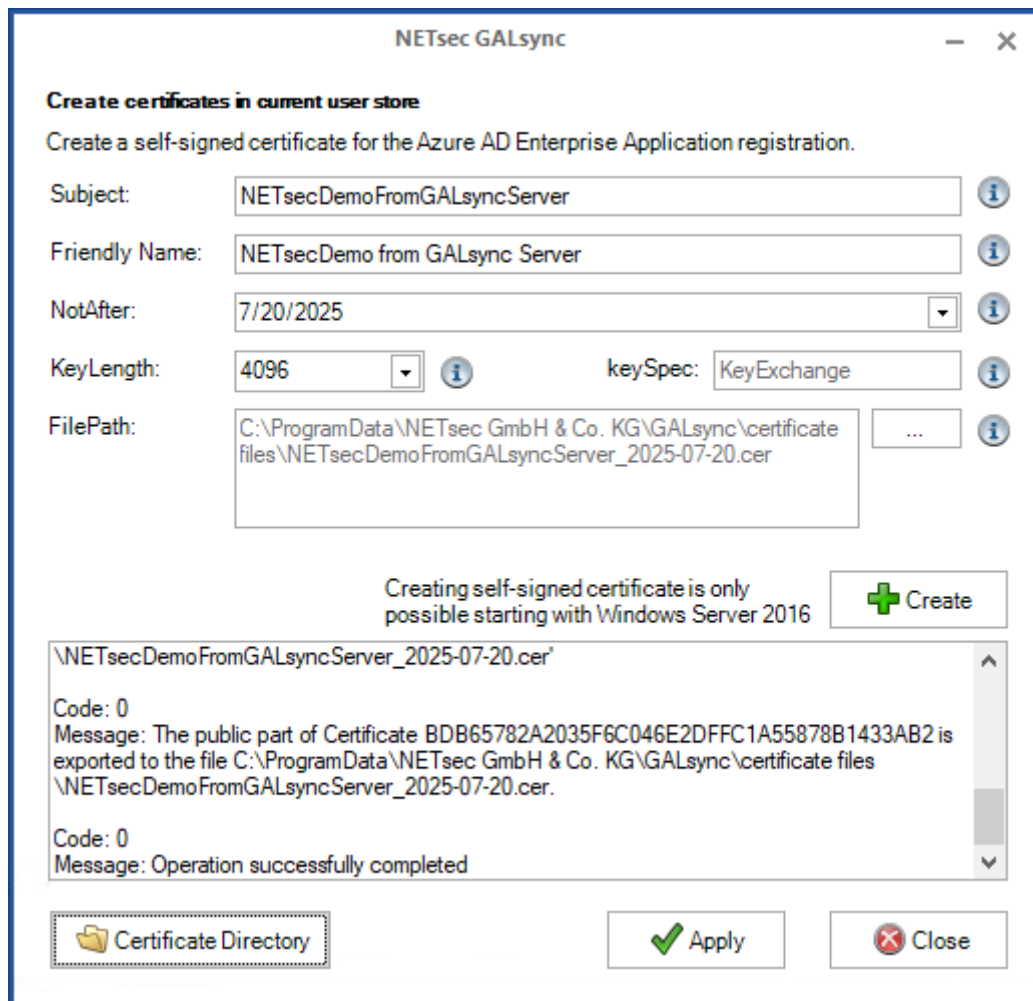
Create a self-signed certificate, which will be saved in the current user certificate store and will be used to authenticate your Application against **Identity** (formerly Azure Active Directory), while requesting the app-only access token.

The screenshot shows a Windows-style dialog box titled "NETsec GALsync". Inside, the section "Create certificates in current user store" is active, with the instruction "Create a self-signed certificate for the Azure AD Enterprise Application registration." Below this, there are several input fields: "Subject:" with the value "NETsecDemoFromGALsyncServer", "Friendly Name:" with "NETsecDemo from GALsync Server", "NotAfter:" with a date selector set to "7/20/2025", "KeyLength:" with a dropdown set to "4096", and "keySpec:" with a dropdown set to "KeyExchange". The "FilePath:" field contains a long path: "C:\ProgramData\NETsec GmbH & Co. KG\GALsync\certificate files\NETsecDemoFromGALsyncServer_2025-07-20.cer". To the right of the "keySpec:" field is a "..." button. Below these fields, a message states "Creating self-signed certificate is only possible starting with Windows Server 2016" next to a green "+ Create" button. At the bottom of the dialog, there are three buttons: "Certificate Directory" (with a folder icon), "Apply" (with a checkmark icon), and "Close" (with a red X icon).

Enter the **Subject**, and **Friendly Name** of the certificate.

In the example above, the forest name (NETsecDemo) and the name of the server (GALsync Server) from which the connection is established will be incorporated in both.

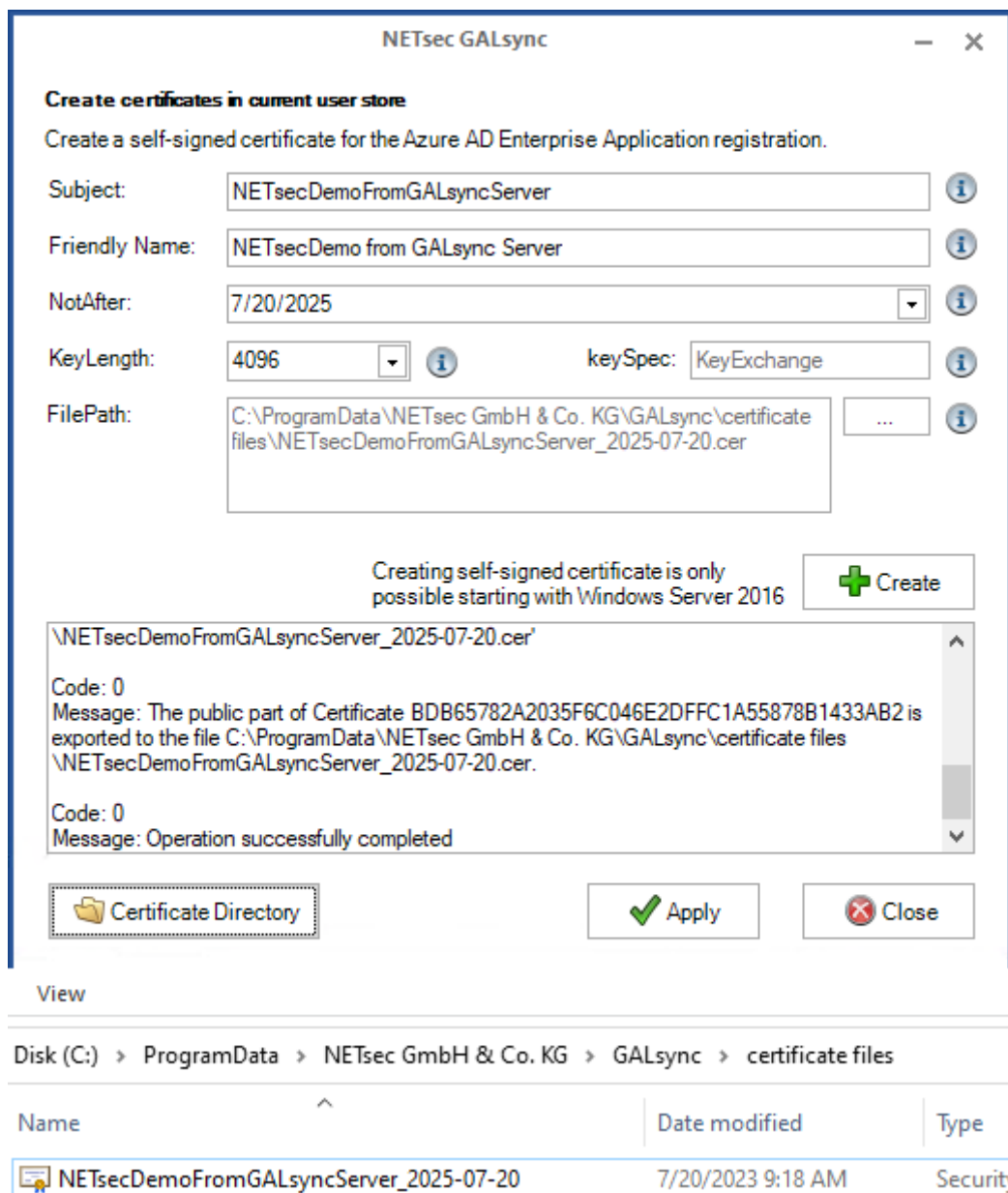
Click **Create** to generate a new certificate.



The public key file is created in the default path

C:\ProgramData\NETsec GmbH & Co. KG\GALsync\certificate files\

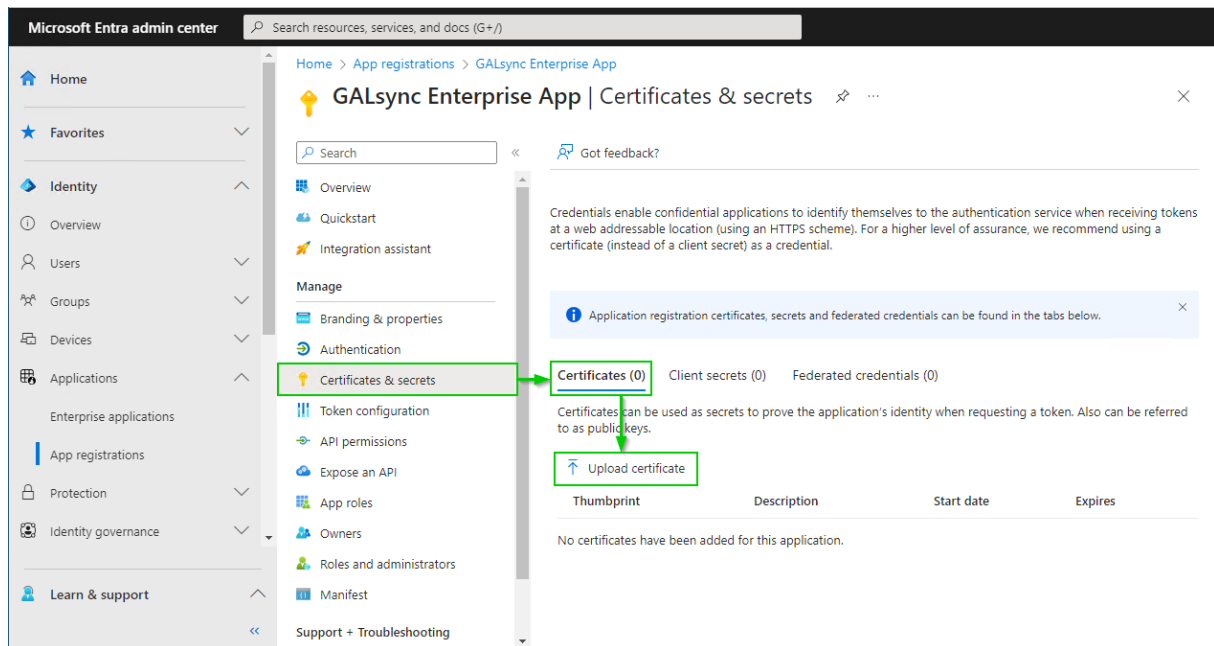
Click on the **Certificate Directory** button to open the folder in **File Explorer**



Then click **Apply** to close the Create Certificate dialog.

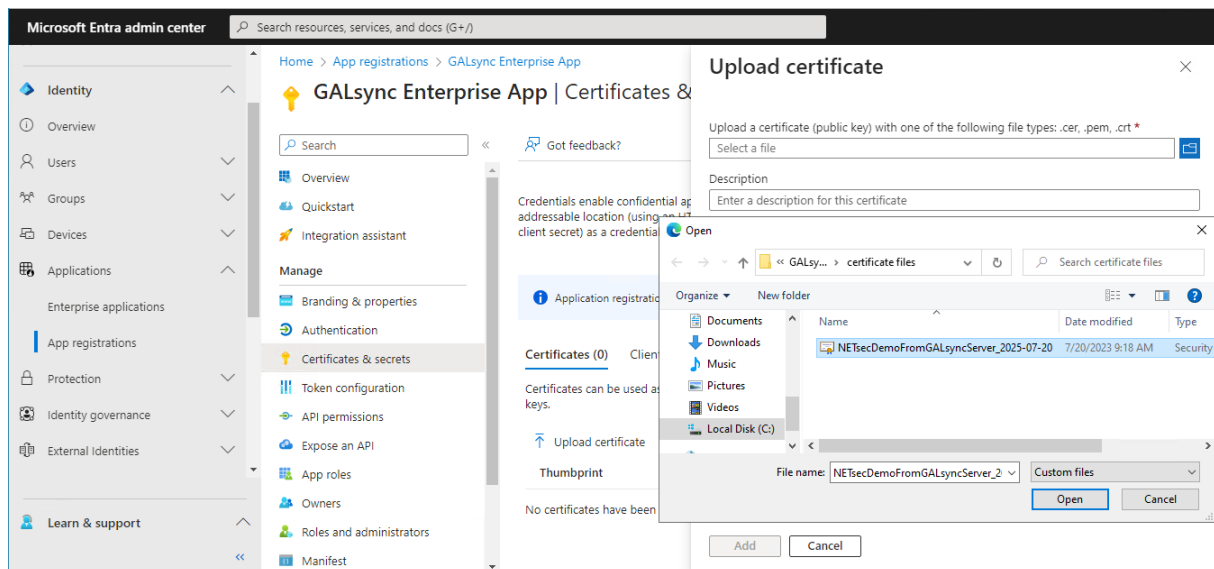
Upload certificate file for the registered Application

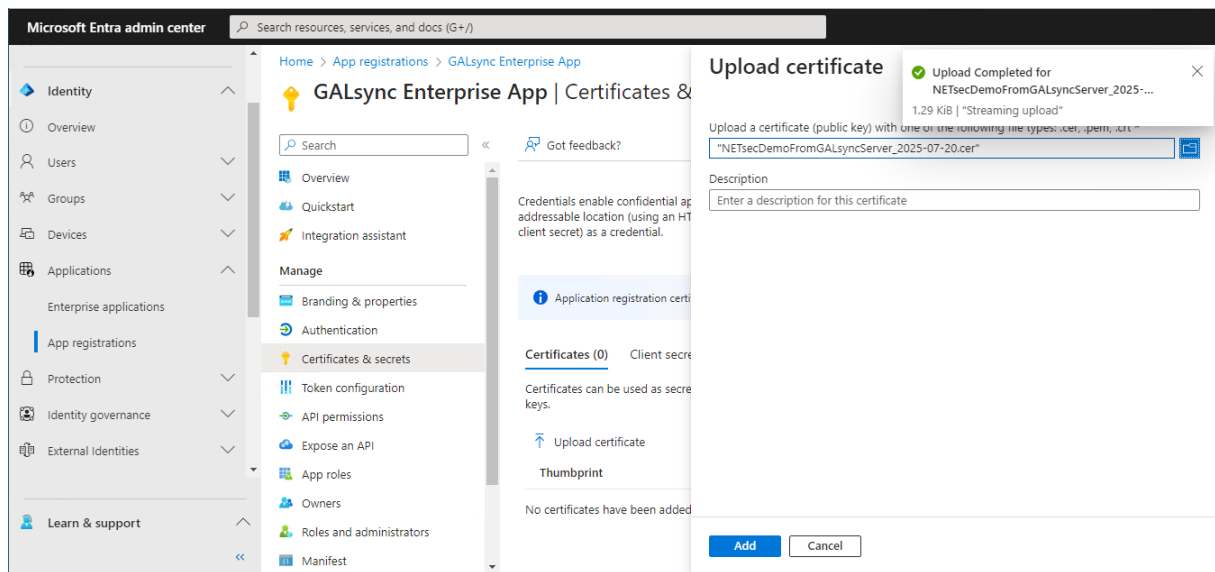
Go to **Certificates & secrets** of the registered Application in **Microsoft Entra ID** (Azure AD), and select the **Certificates** tab.



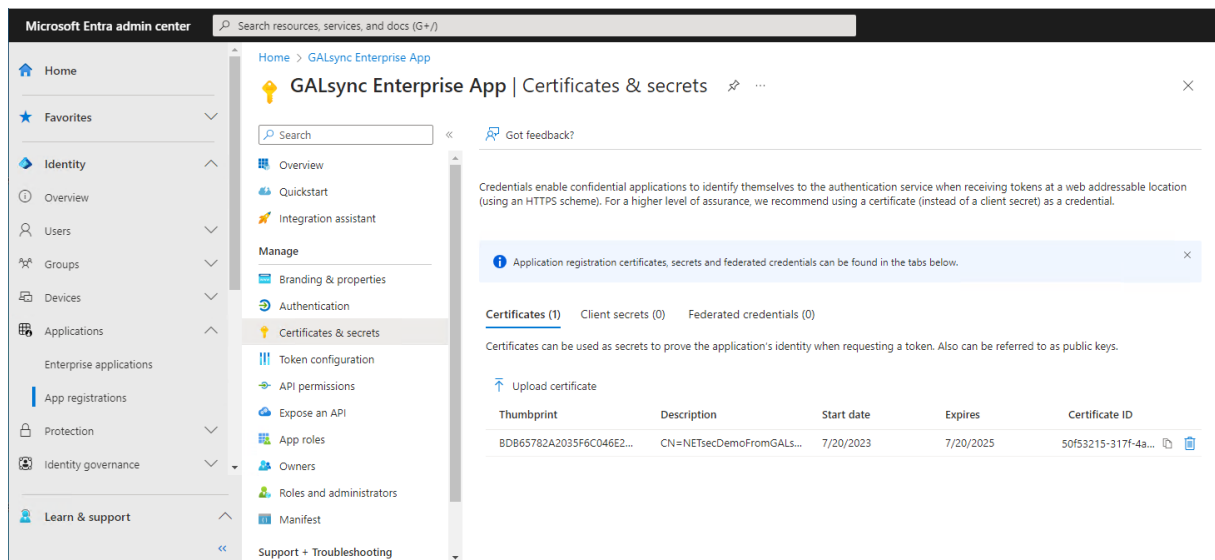
Select **Upload certificate**, then browse to the location where the certificate was saved. Select, and open it. The default path is:

```
C:\ProgramData\NETsec GmbH & Co. KG\GALsync\certificate files
```





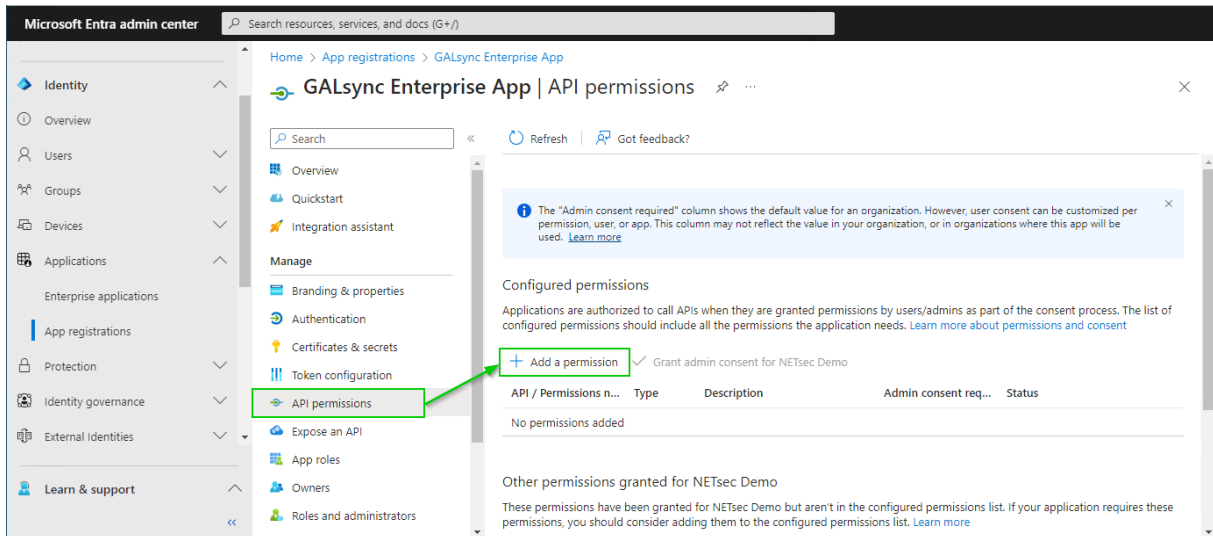
Add the selected certificate.



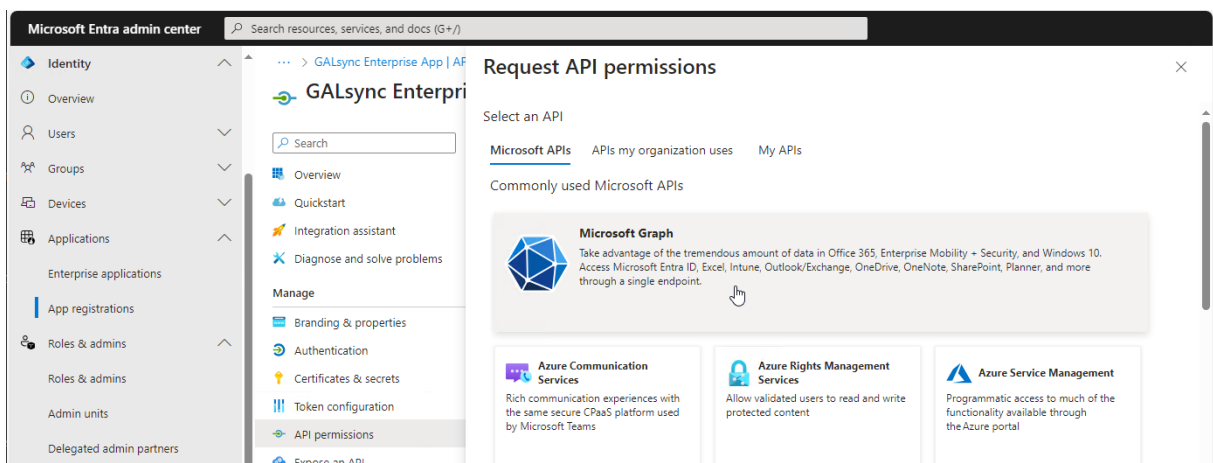
Assign API permissions to the registered Application

API permissions for Microsoft Graph

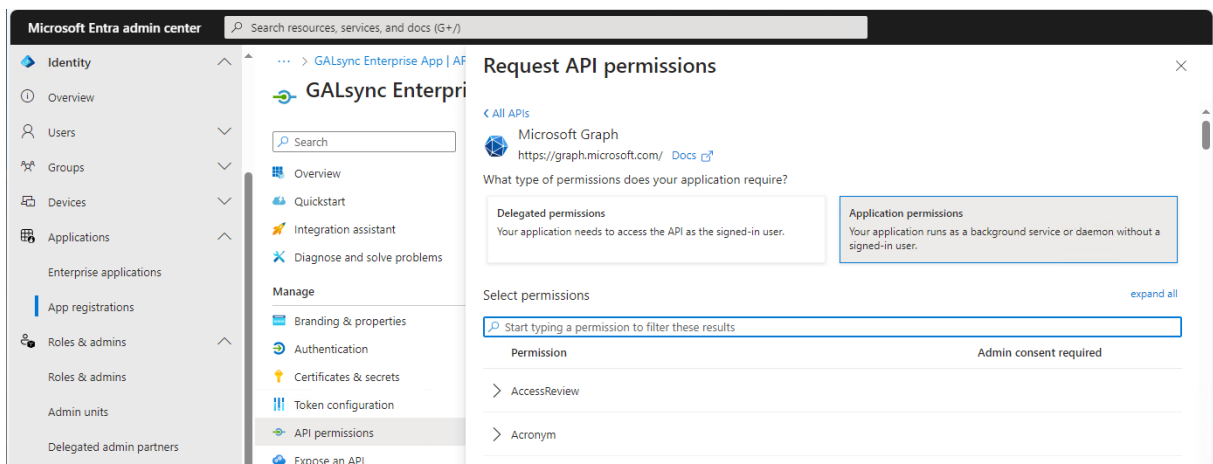
Go to **API permissions**, then select **Add a permission**



Select the **Microsoft APIs** and click on **Microsoft Graph**

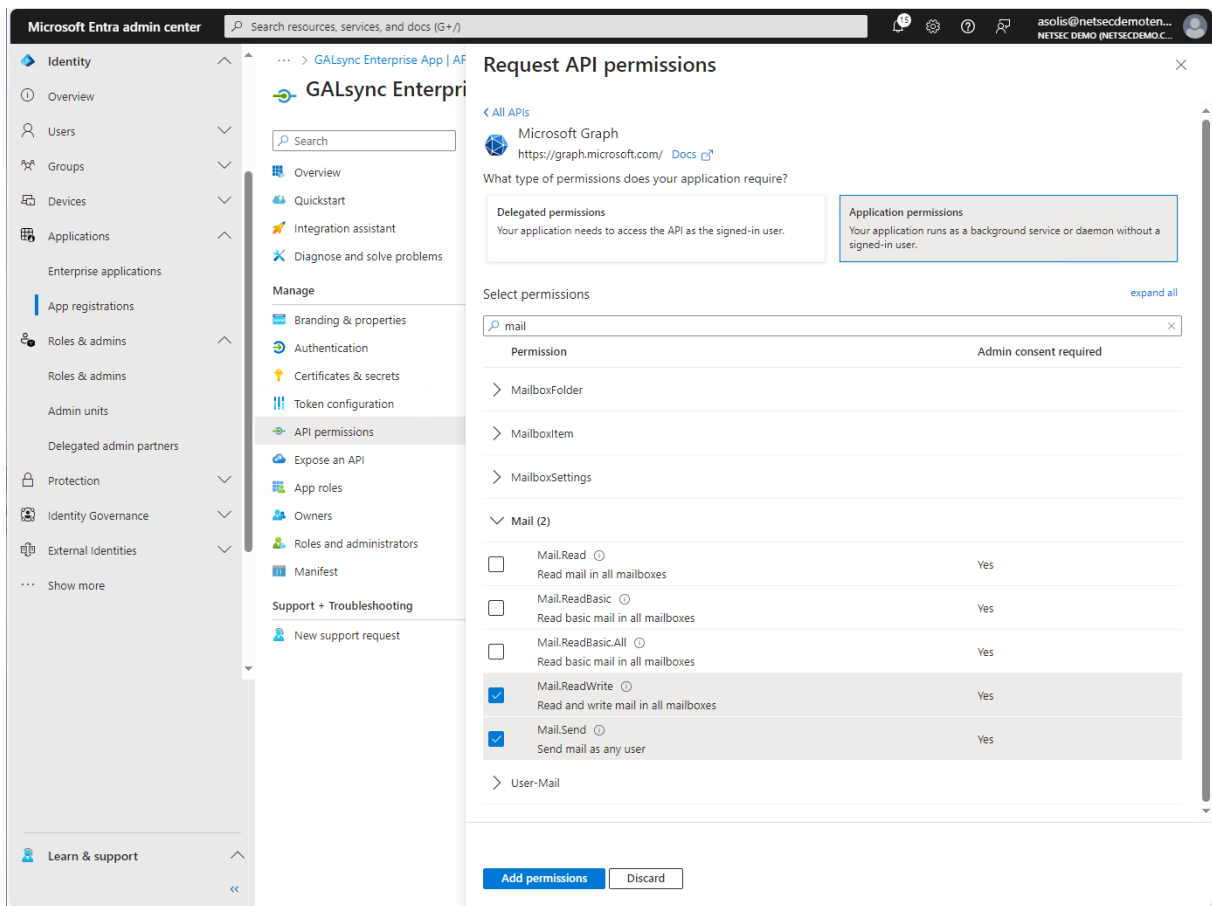


Select **Application permissions**



Search for **mail** and expand the **Mail** in the result list.

Select
Mail.ReadWrite
and
Mail.Send



Please note, if you also use **contactSync policies** in GALsync, it will be necessary to configure additional API permissions. Please take a look at the **Assign API permissions to the registered Application** chapter in the **contactSync manual**.

Click **Add permissions**

Select **Add a permission** again.

Microsoft Entra admin center

Search resources, services, and docs (G+/)

Home > GALsync Enterprise App | API permissions > App registrations > GALsync Enterprise App | API permissions > App registrations > GALsync Enterprise App

GALsync Enterprise App | API permissions

Search Refresh Got feedback?

You are editing permission(s) to your application, users will have to consent even if they've already done so previously.

The "Admin consent required" column shows the default value for an organization. However, user consent can be customized per permission, user, or app. This column may not reflect the value in your organization, or in organizations where this app will be used. [Learn more](#)

Configured permissions

Applications are authorized to call APIs when they are granted permissions by users/admins as part of the consent process. The list of configured permissions should include all the permissions the application needs. [Learn more about permissions and consent](#)

+ Add a permission ✓ Grant admin consent for NETSec Demo

API / Permissions n...	Type	Description	Admin consent req...	Status
Microsoft Graph (3)				
Mail.ReadWrite	Application	Read and write mail in all mailboxes	Yes	Not granted for NETSec ...
Mail.Send	Application	Send mail as any user	Yes	Not granted for NETSec ...

To view and manage consented permissions for individual apps, as well as your tenant's consent settings, try [Enterprise applications](#).

Select the **APIs my organization uses** tab on the **Request API permissions** dialog and search for **Office**.

Microsoft Entra admin center

Search resources, services, and docs (G+/)

Home > App registrations > GALsync Enterprise App | API permissions > Request API permissions

Request API permissions

Select an API

Microsoft APIs APIs my organization uses My APIs

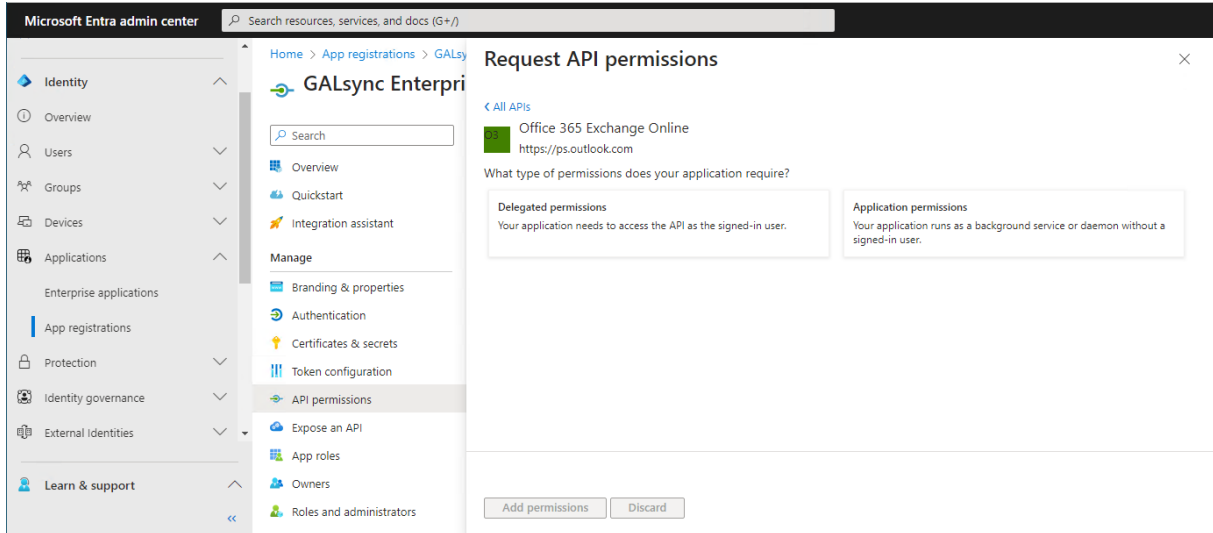
Apps in your directory that expose APIs are shown below

Office 365

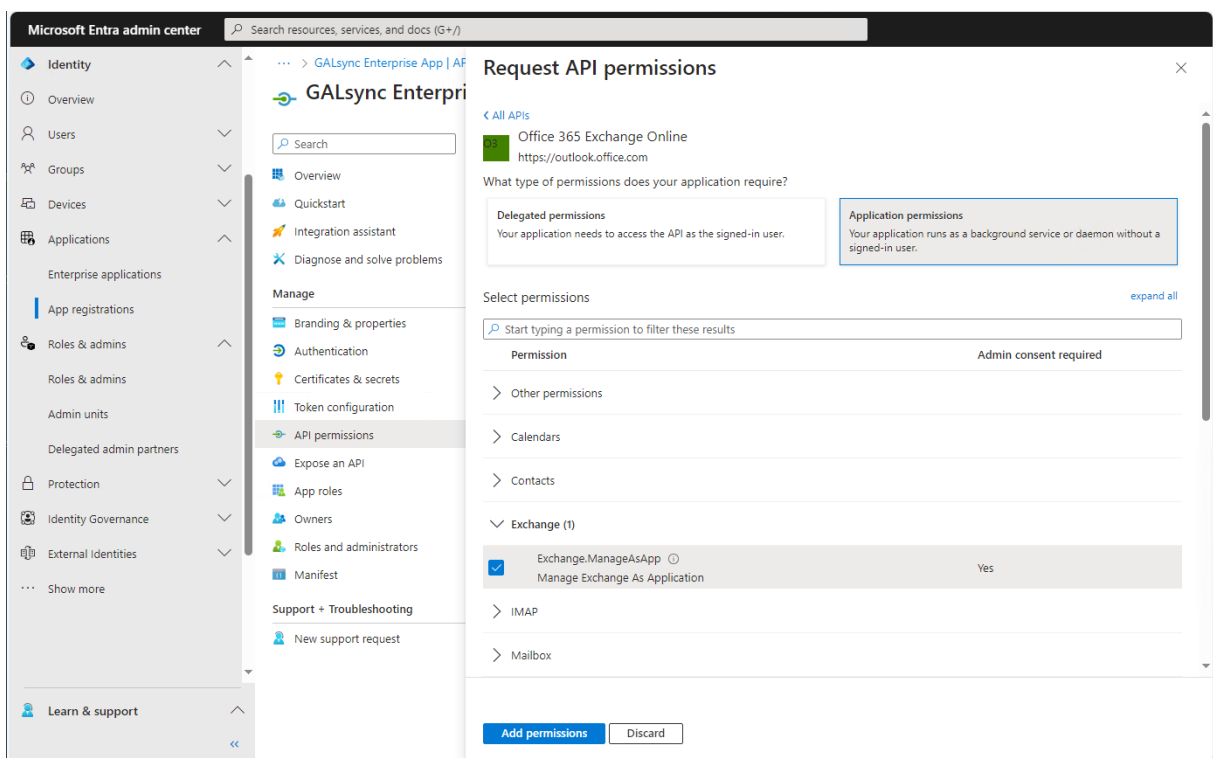
Name	Application (client) ID
Office 365 Enterprise Insights	f9d02341-e7aa-456d-926d-4a0ca599fbee
Office 365 Exchange Online	00000002-0000-0ff1-ce00-000000000000
Office 365 Information Protection	2f3f02c9-5679-4a5c-a605-0de55b07d135
Office 365 Management APIs	c5393580-f805-4401-95e8-94b7a6ef2fc2
Office 365 Mover	d62121f3-e023-4972-b6b0-794190c0fd98
Office 365 Search Service	66a88757-258c-4c72-893c-3e8bed4d6899
Office 365 SharePoint Online	00000003-0000-0ff1-ce00-000000000000

Click on **Office 365 Exchange Online** in the result list to open it.

Select Application permissions



Select Exchange.ManageAsApp Manage Exchange As Application



Click **Add permissions**

Click **Grant admin consent** for your tenant.

The screenshot shows the Microsoft Entra admin center interface. The left sidebar contains navigation links for Identity, Users, Groups, Devices, Applications, Roles & admins, Protection, Identity Governance, External Identities, and Learn & support. The main content area is titled 'GALsync Enterprise App | API permissions'. It includes a search bar, a 'Refresh' button, and a 'Got feedback?' link. A warning message states: 'You are editing permission(s) to your application, users will have to consent even if they've already done so previously.' Below this, a table lists configured permissions for the application. The table has columns for API / Permissions n..., Type, Description, Admin consent req..., and Status. The permissions listed are Mail.ReadWrite, Mail.Send, and Exchange.Manage, all of which are 'Not granted for NETSec ...'. A 'Grant admin consent for NETSec Demo' button is visible above the table. A 'Learn more' link is also present.

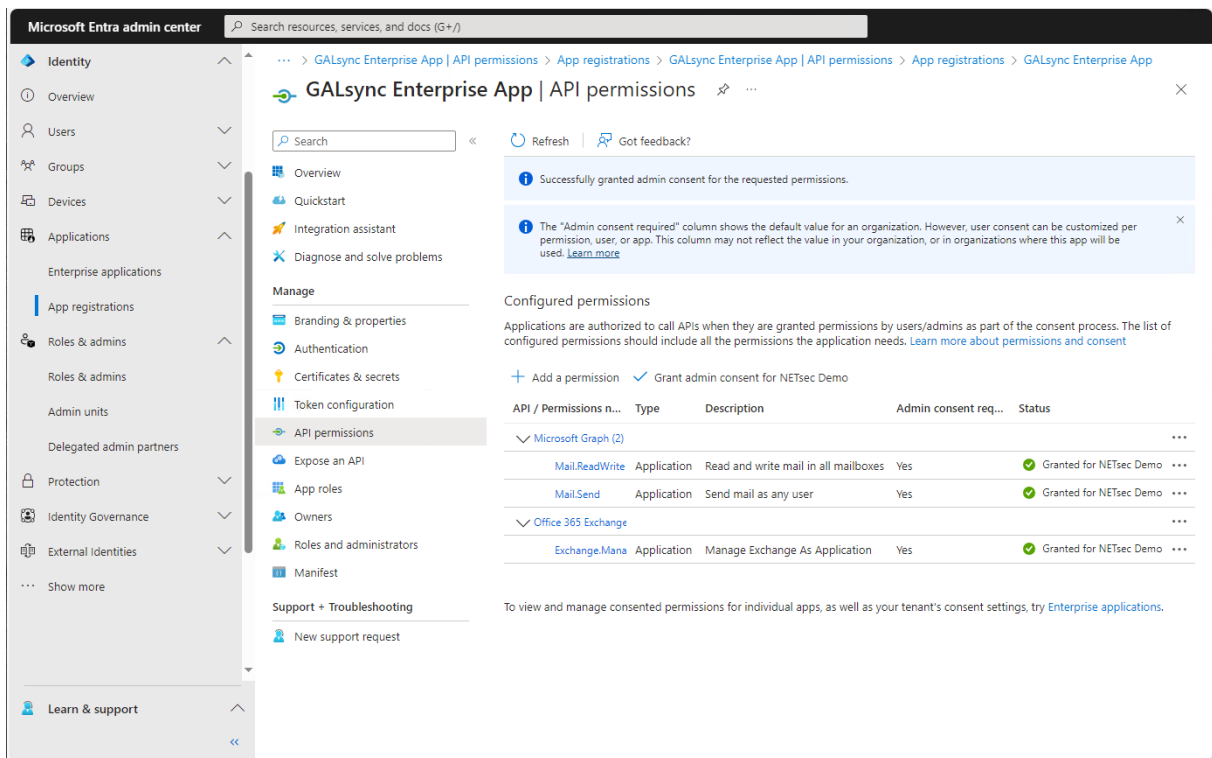
API / Permissions n...	Type	Description	Admin consent req...	Status
Microsoft Graph (3)				...
Mail.ReadWrite	Application	Read and write mail in all mailb...	Yes	Not granted for NETSec ...
Mail.Send	Application	Send mail as any user	Yes	Not granted for NETSec ...
Office 365 Exchange				...
Exchange.Manage	Application	Manage Exchange As Application	Yes	Not granted for NETSec ...

Click **Yes** to confirm the consent.

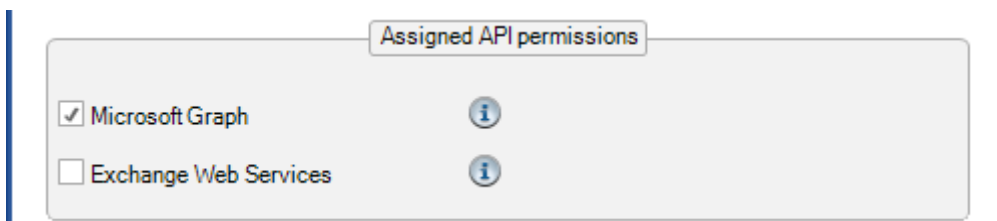
The screenshot shows the same Microsoft Entra admin center interface as the previous one, but with a 'Grant admin consent confirmation' dialog box open. The dialog box asks: 'Do you want to grant consent for the requested permissions for all accounts in NETSec Demo? This will update any existing admin consent records this application already has to match what is listed below.' There are 'Yes' and 'No' buttons. The background content is dimmed, but the table of permissions is still visible. The 'Grant admin consent for NETSec Demo' button is now disabled.

API / Permissions n...	Type	Description	Admin consent req...	Status
Microsoft Graph (3)				...
Mail.ReadWrite	Application	Read and write mail in all mailb...	Yes	Not granted for NETSec ...
Mail.Send	Application	Send mail as any user	Yes	Not granted for NETSec ...
Office 365 Exchange				...
Exchange.Manage	Application	Manage Exchange As Application	Yes	Not granted for NETSec ...

API permissions are assigned to the registered Application.



Accordingly, select **Microsoft Graph** at the **Assigned API permissions** group box in the Exchange Online App Registration dialog.



Please note, if you also use **contactSync policies** in GALsync, it will be necessary to configure additional API permissions. Please take a look at the **Assign API permissions to the registered Application** chapter in the **contactSync manual**.

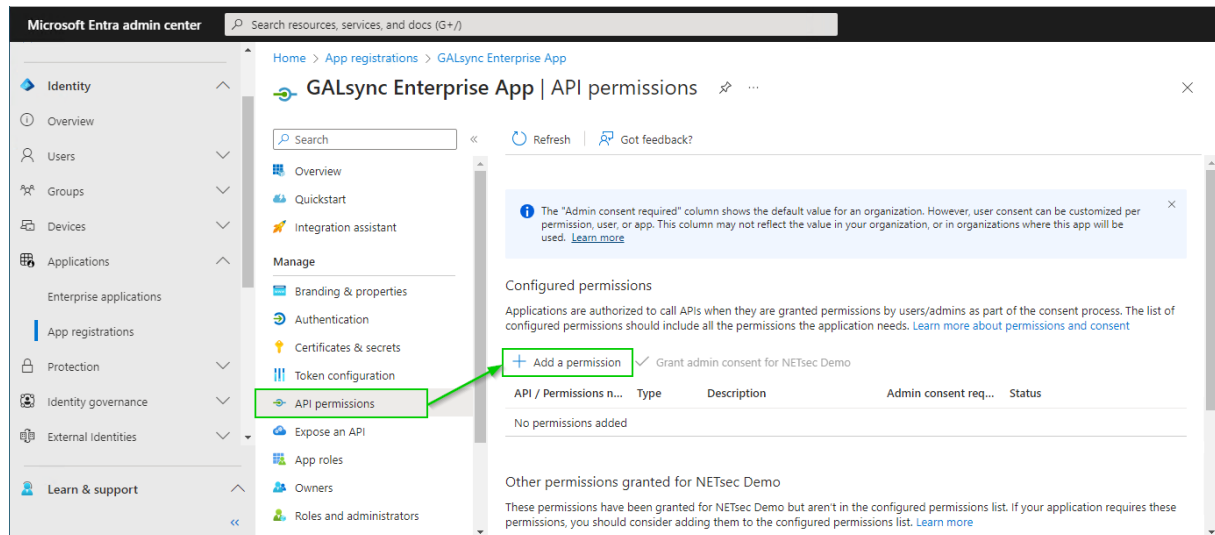
API permissions for Exchange Web Services (deprecated)

Please note, Microsoft has announced that on 1. October 2026 blocking Exchange Web Services (EWS) requests from non-Microsoft apps to Exchange Online.

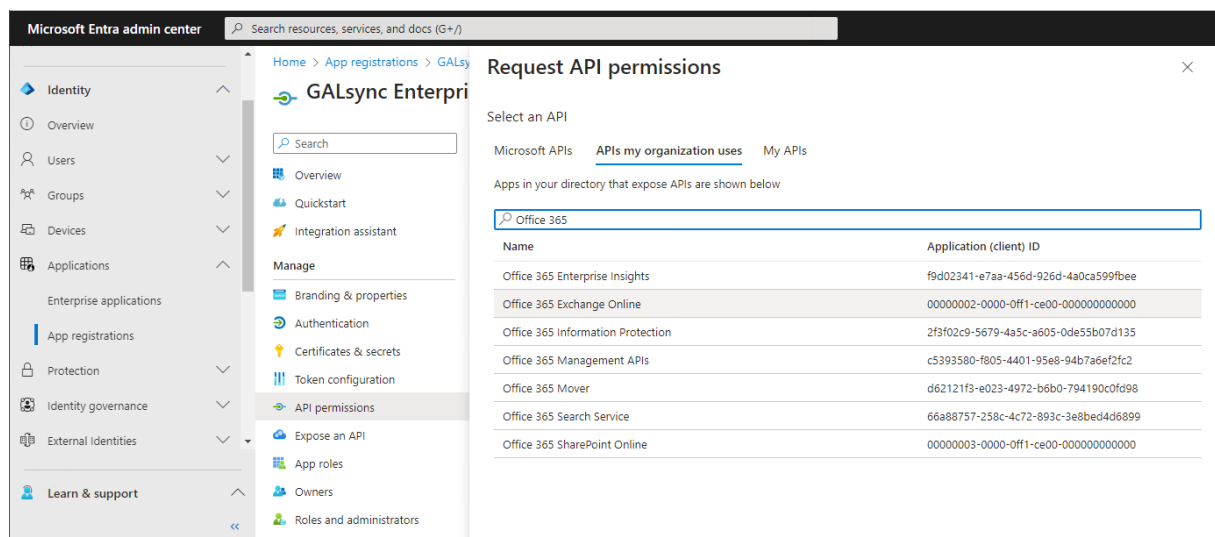
Retirement of Exchange Web Services in Exchange Online

<https://techcommunity.microsoft.com/t5/exchange-team-blog/retirement-of-exchange-web-services-in-exchange-online/ba-p/3924440>

Go to **API permissions**, then select **Add a permission**

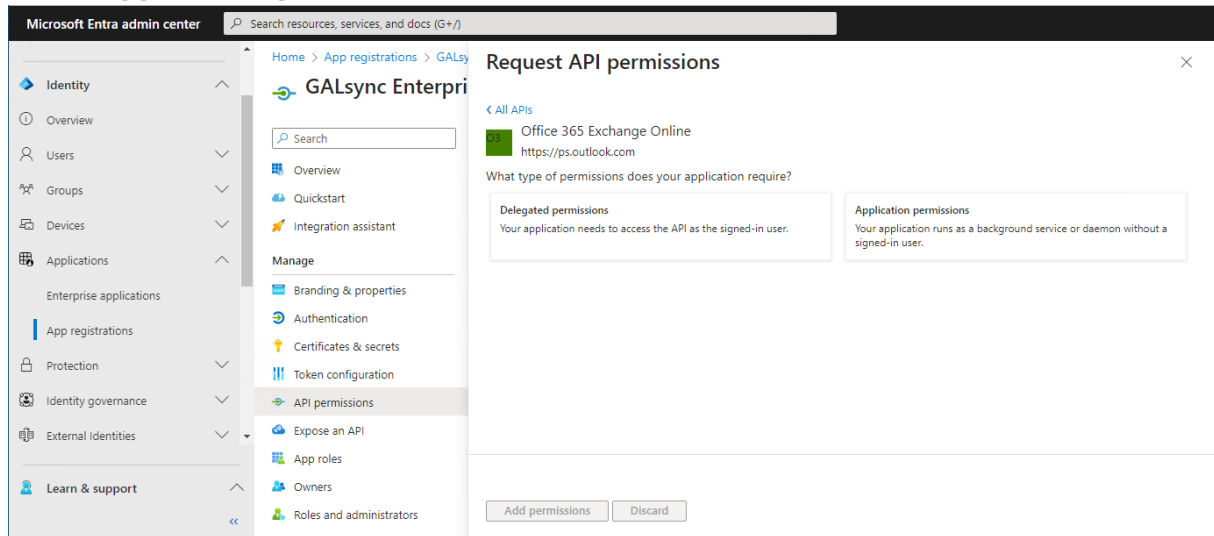


Select the **APIs my organization uses** tab on the **Request API permissions** dialog and search for **Office**.

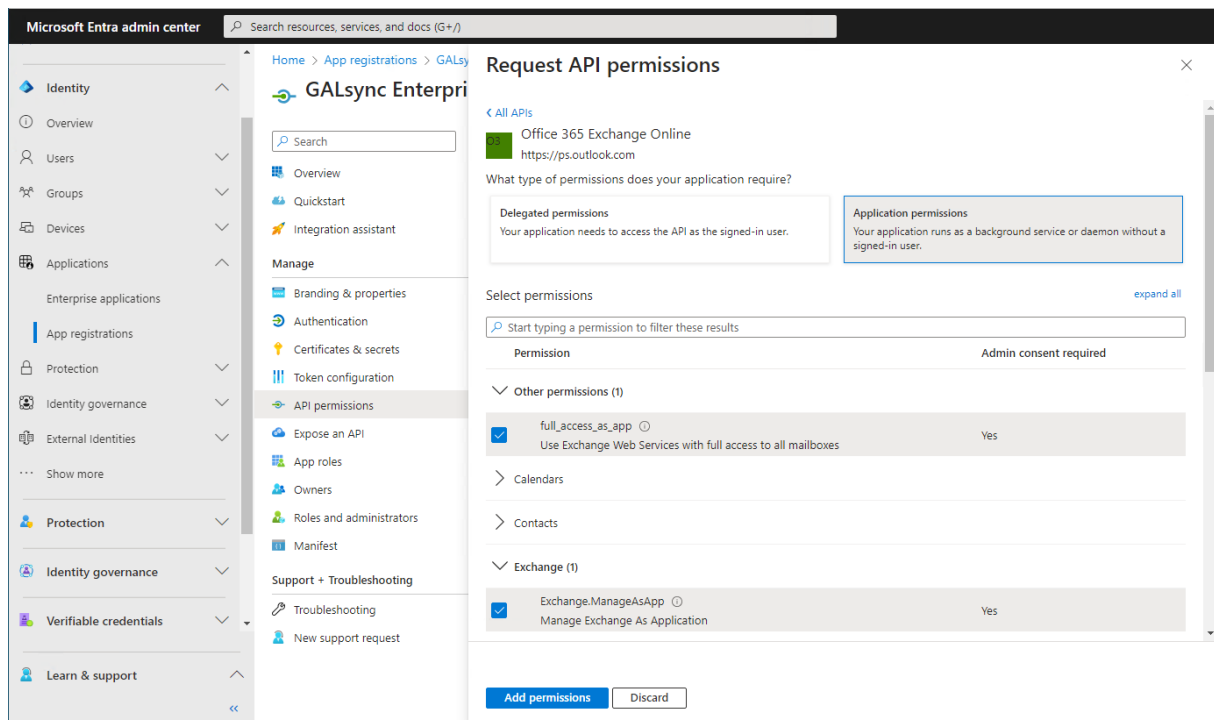


Click on **Office 365 Exchange Online** in the result list to open it.

Select Application permissions



Select
full_access_as_app
Use Exchange Web Services with full access to all mailboxes
and
Exchange.ManageAsApp
Manage Exchange As Application



Click **Add permissions**

Click **Grant admin consent** for your tenant.

The screenshot shows the Microsoft Entra admin center interface. The left sidebar contains navigation links for Identity, Protection, and Learn & support. The main content area is titled 'GALsync Enterprise App | API permissions'. A search bar and a 'Refresh' button are at the top. A warning message states: 'You are editing permission(s) to your application, users will have to consent even if they've already done so previously.' Below this, a blue information box explains the 'Admin consent required' column. The 'Configured permissions' section lists two permissions: 'Exchange.Manage' and 'full_access_as_app'. The 'Grant admin consent for NETSec Demo' button is highlighted with a green box. The table below shows the status of these permissions as 'Not granted for NETSec ...'.

API / Permissions n...	Type	Description	Admin consent req...	Status
Exchange.Manage	Application	Manage Exchange As Application	Yes	Not granted for NETSec ...
full_access_as_app	Application	Use Exchange Web Services with fu...	Yes	Not granted for NETSec ...

Click **Yes** to confirm the consent.

The screenshot shows the same Microsoft Entra admin center interface, but with a 'Grant admin consent confirmation' dialog box open. The dialog asks: 'Do you want to grant consent for the requested permissions for all accounts in NETSec Demo? This will update any existing admin consent records this application already has to match what is listed below.' The 'Yes' button is highlighted. The background content is dimmed, but the 'API permissions' section and the table of permissions are still visible.

API / Permissions n...	Type	Description	Admin consent req...	Status
Exchange.Manage	Application	Manage Exchange As Application	Yes	Not granted for NETSec ...
full_access_as_app	Application	Use Exchange Web Services with fu...	Yes	Not granted for NETSec ...

API permissions are assigned to the registered Application.

The screenshot shows the Microsoft Entra admin center interface. The left sidebar contains navigation links for Identity, Protection, and Learn & support. The main content area is titled 'GALsync Enterprise App | API permissions'. It includes a search bar, a 'Refresh' button, and a 'Got feedback?' link. A notification banner at the top right states 'Grant consent' with a green checkmark and 'Grant consent successful'. Below this, a blue information box says 'Successfully granted admin consent for the requested permissions.' Another blue information box explains the 'Admin consent required' column. The 'Configured permissions' section contains a table with columns: API / Permissions n..., Type, Description, Admin consent req..., and Status. The table lists two permissions: 'Exchange.Manage' and 'full_access_as_app', both with a status of 'Granted for NETsec Demo'. A '+ Add a permission' button and a 'Grant admin consent for NETsec Demo' link are also visible.

API / Permissions n...	Type	Description	Admin consent req...	Status
Office 365 Exchange (...
Exchange.Manage	Application	Manage Exchange As Application	Yes	Granted for NETsec Demo
full_access_as_app	Application	Use Exchange Web Services with fu...	Yes	Granted for NETsec Demo

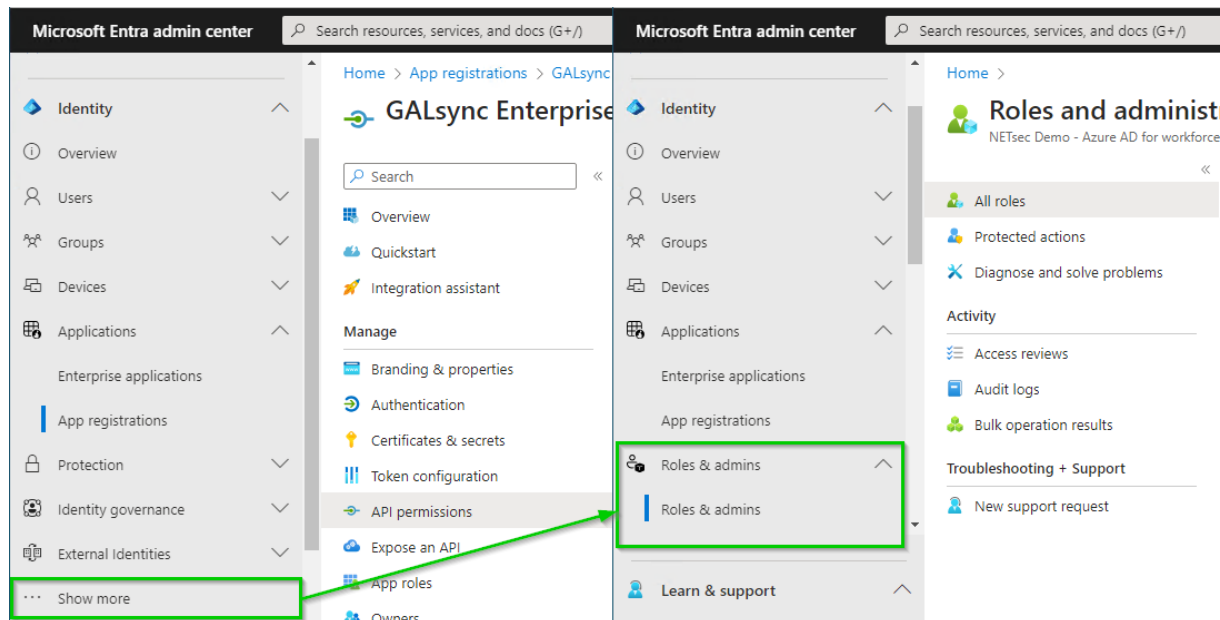
Accordingly, select **Exchange Web Services** at the **Assigned API permissions** group box in the Exchange Online App Registration dialog.

The screenshot shows a 'Assigned API permissions' group box. It contains two items: 'Microsoft Graph' with an unchecked checkbox and an information icon, and 'Exchange Web Services' with a checked checkbox and an information icon.

Exchange Administrator role for the registered Application

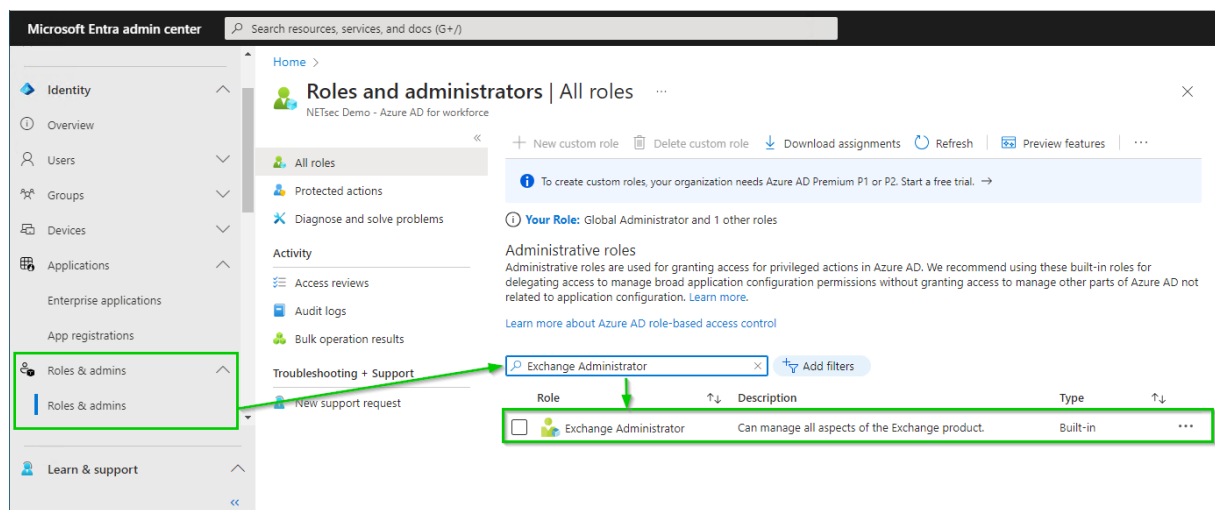
The **Exchange Administrator** role for **Exchange Online** is necessary because GALsync communicates via the **Exchange Online PowerShell** with the Microsoft 365 tenant.

The application requires **Exchange Administrator** role in the Microsoft 365 tenant, otherwise GALsync will not have access to the complete set of Exchange Online PowerShell cmdlets which are needed to function properly.

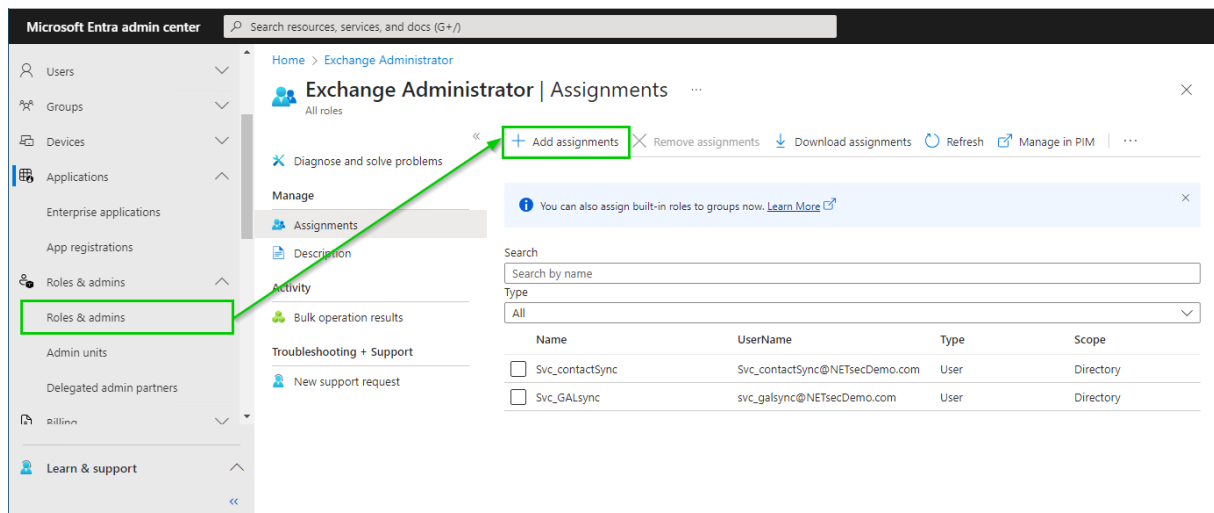


Expand **Roles & admins**. If you do not see **Roles & admins** in the **Identity** menu, click **Show more ...**.

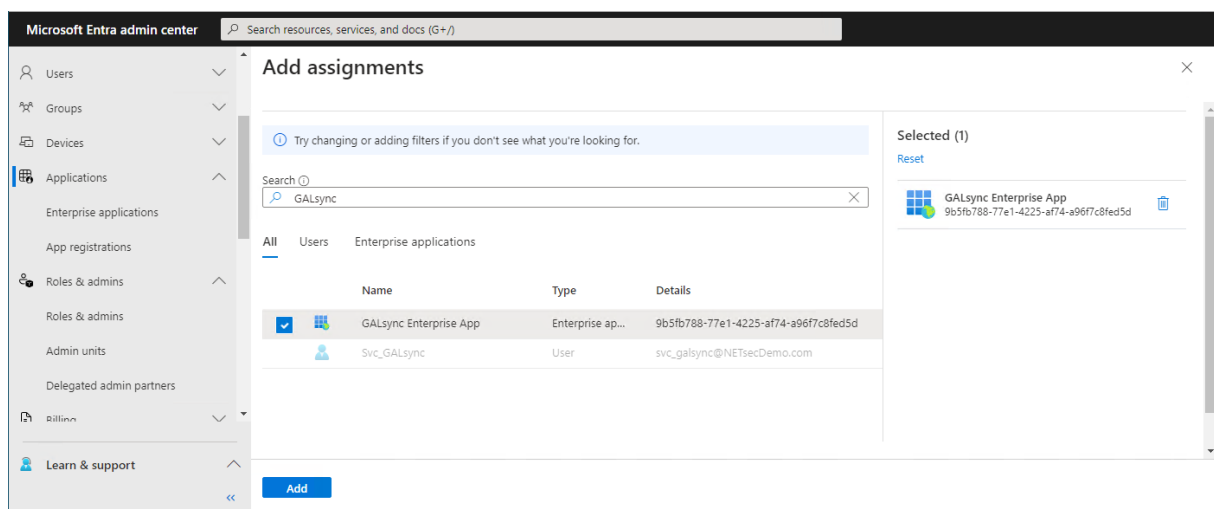
Go to **Roles & admins** in the expanded **Roles & admins** menu and search for **Exchange Administrator**.



Click on the **Exchange administrator** in the result list to open the **Exchange administrator role**.

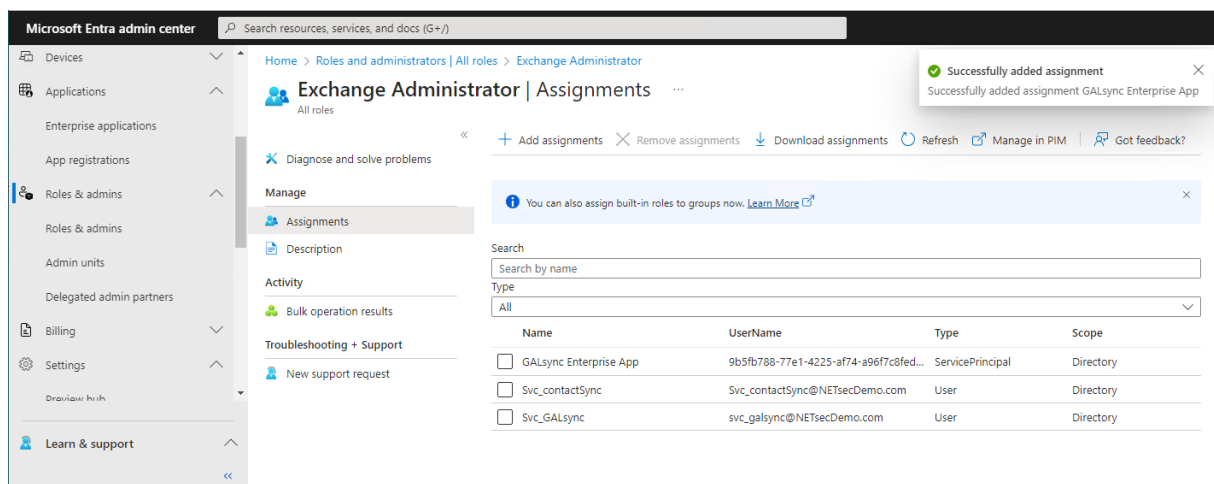


Click **Add assignments**, then search for the newly registered application.



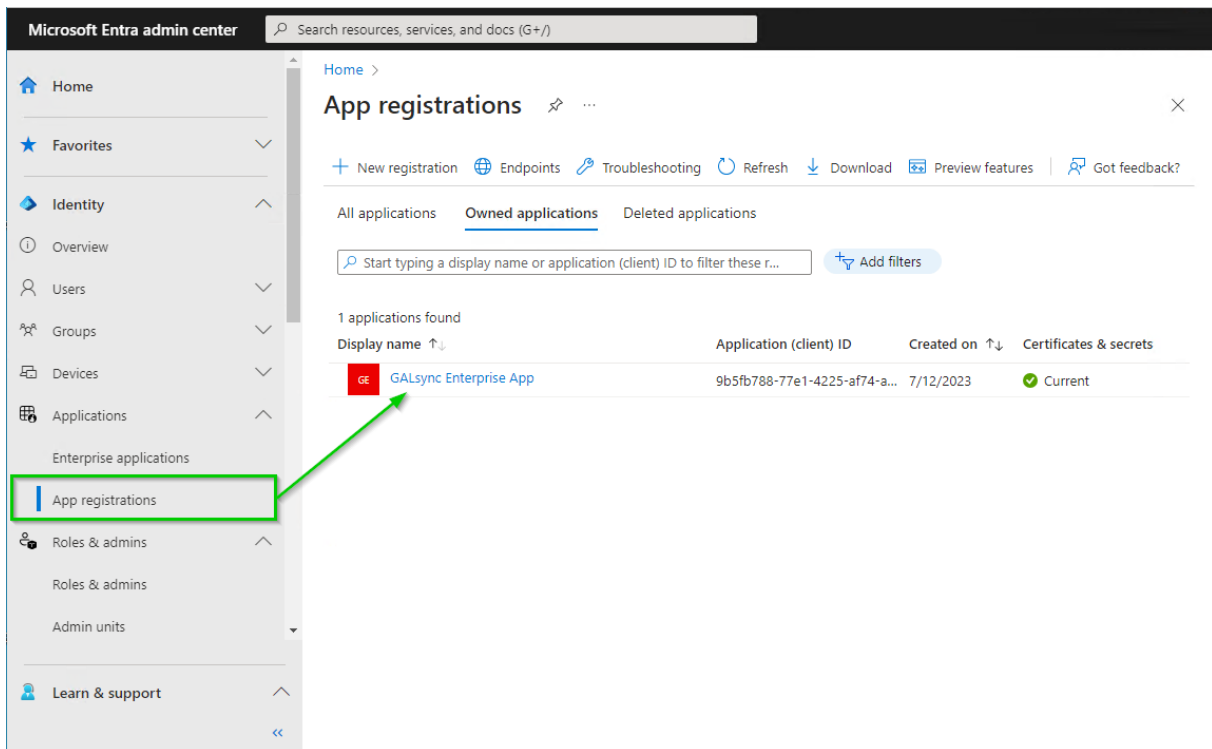
Select the newly registered application and click **Add**.

The application has been assigned the **Exchange Administrator Role**.

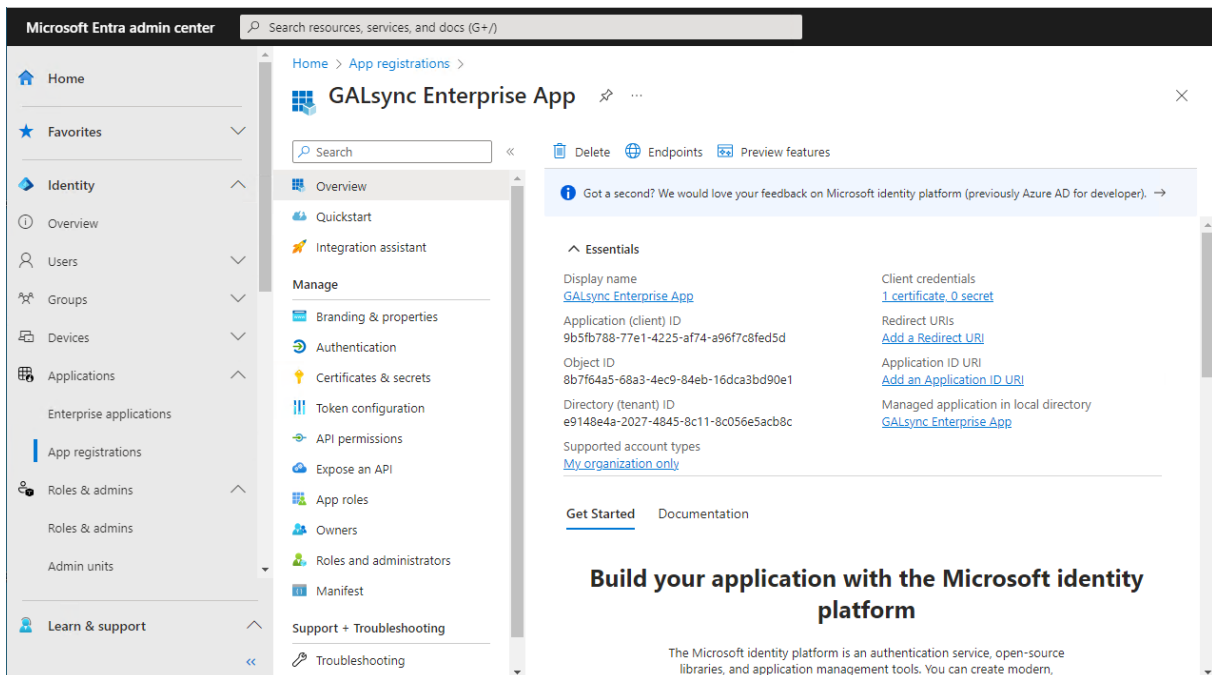


Overview of the registered Application in App registrations

Go to **Identity** in the **Microsoft Entra admin center** menu, expand **Applications** and select **App registrations**.



Select the registered Application to see the overview.



Please check whether the values of the registered Application are corresponding with the values in the **Exchange Online App Registration** dialog.

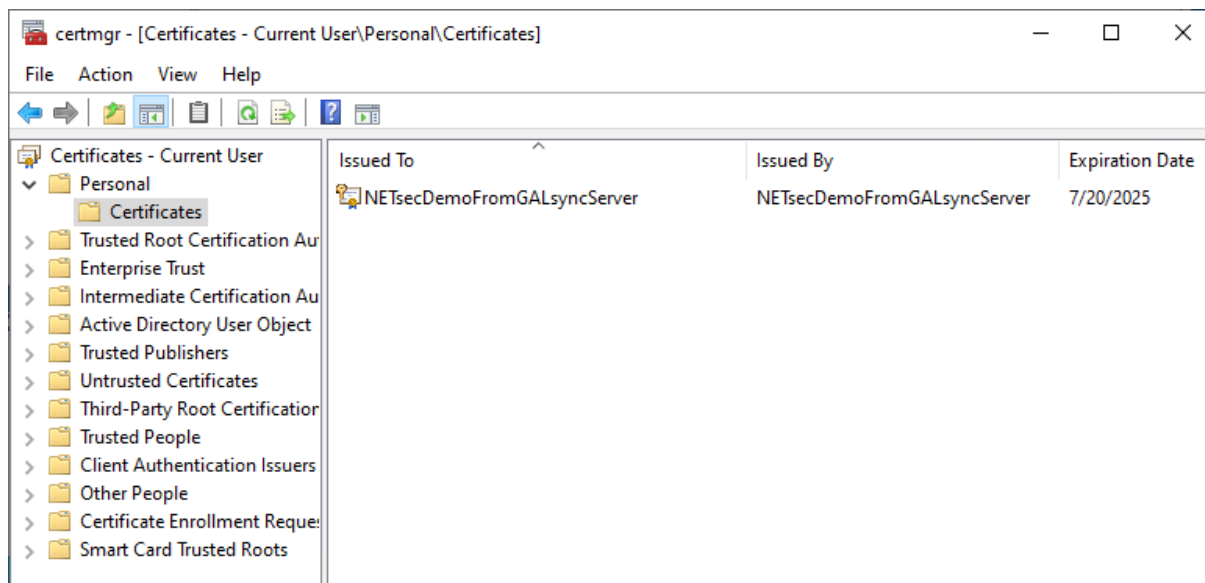
The image shows two side-by-side screenshots. The left screenshot is the 'GALsync Enterprise App' configuration page in the Microsoft Entra ID portal. It displays various identifiers for the application, including the Display name, Application (client) ID, Object ID, Directory (tenant) ID, and Supported account types. The right screenshot is the 'Exchange Online App Registration' dialog box. It contains fields for Organization / Tenant, Application Display Name, and Application ID, which are populated with values from the left screenshot. Below these fields are sections for Certificate (Friendly Name, Not After, Subject, Thumbprint, Has PrivateKey, User) and Assigned API permissions (Microsoft Graph, Exchange Web Services). At the bottom, there are fields for Maximum Connection, Email Address, and buttons for Apply and Cancel.

Organization / Tenant needs the **.onmicrosoft.com** domain name of the Microsoft 365 tenant. Otherwise, you might encounter cryptic permission issues when you run a policy in the app context.

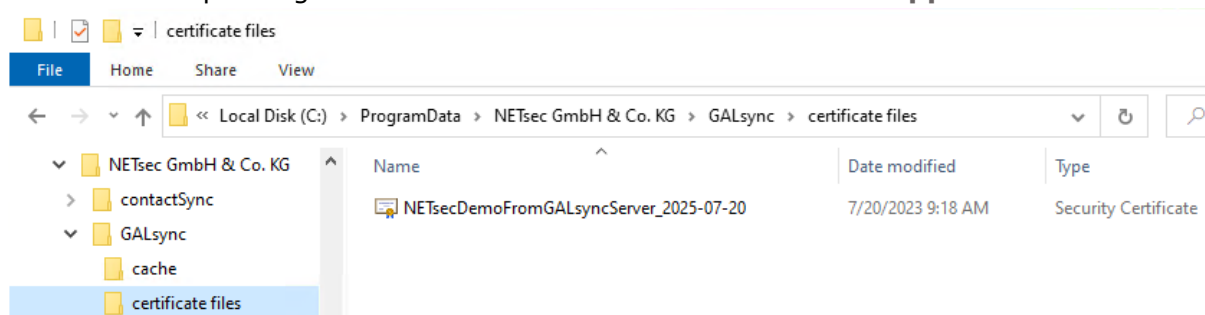
Application Display Name must have the value of the **Display name** of the registered Application.

Application ID must have the value of the **Application (Client) ID** of the registered Application.

A **Certificate** is created and selected from **Current User Personal Certificates store**



and the corresponding certificate file is attached to the **Entra ID application**.

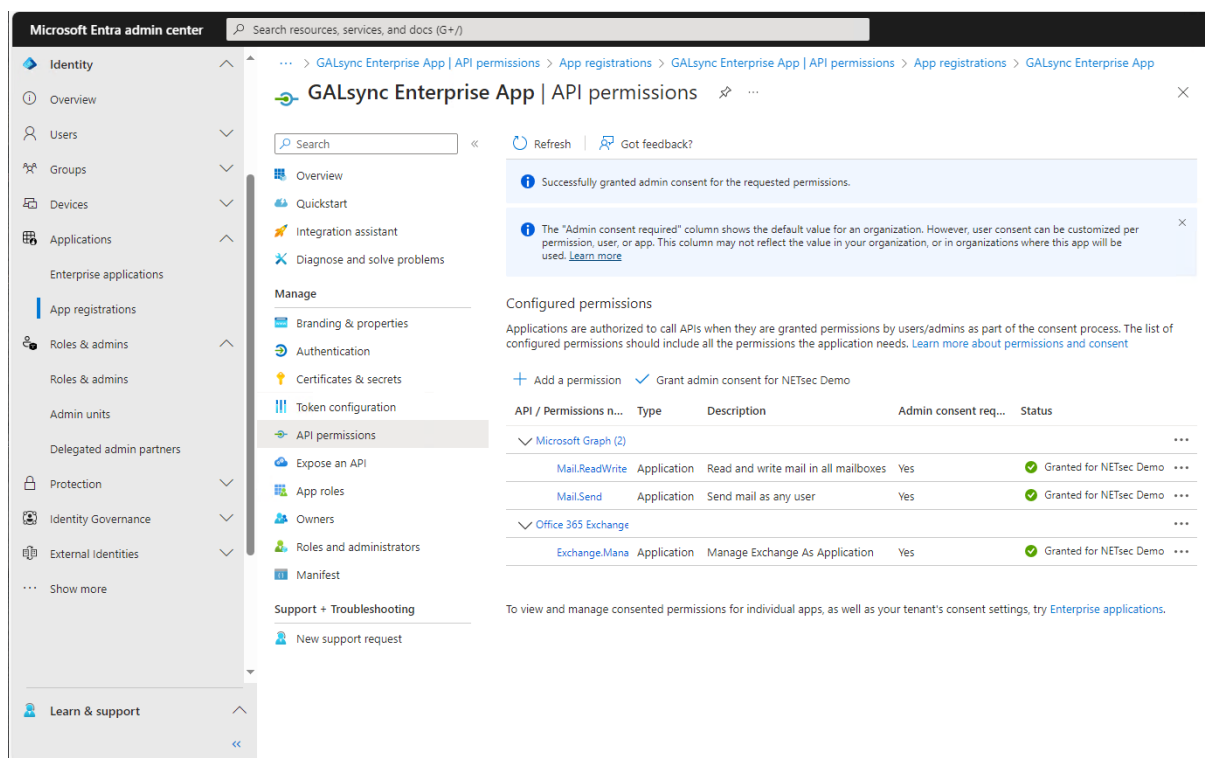


The screenshot shows the 'Exchange Online App Registration' dialog box. It contains the following fields and sections:

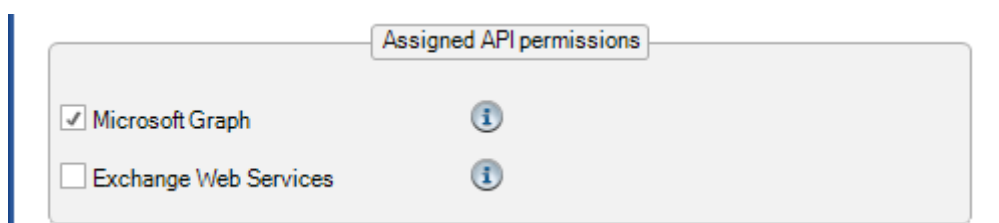
- Organization / Tenant: netsecdemotenant.onmicrosoft.com
- Application Display Name: GALsync Enterprise App
- Application ID: 9b5fb788-77e1-4225-af74-a96f7c8fed5d
- Certificate section:
 - Friendly Name: NETSecDemo from GALsync Server
 - Not After: 2025-07-20
 - Subject: CN=NETSecDemoFromGALsyncServer
 - Thumbprint: BDB65782A2035F6C046E2DFFC1A55878B1433AB2
 - Has PrivateKey: True
 - User: NETSECDEMO\svc_galsync
- Buttons: Choose Certificate, Create Certificate
- Assigned API permissions section:
 - ☒ Microsoft Graph
 - ☐ Exchange Web Services
- Maximum Connection: 2, Set as primary account: ☒
- Email Address: svc_galsync@netsecdemo.com
- Buttons: Apply, Cancel

The selection of the **Assigned API permissions** group box in the **Exchange Online App Registration** dialog must be corresponding with the **API permissions** in the App Registration.

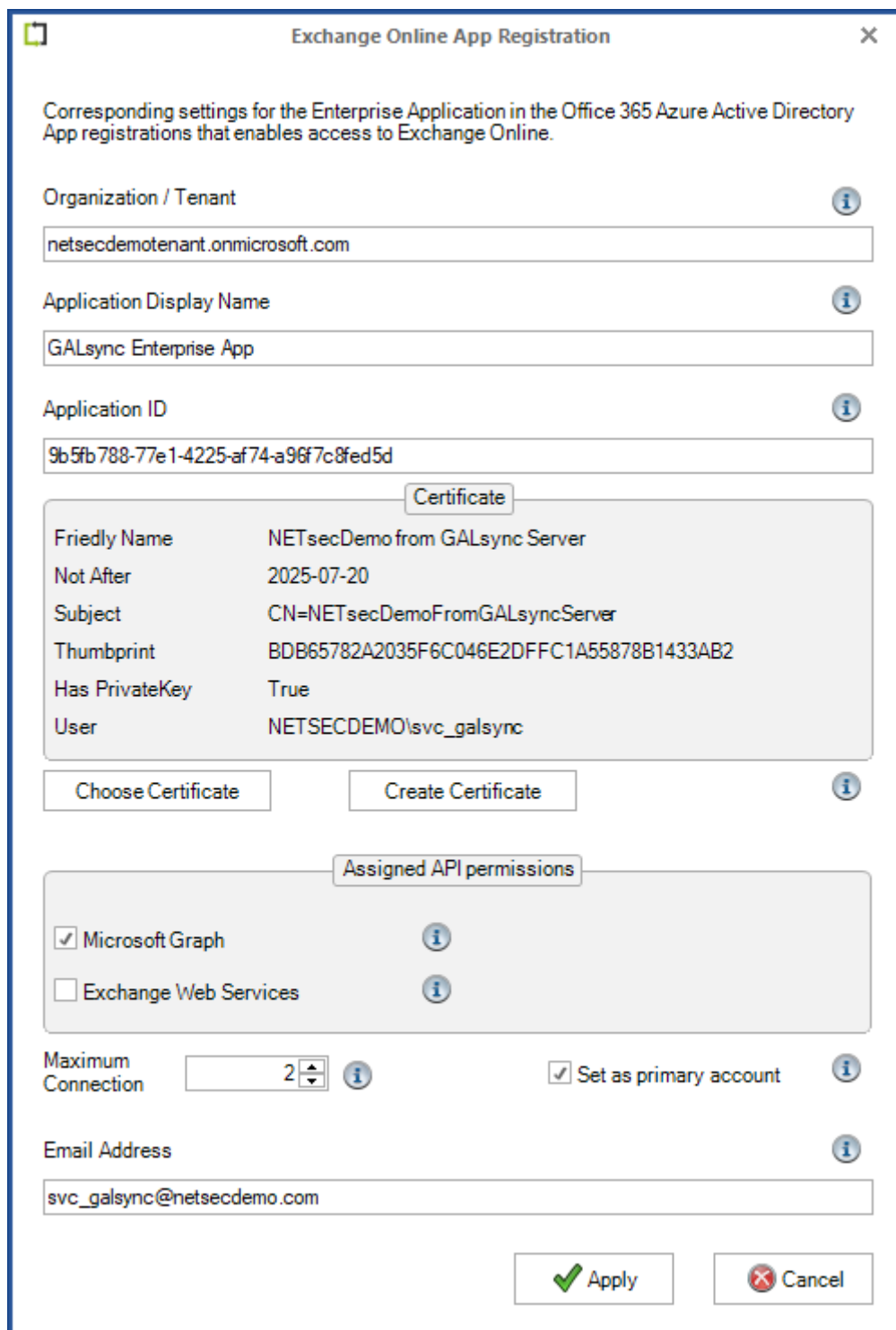
Please check the settings of the **API permissions for Microsoft Graph**.



Accordingly, select **Microsoft Graph** at the **Assigned API permissions** group box in the Exchange Online App Registration dialog.



*Please note, if you also use **contactSync policies** in GALsync, it will be necessary to configure additional API permissions. Please take a look at the **Assign API permissions to the registered Application** chapter in the **contactSync manual**.*



Exchange Online App Registration

Corresponding settings for the Enterprise Application in the Office 365 Azure Active Directory App registrations that enables access to Exchange Online.

Organization / Tenant i

Application Display Name i

Application ID i

Certificate

Friendly Name	NETsecDemo from GALsync Server
Not After	2025-07-20
Subject	CN=NETsecDemoFromGALsyncServer
Thumbprint	BDB65782A2035F6C046E2DFFC1A55878B1433AB2
Has PrivateKey	True
User	NETSECDEMO\svc_galsync

i

Assigned API permissions

☒ Microsoft Graph i

☐ Exchange Web Services i

Maximum Connection i ☒ Set as primary account i

Email Address i

To complete the **Exchange Online App Registration** dialog, insert an **Email Address** of an Exchange Online mailbox.

Email Address of an Exchange Online mailbox is necessary to send and receive email. We recommend to use a dedicated Exchange Online mailbox for this purpose.

Click **Apply** to finish and close the **Exchange Online App Registration** dialog.

Limit the scope of application permissions to access mailboxes

The registered application (App registrations) for GALsync only needs access to the Exchange Online mailbox, which GALsync uses to send and receive email, if only GALsync policies should be configured.

Please note, if contactSync policies should be configured, the application needs access to all the Exchange mailboxes, which should receive the contacts.

Please take a look at following chapters in the GALsync manual:

How to check existing application access policy for the application

How to restrict access to specific mailboxes for the application

<https://www.netsec.de/en/products/galsync/documentation.html>

Test the Exchange Online PowerShell connection and the Exchange mailbox

The screenshot shows the 'Environment Configuration' dialog box with the 'Exchange Online' tab selected. The dialog has a title bar with standard window controls. Below the title bar, there are tabs for 'General', 'Exchange Scenario', 'Exchange Server on-premises', and 'Exchange Online'. The 'Exchange Online' tab is active, showing instructions to manage settings for the Exchange Online tenant. Below the instructions, there are three main sections: 'Credentials', 'Organization Settings', and 'Remote PowerShell Connection Test'. The 'Credentials' section contains a table with columns 'Username' and 'Max. Connection'. The 'Organization Settings' section contains fields for 'Instance hosted by' and 'Exchange Web Services URL'. The 'Remote PowerShell Connection Test' section contains a 'Test' button and a 'Show log' button. The 'Exchange Mailbox Test' section contains an 'Email address' field and a 'Send test email' button. At the bottom of the dialog are 'Ok', 'Cancel', and 'Apply' buttons.

Environment Configuration

General Exchange Scenario Exchange Server on-premises **Exchange Online**

Exchange Online

Manage the settings for the Exchange Online tenant.
All accounts of the Microsoft 365 tenant have Exchange Administrator role permission for Exchange Online.

Credentials

Username	Max. Connection
Primary Mailbox Account	
GALsync Enterprise App	2

Organization Settings

Instance hosted by: Microsoft 365 or Microsoft 365 GCC
Microsoft Azure public cloud

Exchange Web Services URL: <https://outlook.office365.com/EWS/Exchange.asmx>

Remote PowerShell Connection Test

Please test the Remote PowerShell connection to Exchange Online

Test Show log

Exchange Mailbox Test

Send a test email to the recipient:

Email address:

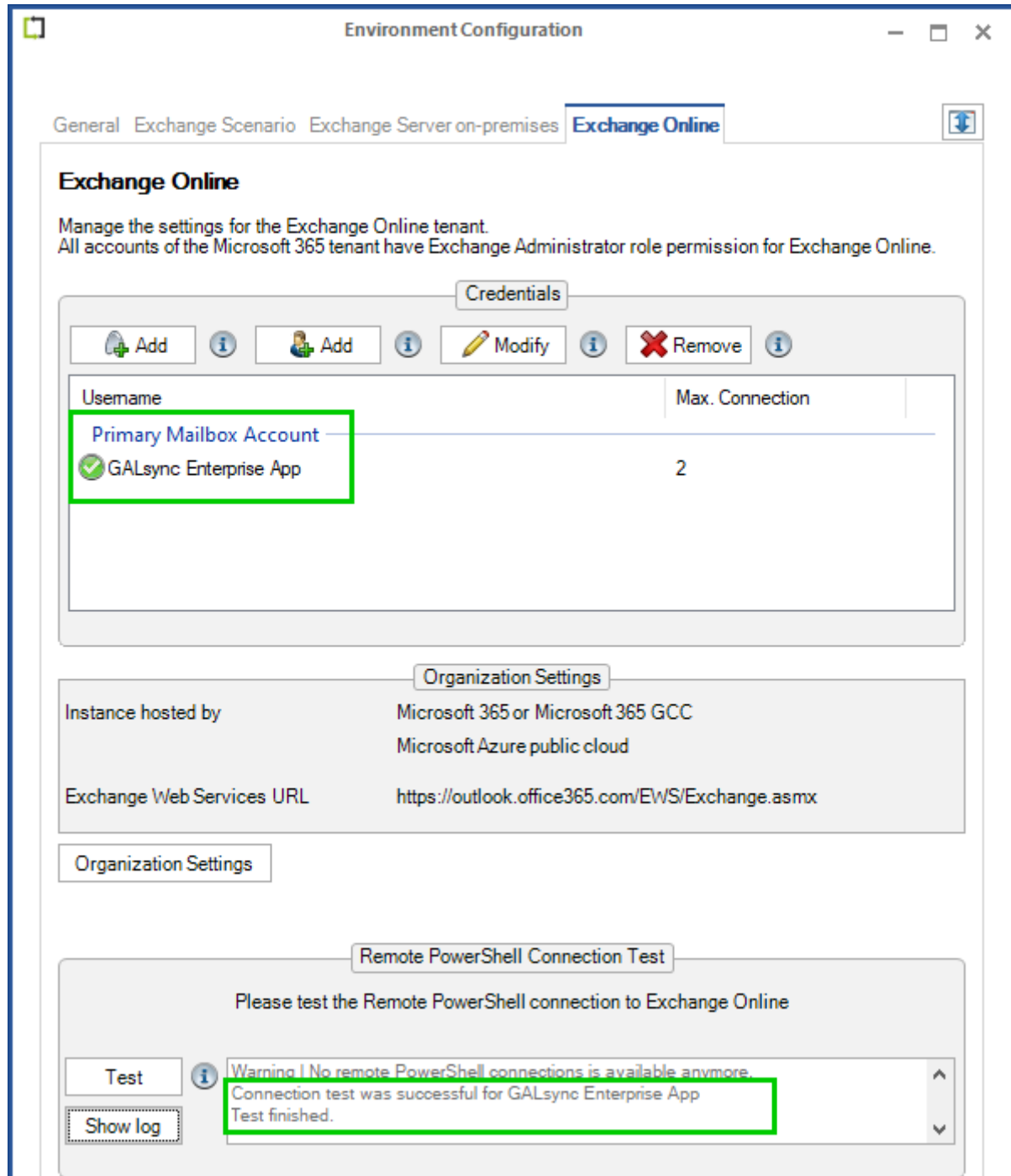
Send test email

Ok Cancel Apply

Click the **Test** button for the **Remote PowerShell Connection Test**, to test connectivity to Exchange Online PowerShell.

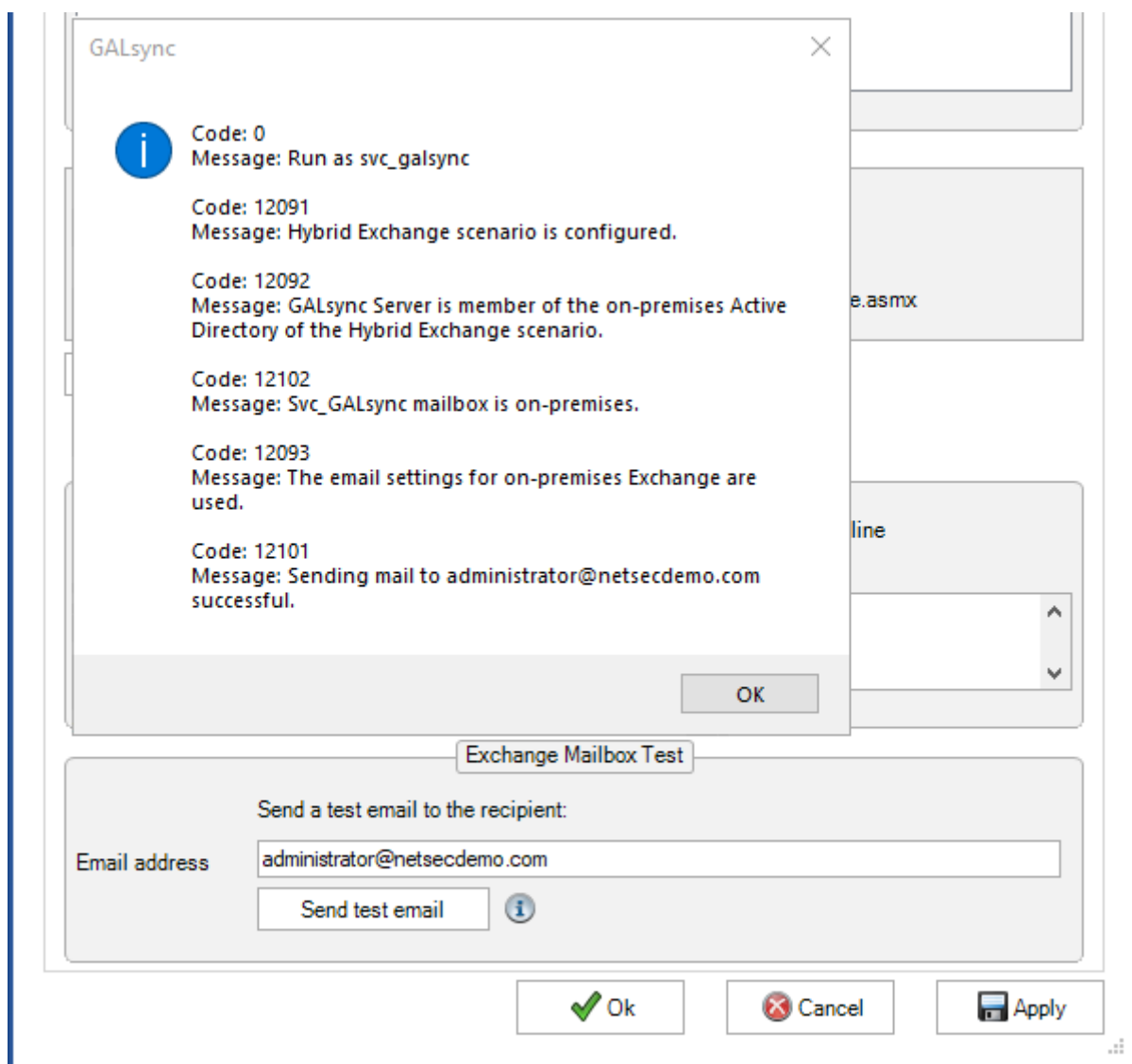
Please wait for the test to finish before proceeding.

Upon a successful connection, a green circle with a checkmark will be displayed.



If the connection test failed, click the **Show log** button for detailed information.

A test email can also be sent to the desired recipient as an additional test to validate mail flow. To do this, click the **Send test email** button for the **Exchange Mailbox Test**.



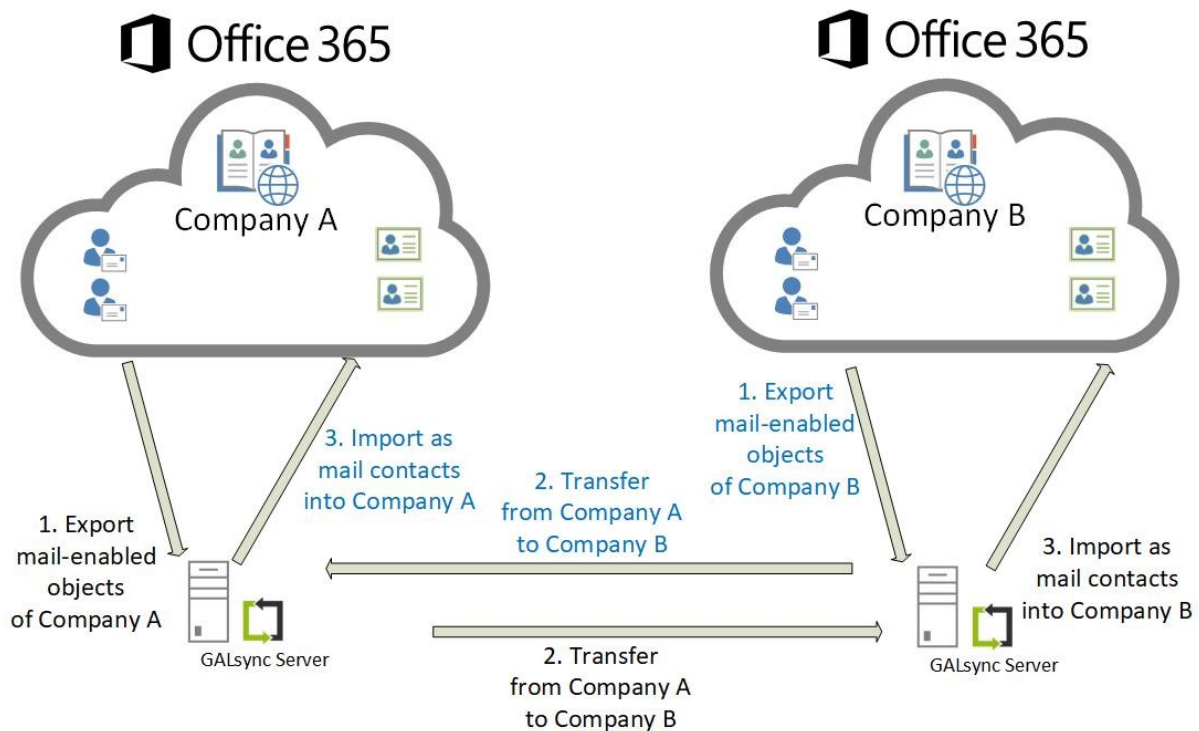
Please note, that the e-mail address of the recipient for the test email will not be saved.

Exchange Online to Exchange Online Synchronization

Synchronizing between different Exchange Online environments

Separate GALsync Server for each Microsoft 365 Exchange Online tenant

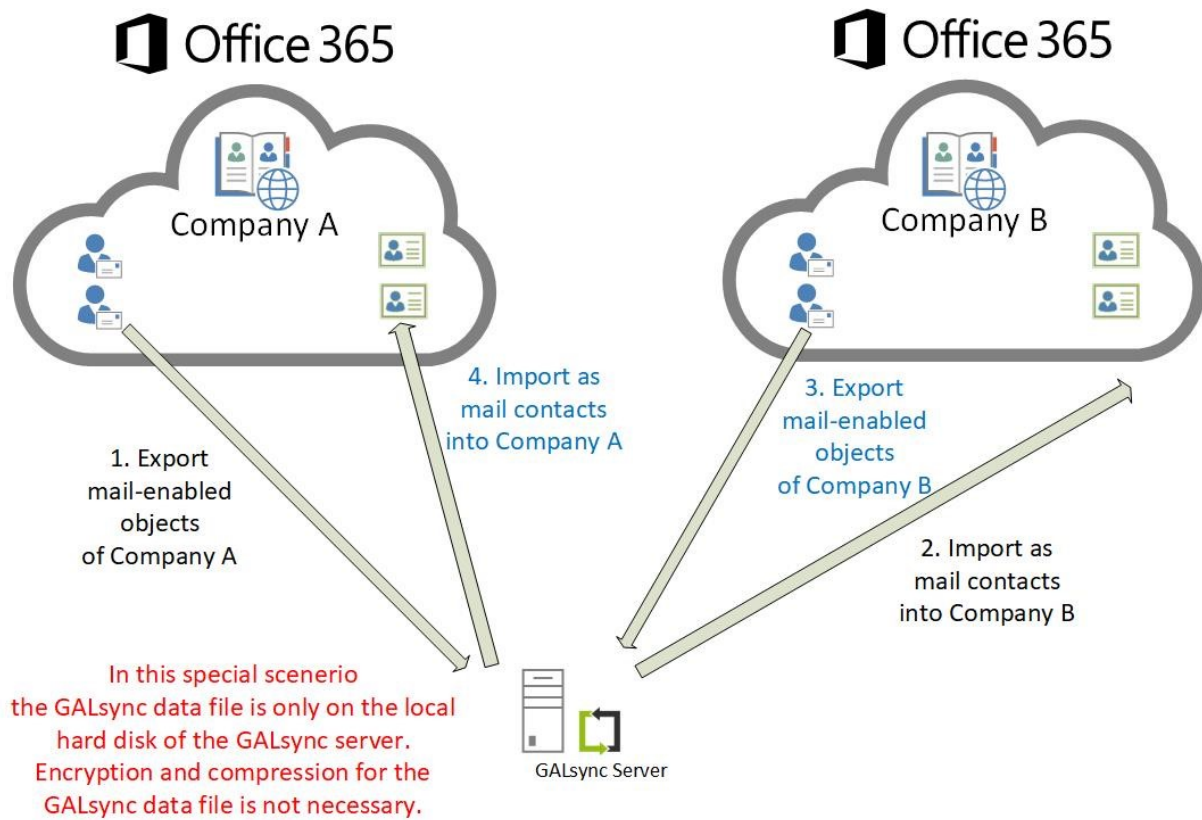
If you want to directly synchronize between different Microsoft 365 Exchange Online tenants, you can use a separate GALsync Server for each Microsoft 365 tenant.



In this scenario, the administrator of each Microsoft 365 Exchange Online tenant configures an Environment Configuration for their own Exchange environment. The corresponding policies for export and import are configured within the Environment Configuration of the Exchange environment.

One GALsync Server for all Microsoft 365 Exchange Online tenant

You can use one GALsync Server for all Microsoft 365 Exchange Online tenants. This is only possible for Exchange environments, in which you do not need to synchronize the Global Address List (GAL) to an on-premises Exchange.

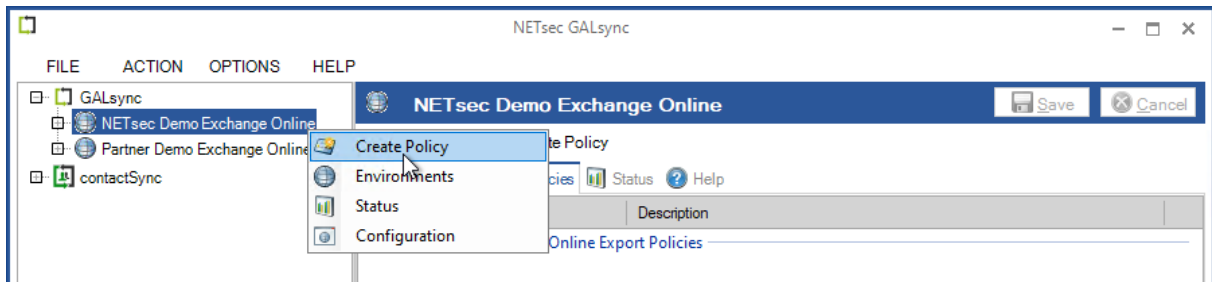


In this scenario you need the GALsync service account credentials of each Microsoft 365 Exchange Online tenant to configure an Environment Configuration for each Exchange environment. The corresponding policies for export and import for each Exchange environment are configured to the corresponding Environment Configuration of the Exchange environment.

How to configure this scenario is described below in a step-by-step guide:

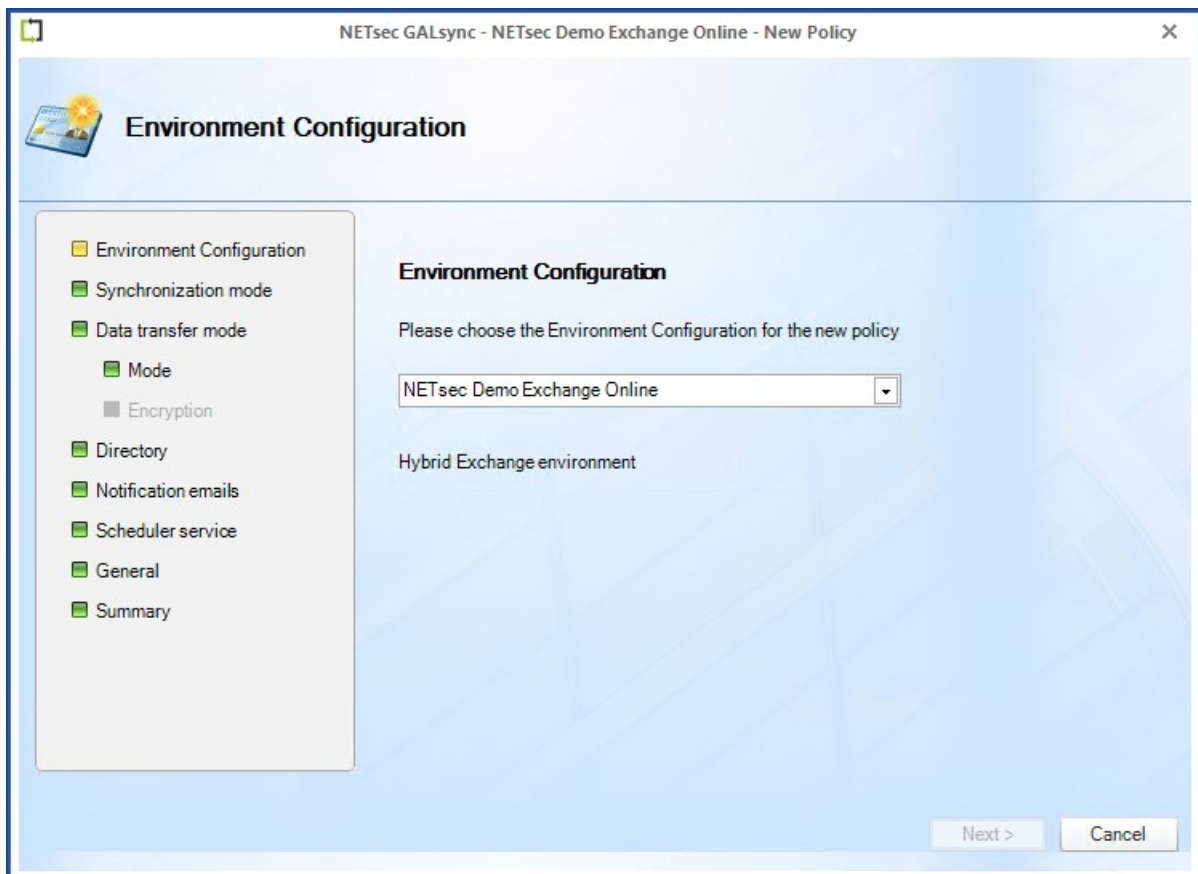
Create and Run Export Policy from Exchange Online

Right-click the environment where GALsync will export the objects from, then select **Create Policy**



The selected environment will be displayed. If the wrong environment was selected, it can be changed by clicking the dropdown arrow, and reselecting it.

Then click **Next**.



Select **Export directory information**.

Click **Next**.

NETsec GALsync - NETsec Demo Exchange Online - New Policy

New Export Policy for Exchange Online

- Environment Configuration
- Synchronization mode**
- Data transfer mode
 - manual
 - Encryption
- Directory
- Notification emails
- Scheduler service
- General
- Summary

Synchronization mode

1. What do you want to do?

☒ Export directory information (GAL)

☐ Import directory information (GAL)

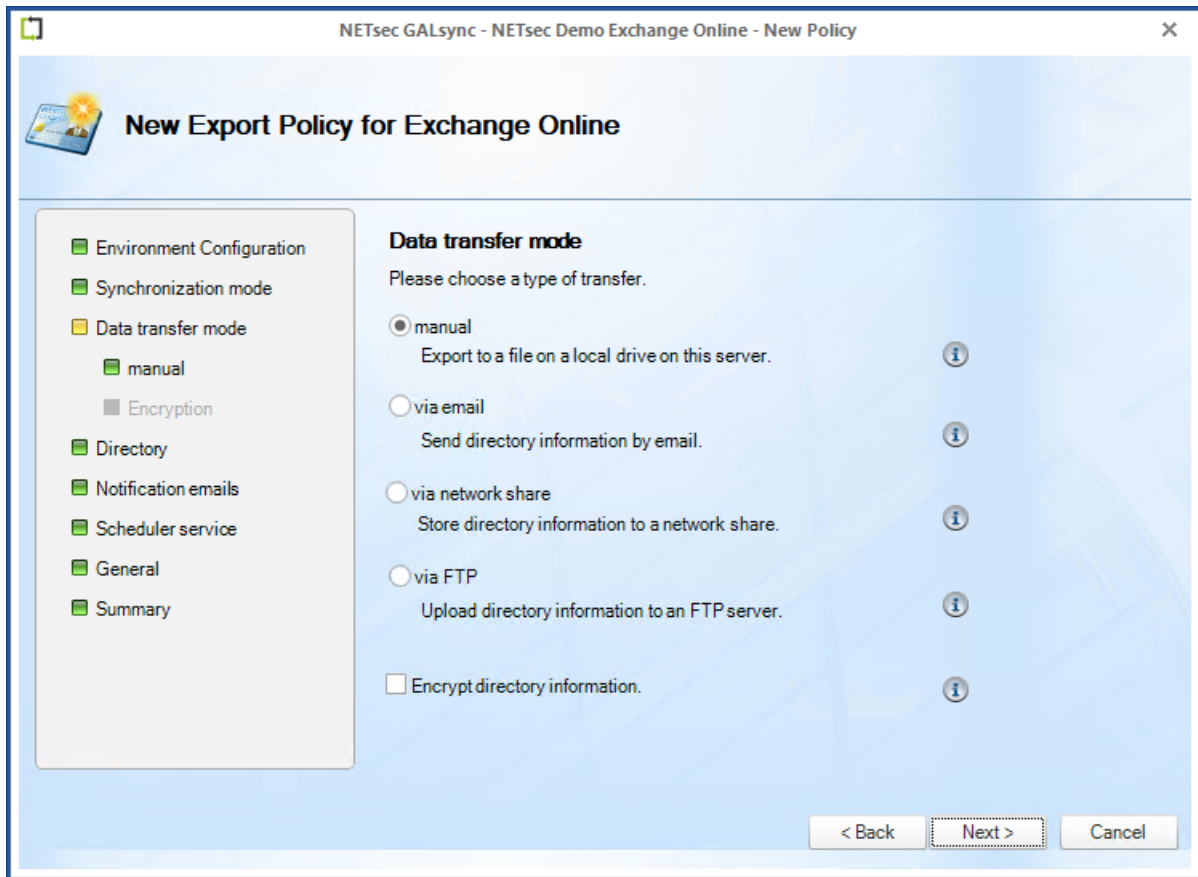
2. What kind of environment do you have?

☐ An on-premises Exchange organization or a hybrid Exchange organization.
Export directory information (GAL) from an on-premises Exchange organization or from the on-premises part of a hybrid Exchange organization.

☒ An Office 365 Exchange Online tenant or a hybrid Exchange organization.
Export directory information (GAL) from an Office 365 Exchange Online tenant or directly from the Office 365 part of the hybrid Exchange organization.

< Back Next > Cancel

Select **manual – Export to a file on a local drive on this server**. Then click **Next**.



NETsec GALsync - NETsec Demo Exchange Online - New Policy

New Export Policy for Exchange Online

- Environment Configuration
- Synchronization mode
- Data transfer mode
 - manual**
 - Encryption
- Directory
- Notification emails
- Scheduler service
- General
- Summary

Data transfer mode

Please choose a type of transfer.

- ☒ **manual**
Export to a file on a local drive on this server.
- ☐ **via email**
Send directory information by email.
- ☐ **via network share**
Store directory information to a network share.
- ☐ **via FTP**
Upload directory information to an FTP server.
- ☐ **Encrypt directory information.**

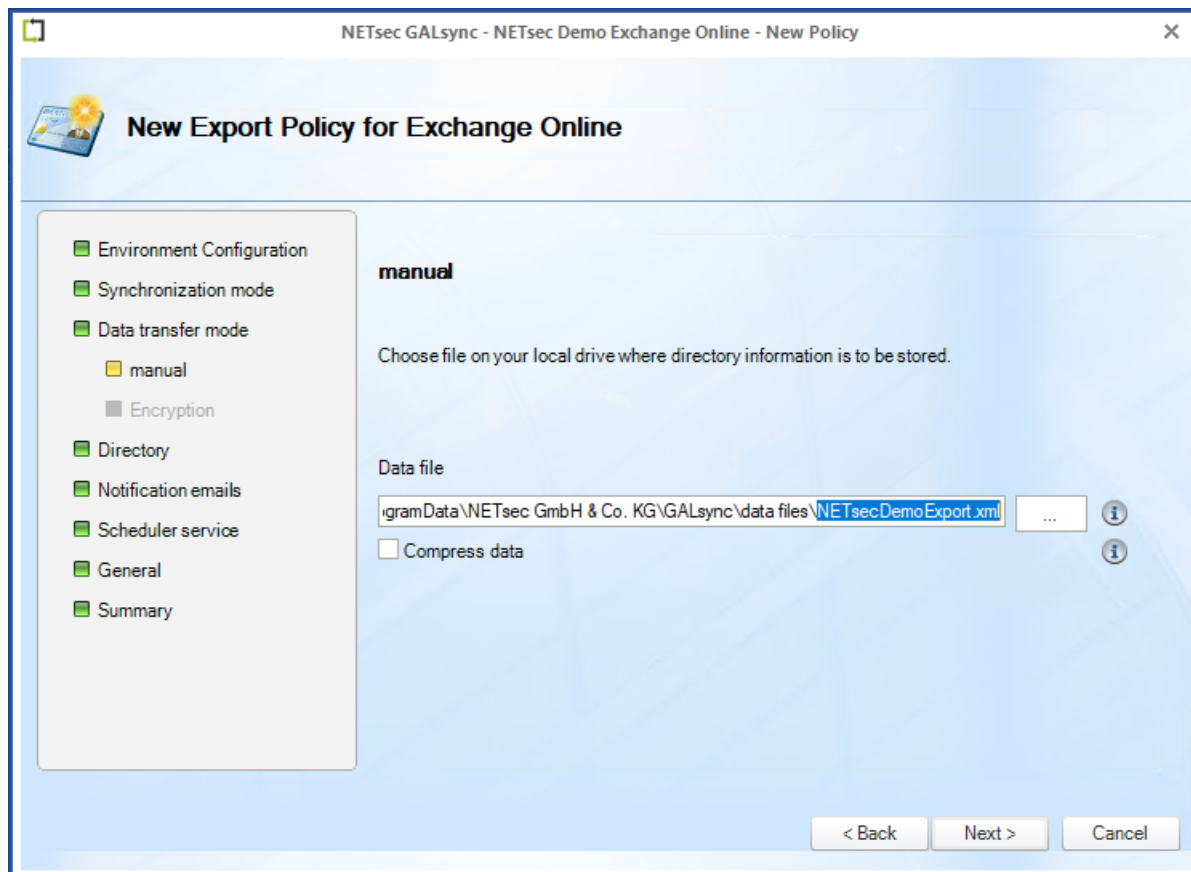
< Back Next > Cancel

The default path and filename for the data file is:

```
C:\ProgramData\NETsec GmbH & Co. KG\GALsync\data files\datafile.xml
```

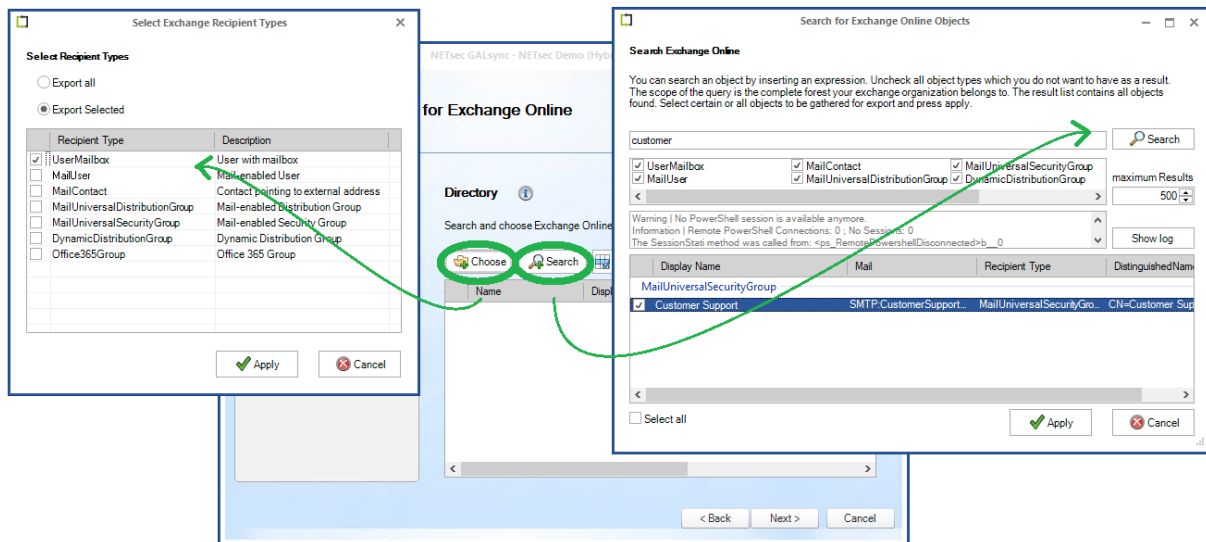
We recommend the filename is changed to one that easily identifies the origin of its contents. Clicking the box to the right of this field, will allow you to choose the path where the file is saved.

Click **Next**

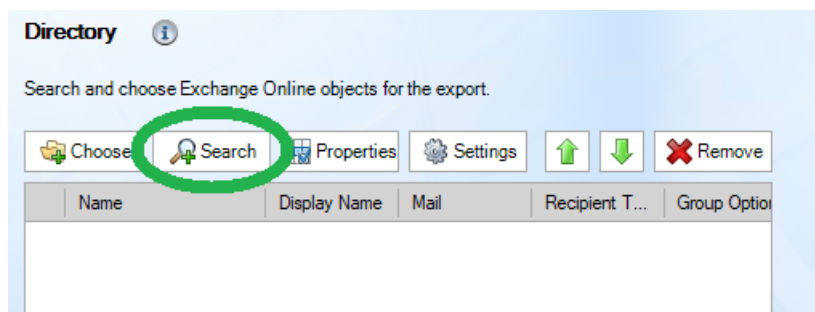


There are two ways to select objects to be exported.

1. Click **Choose** to select objects by **Recipient Type**.
2. Click **Search** to search via PowerShell query for individual mail-enabled objects.

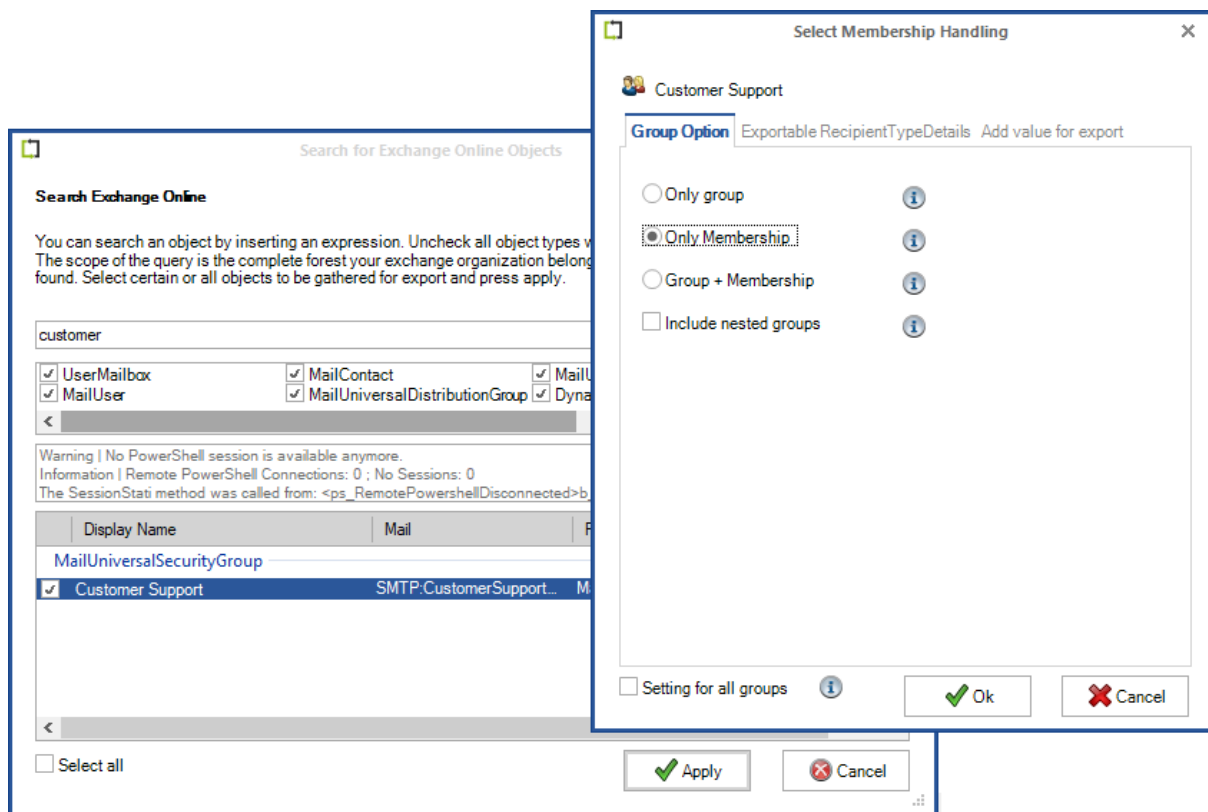


If using a trial license which is limited to 100 objects, we recommend using the **Search** function which will allow a smaller sample of objects to be exported.



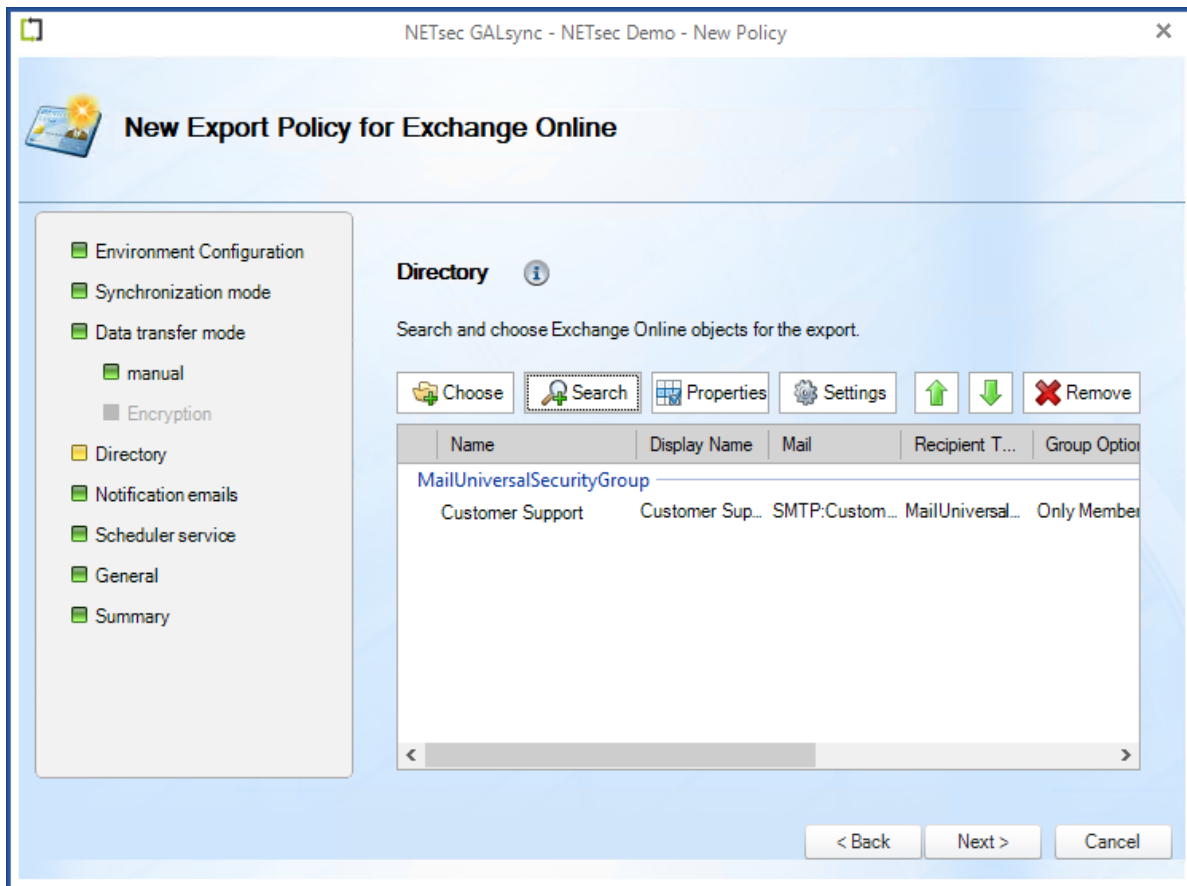
A search for the Customer Support Security Group has been performed, which will permit the members of this group to be exported. When the query results are returned, check the corresponding checkbox for the desired selection, then click **Apply**.

Select **Only Membership** to export the members of this group, then click **OK**.



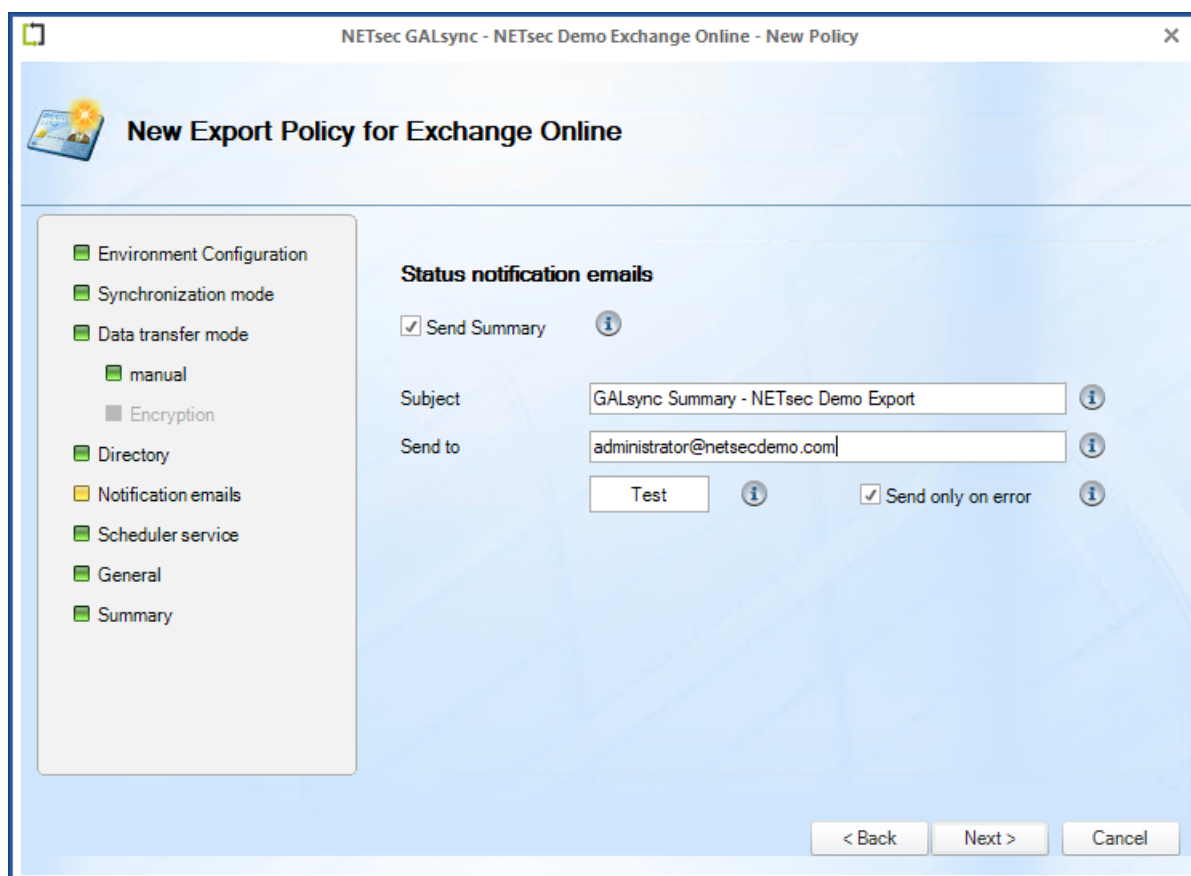
Ensure the selected group is displayed.

Then click **Next**.



An optional status notification email can be sent to the specified recipient(s) each time the policy runs, which provides a brief summary of activity. However, if your preference is to receive one only when an error has been logged, check the **Send only on error** checkbox. Click the **Test** button to send a test email. Then verify it has been received.

Click **Next**.



NETsec GALsync - NETsec Demo Exchange Online - New Policy

New Export Policy for Exchange Online

- Environment Configuration
- Synchronization mode
- Data transfer mode
 - manual
 - Encryption
- Directory
- Notification emails
- Scheduler service
- General
- Summary

Status notification emails

☒ Send Summary ⓘ

Subject: GALsync Summary - NETsec Demo Export ⓘ

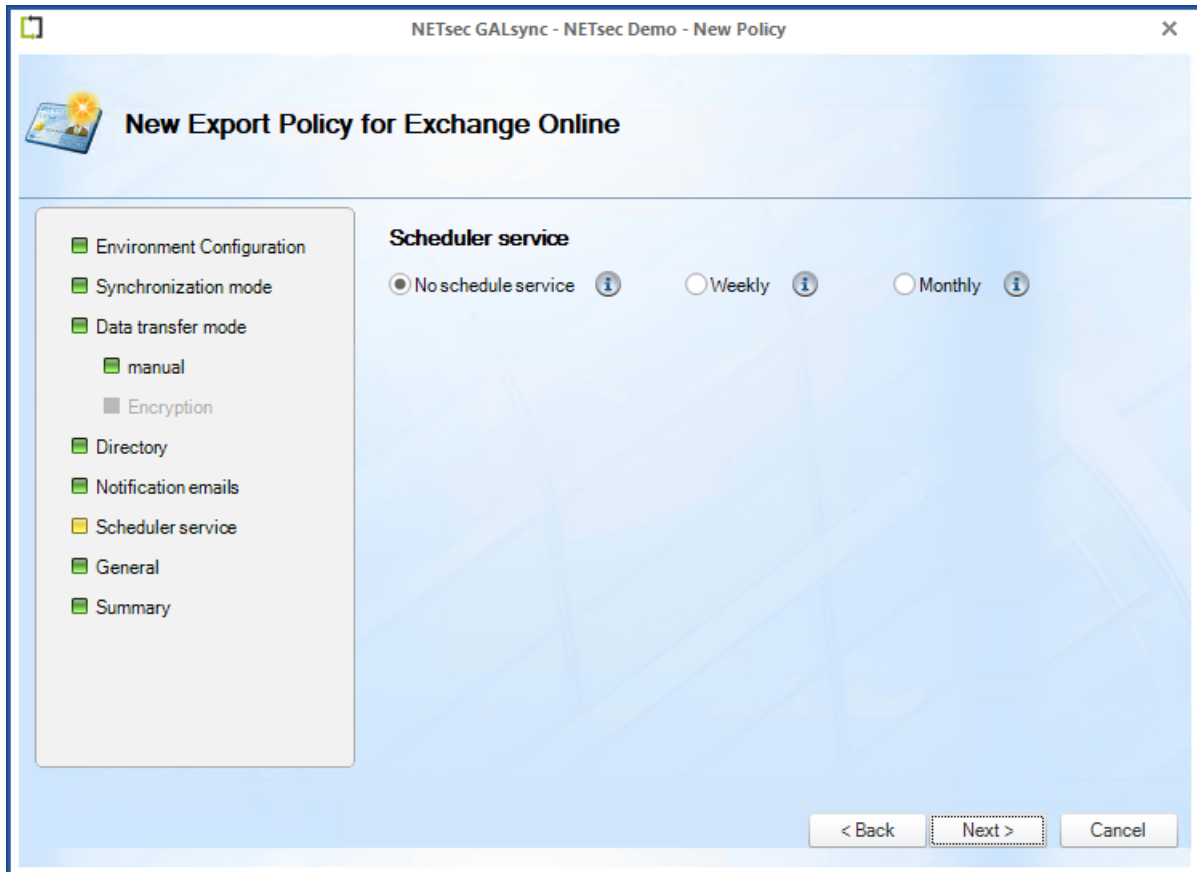
Send to: administrator@netsecdemo.com ⓘ

ⓘ ☒ Send only on error ⓘ

< Back Next > Cancel

GALsync can be scheduled to run at regular intervals. We recommend the policy is manually run before any schedules are set. After the synchronization has completed successfully, you can go back and set it to run on the desired schedule.

Click **Next**.



Enter a policy name and an optional description, then click **Next**.

The screenshot shows a software window titled "NETsec GALsync - NETsec Demo Exchange Online - New Policy". The window has a light blue background and a sidebar on the left. The sidebar contains a list of configuration steps: "Environment Configuration", "Synchronization mode", "Data transfer mode" (with sub-items "manual" and "Encryption"), "Directory", "Notification emails", "Scheduler service", "General" (highlighted in yellow), and "Summary". The main area is titled "New Export Policy for Exchange Online" and contains a "General" section. Under "General", there are three fields: "Policy Name" (containing "NETsec Demo Export"), "Description" (containing "Export of users from the netsecdemo.com exchange online tenant, to be imported into the partnerdemo.de exchange online tenant as contacts to be published in the GAL"), and "Environment Configuration" (a dropdown menu showing "NETsec Demo Exchange Online"). At the bottom right, there are three buttons: "< Back", "Next >" (which is highlighted with a dashed border), and "Cancel".

NETsec GALsync - NETsec Demo Exchange Online - New Policy

New Export Policy for Exchange Online

- Environment Configuration
- Synchronization mode
- Data transfer mode
 - manual
 - Encryption
- Directory
- Notification emails
- Scheduler service
- General
- Summary

General

Policy Name: NETsec Demo Export

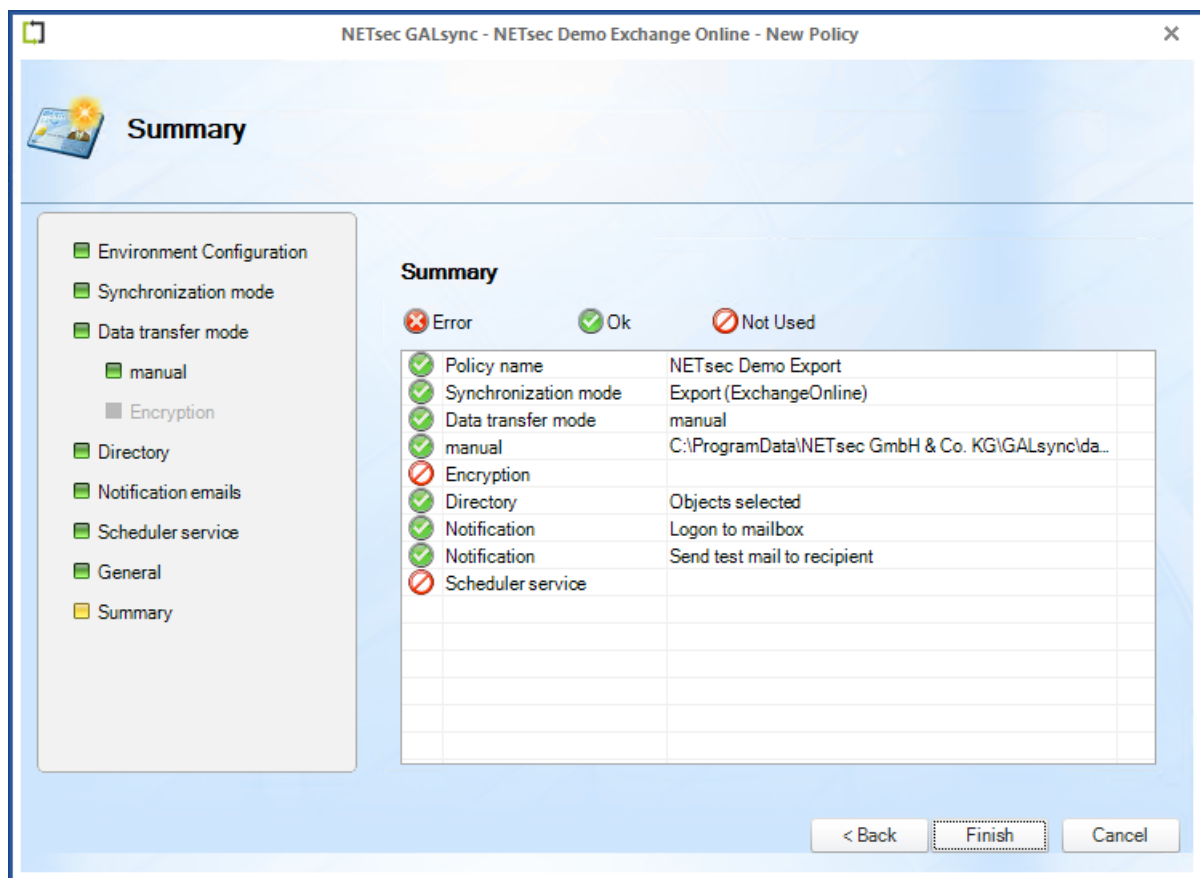
Description: Export of users from the netsecdemo.com exchange online tenant, to be imported into the partnerdemo.de exchange online tenant as contacts to be published in the GAL

Environment Configuration: NETsec Demo Exchange Online

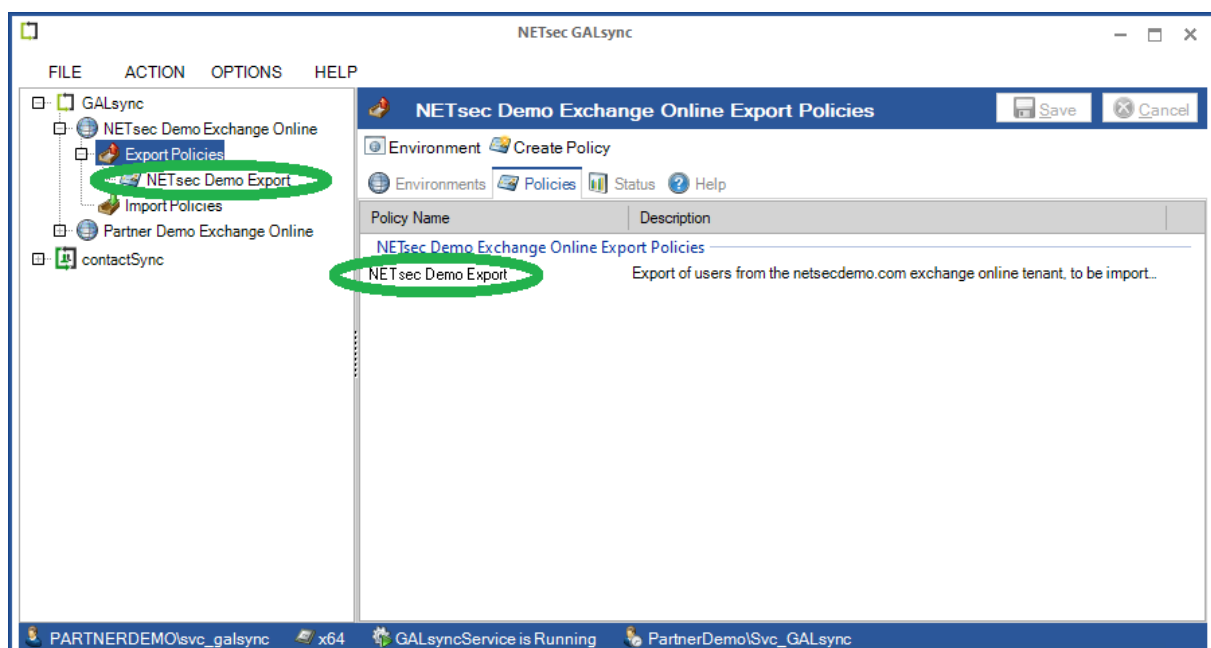
< Back Next > Cancel

To ensure your settings have been properly configured GALsync will check your policy settings and notify you of any detected errors.

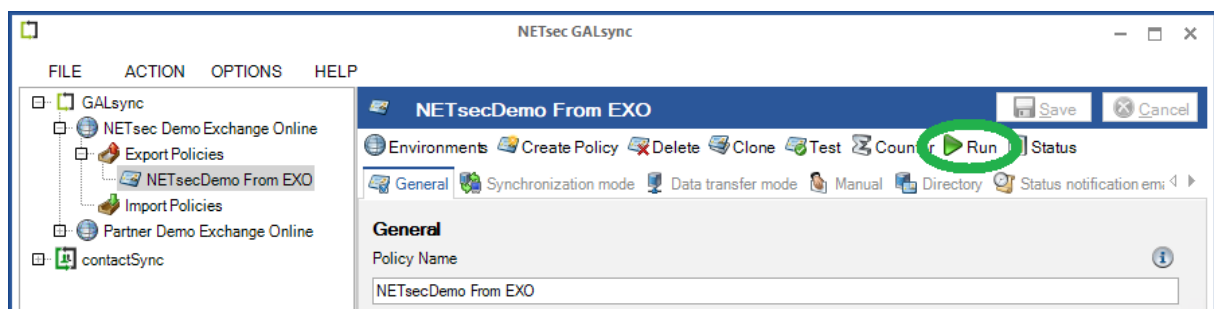
Click **Finish**.



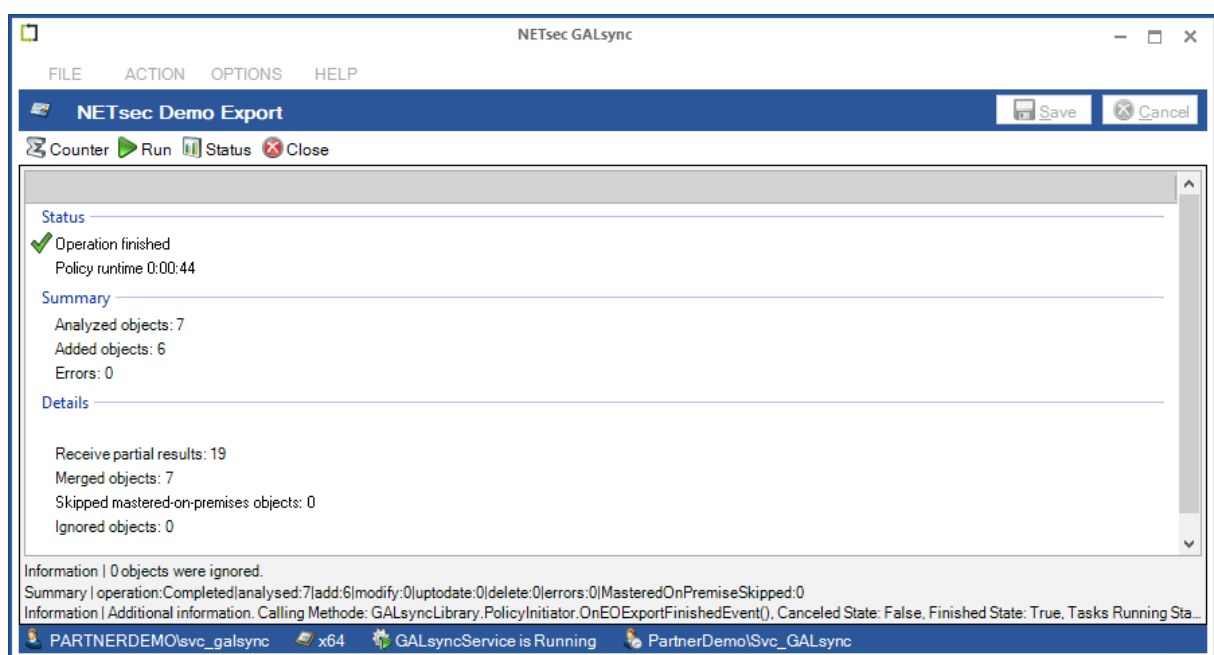
The new policy is accessible by selecting it from either link shown below.



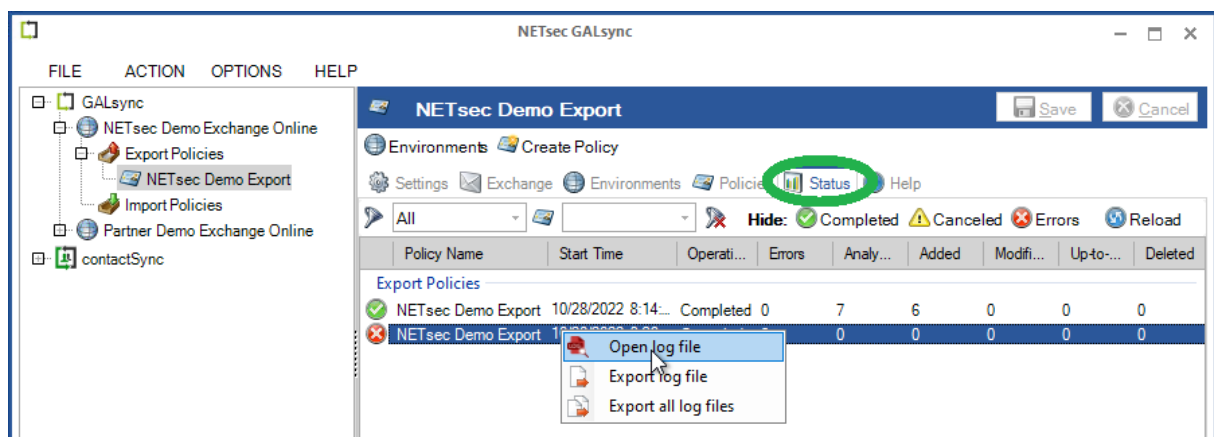
Select the policy node. Then click **Run**.



GALsync successfully exported 6 objects.



The corresponding log file can be opened by selecting the Status tab, and right-clicking the associated log and selecting **Open log file** from the context menu. This allows you to easily find the error and identify its cause, as shown in the example below.



Searching for the string "error" yields 5 log entries containing this string.

Double-click the line which contains the error. This will highlight the line in the log which contains the details of this log entry.

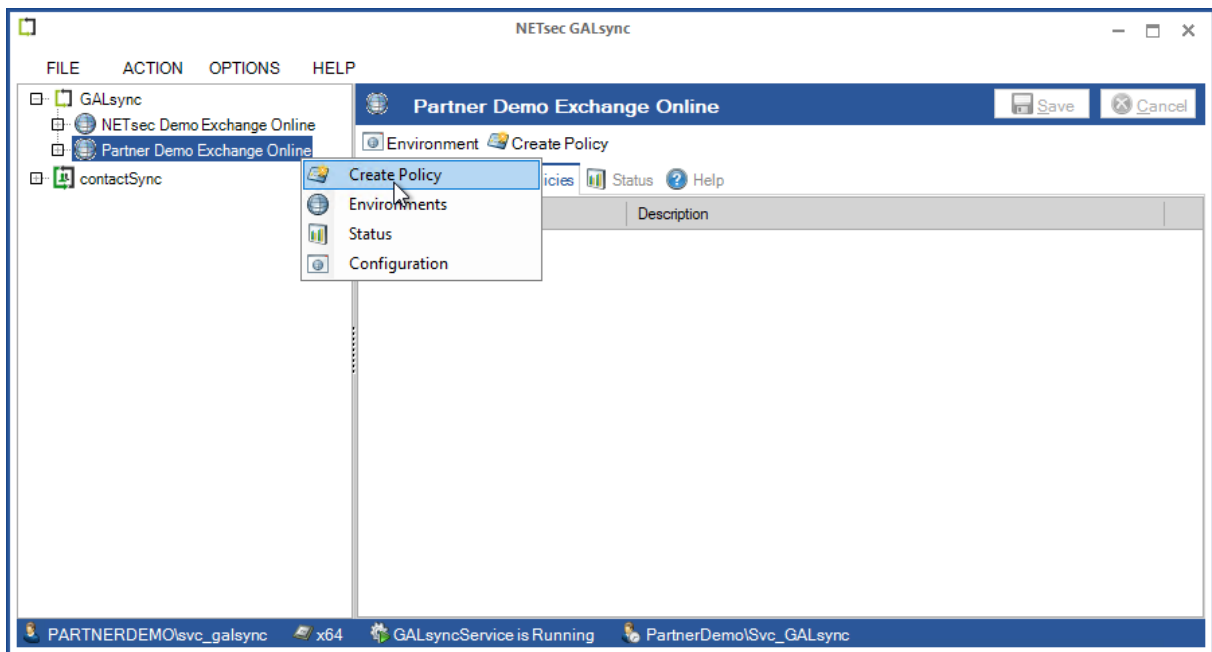
Double-click the highlighted line in the log viewer.

The screenshot shows the NETsec LogViewer interface. The main window displays a list of log entries. A search filter 'error' is applied, resulting in 5 results. The selected entry (timestamp 20221028_082635_447) is highlighted. The details pane on the right shows the full log entry, including the message: 'Error getting Exchange Web Services: One or more errors occurred. One or more errors occurred. Current user cannot decrypt the token. Key not valid for use in specified state.'

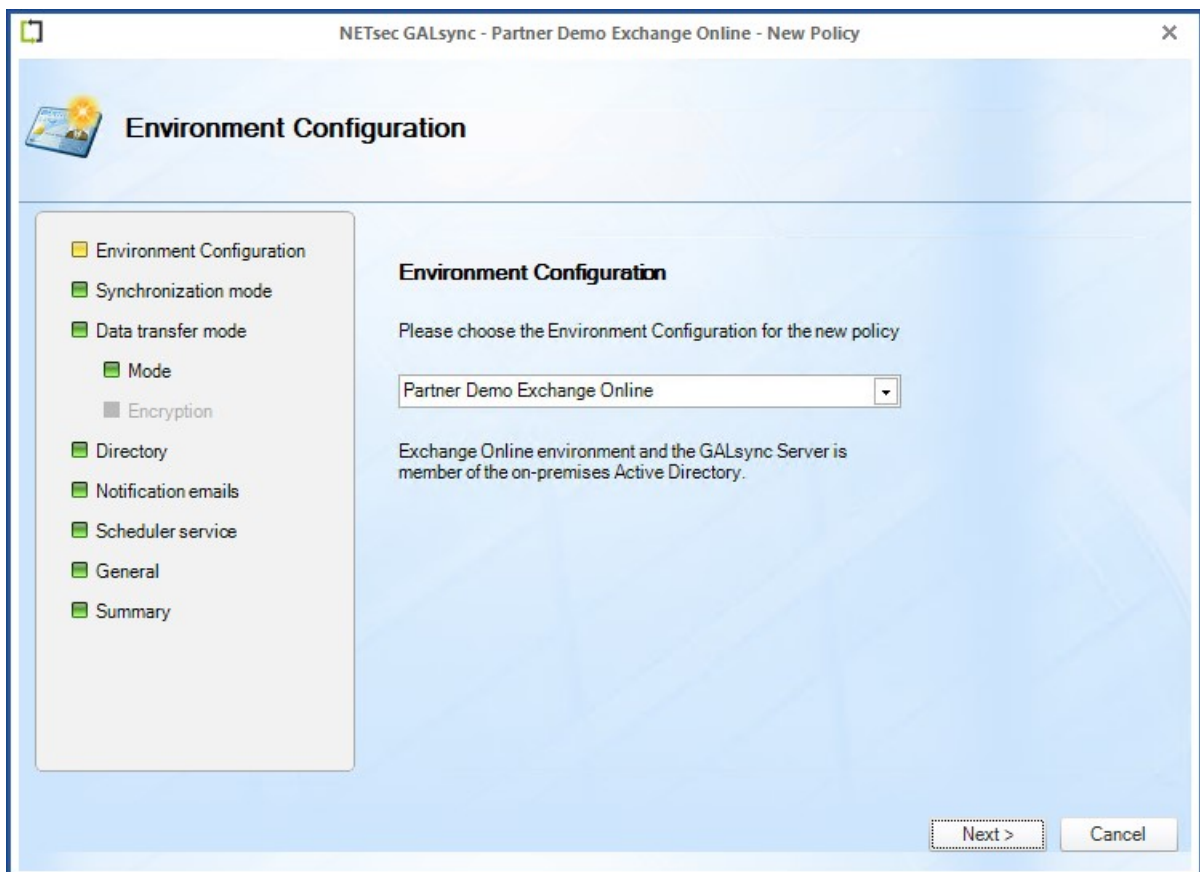
Timestamp	Policy	Type	Code	Task	Thread	Source	Message
20221028_082635_306	NETsecDemoExport.xml	Information	16095	1	7	G	
20221028_082635_306	NETsecDemoExport.xml	Information	16098	1	7	G	
20221028_082635_306	NETsecDemoExport.xml	System	16081	1	7	G	
20221028_082635_306	NETsecDemoExport.xml	System	16082	1	7	G	
20221028_082635_306	NETsecDemoExport.xml	System	16012	1	7	G	
20221028_082635_306	NETsecDemoExport.xml	System	16013	1	7	G	
20221028_082635_306	NETsecDemoExport.xml	System	16071	1	7	G	
20221028_082635_306	NETsecDemoExport.xml	System	16032	1	7	G	
20221028_082635_322	NETsecDemoExport.xml	Error	16086	1	7	G	
20221028_082635_322	NETsecDemoExport.xml	ProcessData	17050	1	7	G	
20221028_082635_322	NETsecDemoExport.xml	Error	16040	1	7	G	
20221028_082635_353	NETsecDemoExport.xml	Information	17055	1	7	G	
20221028_082635_353	NETsecDemoExport.xml	Information	12091	1	7	G	
20221028_082635_353	NETsecDemoExport.xml	Information	12096	1	7	G	
20221028_082635_353	NETsecDemoExport.xml	Information	12097	1	7	G	
20221028_082635_353	NETsecDemoExport.xml	Information	12063	1	7	G	
20221028_082635_353	NETsecDemoExport.xml	Information	12064	1	7	G	
20221028_082635_353	NETsecDemoExport.xml	Information	12065	1	7	G	
20221028_082635_447	NETsecDemoExport.xml	Error	12067	1	7	G	Error getting Exchange Web Services: One or more errors occurred. One or more errors occurred. Current user cannot decrypt the token. Key not valid for use in specified state.

Create and Run Import Policy for Exchange Online

A policy will now be created to import the objects which have been previously exported from the NETsec Demo Exchange Online tenant. Since these objects will be imported into the Partner Demo environment, right-click the Import Policies node under Partner Demo then select **Create policy**.



The **Partner Demo Exchange Online** environment has been preselected, click **Next**.



Import directory information (GAL) has been preselected. Select **An Microsoft 365 Exchange Online tenant or a hybrid Exchange environment** then click **Next**.

The screenshot shows a window titled "NETsec GALsync - Partner Demo Exchange Online - New Policy". The main heading is "New Import Policy for Exchange Online". On the left is a sidebar with a tree view containing the following items: Environment Configuration, Synchronization mode, Data transfer mode, Mode, Encryption, Directory, Notification emails, Scheduler service, General, and Summary. The "Synchronization mode" section is active. It contains two sub-sections: "1. What do you want to do?" and "2. What kind of environment do you have?". In the first section, "Import directory information (GAL)" is selected with a radio button. In the second section, "An Office 365 Exchange Online tenant or a hybrid Exchange organization. Import directory information (GAL) to an Office 365 Exchange Online tenant. The Office 365 Exchange Online tenant can be part of a hybrid Exchange organization." is selected with a radio button. At the bottom right are three buttons: "< Back", "Next >", and "Cancel".

NETsec GALsync - Partner Demo Exchange Online - New Policy

New Import Policy for Exchange Online

- Environment Configuration
- Synchronization mode
- Data transfer mode
 - Mode
 - Encryption
- Directory
- Notification emails
- Scheduler service
- General
- Summary

Synchronization mode

1. What do you want to do?

- ☐ Export directory information (GAL)
- ☒ Import directory information (GAL)

2. What kind of environment do you have?

- ☐ An on-premises Exchange organization or a hybrid Exchange organization. Import directory information (GAL) to an on-premises Exchange organization or to the on-premises part of a hybrid Exchange organization.
- ☒ An Office 365 Exchange Online tenant or a hybrid Exchange organization. Import directory information (GAL) to an Office 365 Exchange Online tenant. The Office 365 Exchange Online tenant can be part of a hybrid Exchange organization.

< Back Next > Cancel

Select the **manual – Import from a file on a local drive on this server** radio button, then click **Next**.

NETsec GALsync - Partner Demo Exchange Online - New Policy

New Import Policy for Exchange Online

- Environment Configuration
- Synchronization mode
- Data transfer mode
 - manual
 - Encryption
- Directory
- Notification emails
- Scheduler service
- General
- Summary

Data transfer mode

Please choose a type of transfer.

- ☒ manual
Import from a file on a local drive on this server.
- ☐ via email
Receive directory information from email.
- ☐ via network share
Receive directory information from a network share.
- ☐ via FTP
Download directory information from an FTP server.

☐ Decrypt directory information.

< Back Next > Cancel

Click the button to the right of the data file path field to browse to and select the xml file which was previously exported.

manual

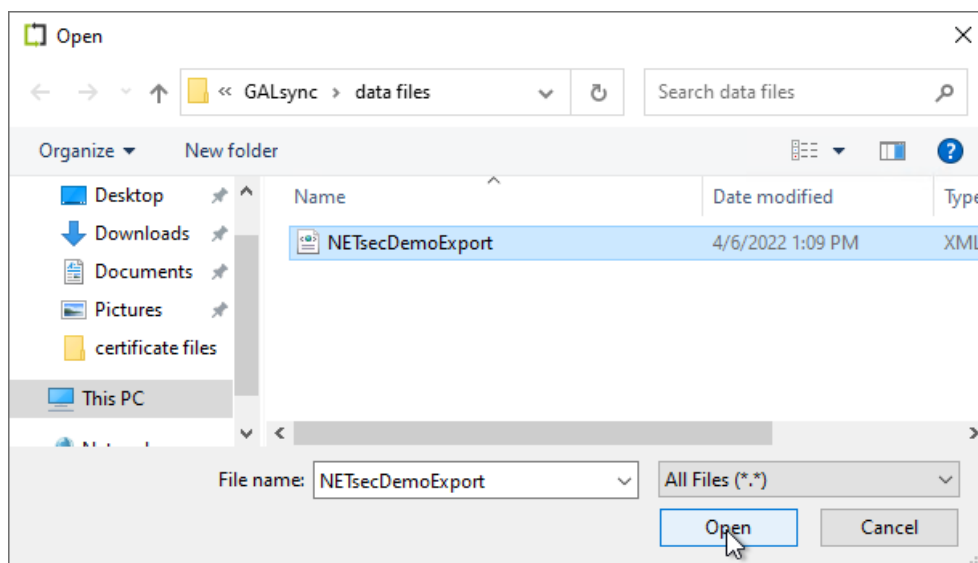
Choose file on your local drive where directory information is stored.

Data file

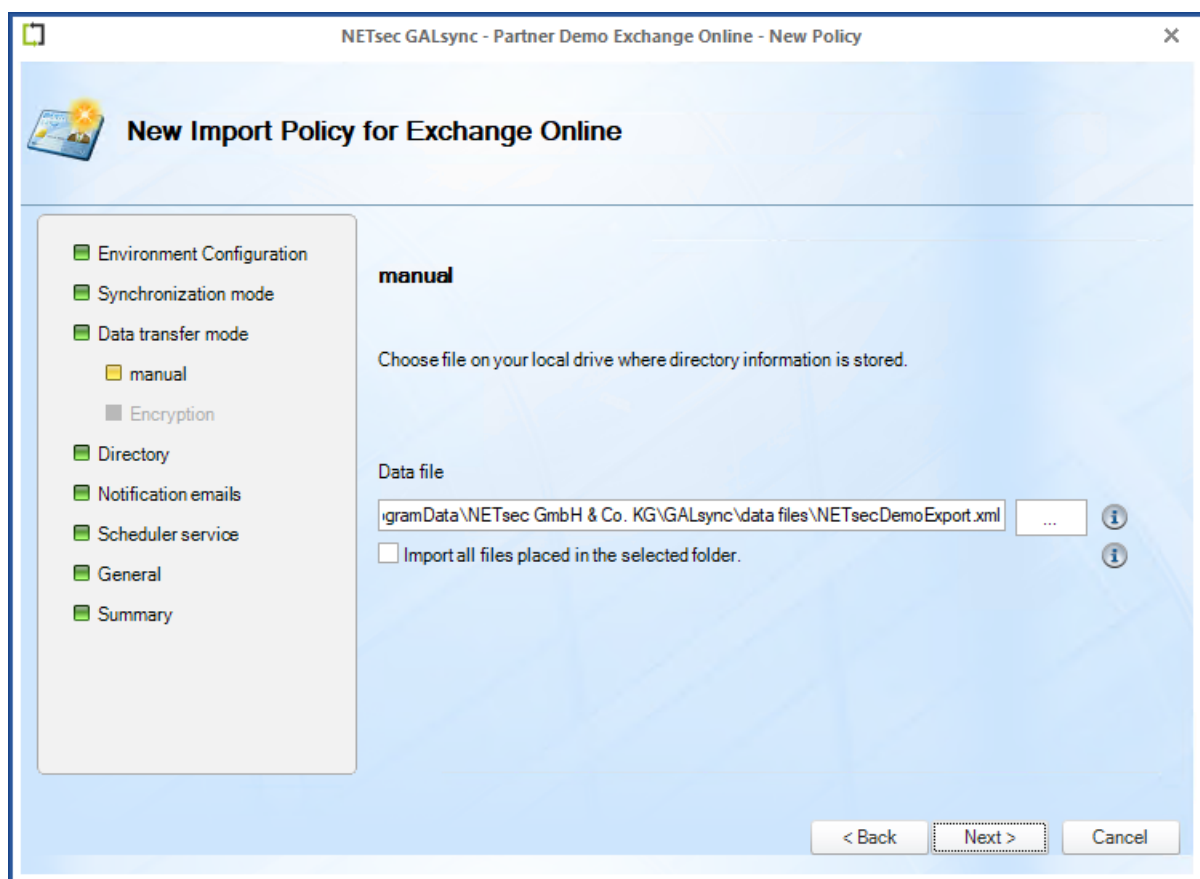
C:\ProgramData\NETsec GmbH & Co. KG\GALsync\data files\datafile.xml

☐ Import all files placed in the selected folder.

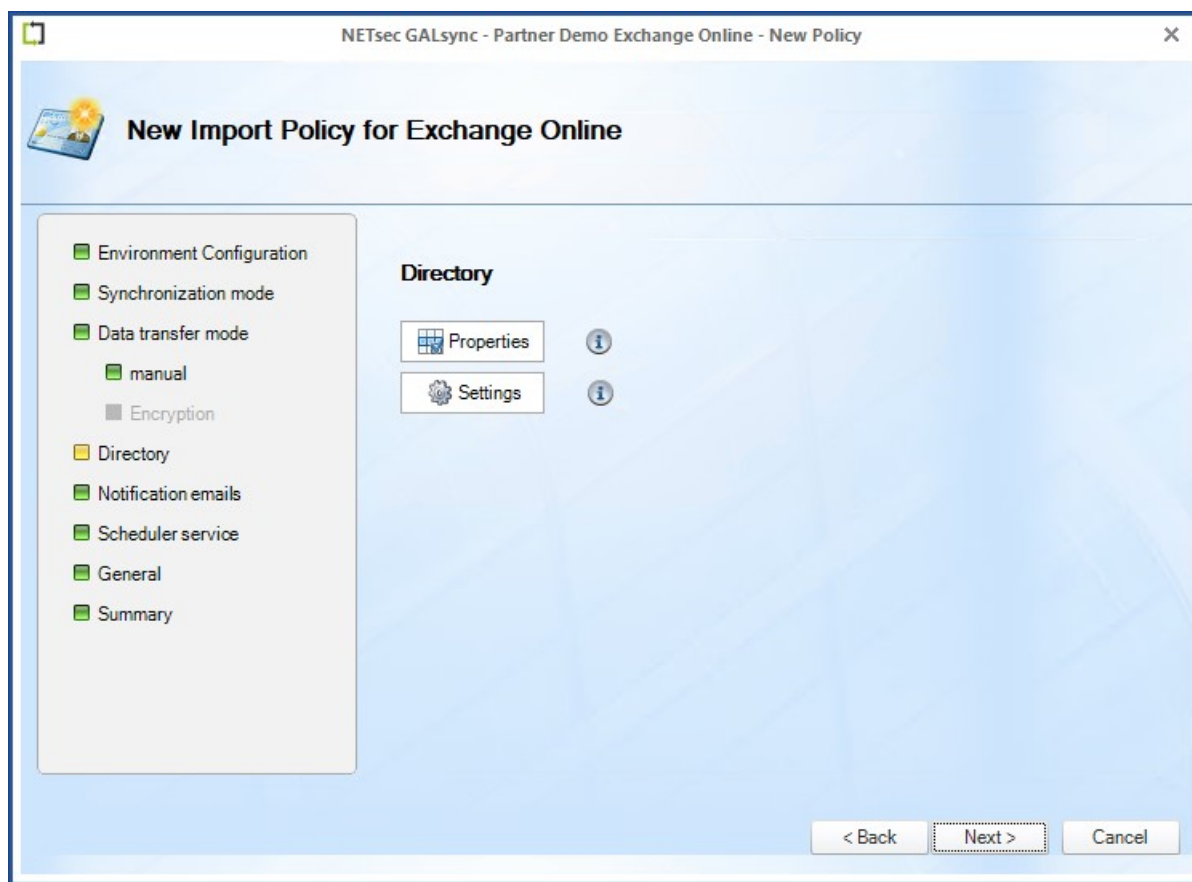
Select the appropriate data file, then click **Open**.



Click **Next**.



Click **Next** to bypass this window.



An optional status notification email can be configured to be sent each time the policy runs, which contains a brief summary of the export operation. It can be configured to **Send only on error**, when checked.

Click **Test** to send an optional test email to the specified recipient.

Click **Next**.

NETsec GALsync - Partner Demo Exchange Online - New Policy

New Import Policy for Exchange Online

- Environment Configuration
- Synchronization mode
- Data transfer mode
 - manual
 - Encryption
- Directory
- Notification emails
- Scheduler service
- General
- Summary

Status notification emails

☒ Send Summary

Subject: GALsync Summary - Import from NETsec Demo

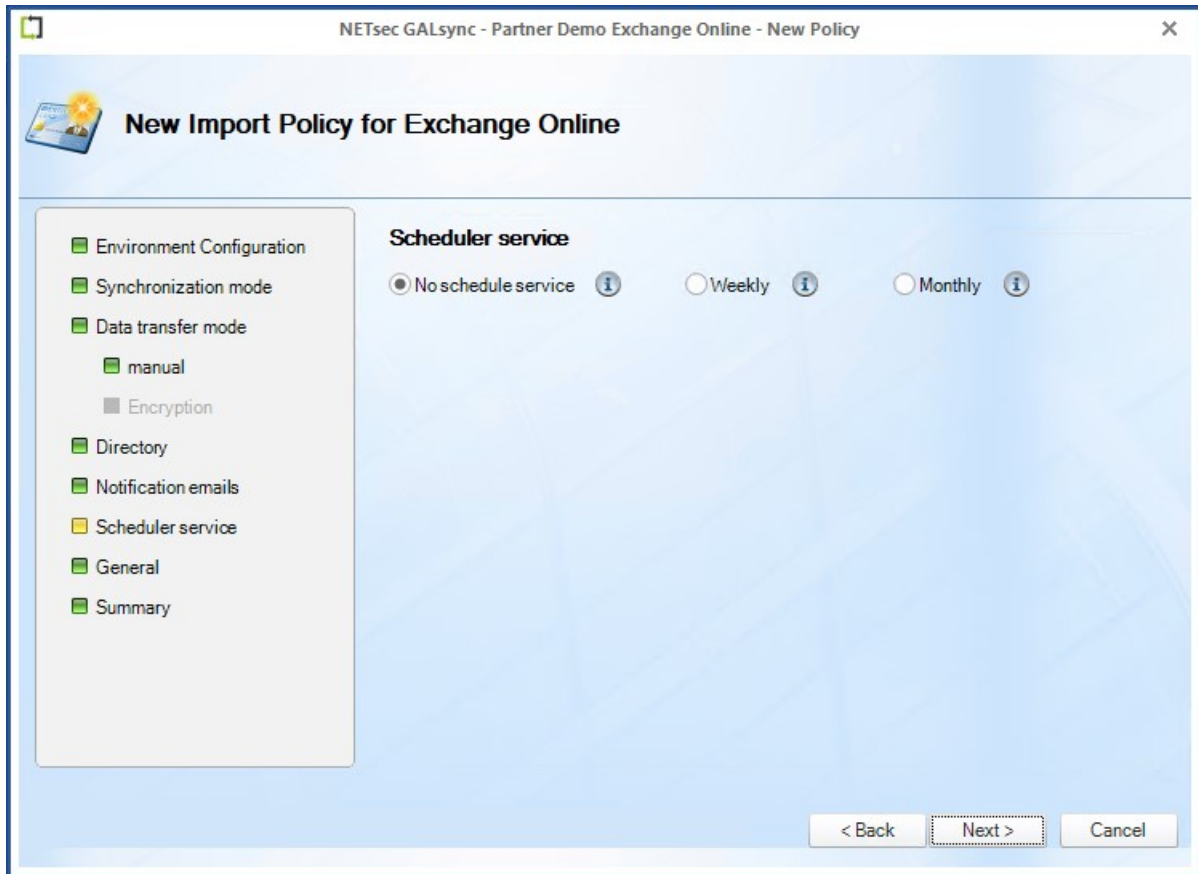
Send to: administrator@partnerdemo.de

☒ Send only on error

< Back Next > Cancel

GALsync can be scheduled to run at regular intervals. We recommend the policy is manually run before any schedules are set. After the synchronization has completed successfully, you can go back and set it to run on the desired schedule.

Click **Next**.



Enter a policy name and optional description, then click **Next**.

The screenshot shows a software window titled "NETsec GALsync - Partner Demo Exchange Online - New Policy". The window has a sidebar on the left with a tree view containing the following items: Environment Configuration, Synchronization mode, Data transfer mode (with sub-items "manual" and "Encryption"), Directory, Notification emails, Scheduler service, General (highlighted), and Summary. The main area is titled "New Import Policy for Exchange Online" and contains a "General" tab. Under the "General" tab, there are three fields: "Policy Name" with the value "Import from NETsec Demo", "Description" with the text "Import of user objects from the netsecdemo.com exchange online tenant into the partnerdemo.de exchange online tenant as contacts which are published in the online GAL", and "Environment Configuration" with the value "Partner Demo Exchange Online". At the bottom right of the window are three buttons: "< Back", "Next >" (which is highlighted with a dashed border), and "Cancel".

To ensure your settings have been properly configured GALsync will check your policy settings and notify you of any detected errors.

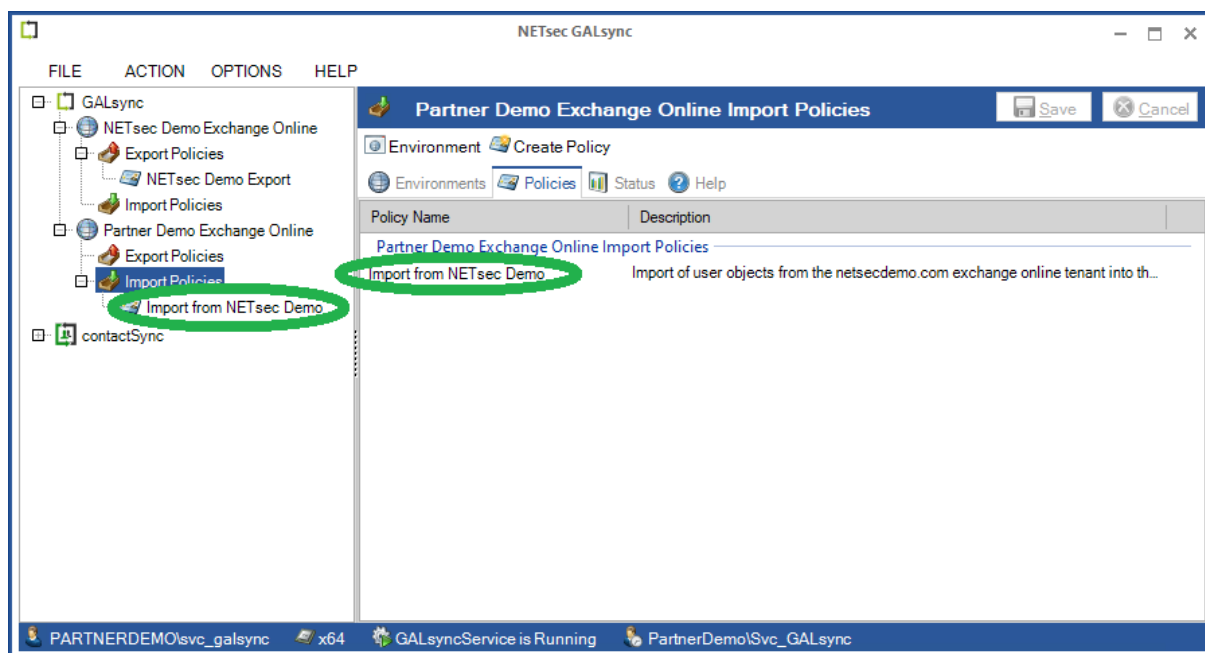
Click **Finish**.

The screenshot shows the 'Summary' tab of the 'NETsec GALsync - Partner Demo Exchange Online - New Policy' window. On the left is a navigation pane with the following items: Environment Configuration, Synchronization mode, Data transfer mode (with sub-items 'manual' and 'Encryption'), Directory, Notification emails, Scheduler service, General, and Summary (which is highlighted). The main area is titled 'Summary' and includes a legend: a red 'X' for 'Error', a green checkmark for 'Ok', and a red circle with a slash for 'Not Used'. Below the legend is a table with the following data:

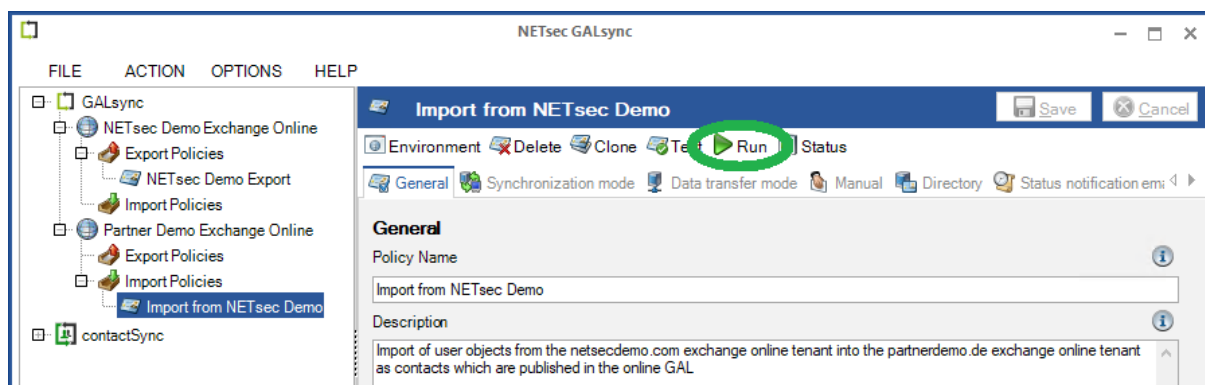
Item	Status	Value
Policy name	Ok	Import from NETsec Demo
Synchronization mode	Ok	Import (Exchange Online)
Data transfer mode	Ok	manual
manual	Ok	C:\ProgramData\NETsec GmbH & Co. KG\GALsync\da...
Encryption	Not Used	
Directory	Not Used	
Notification	Ok	Logon to mailbox
Notification	Ok	Send test mail to recipient
Scheduler service	Not Used	

At the bottom right of the window are three buttons: '< Back', 'Finish', and 'Cancel'.

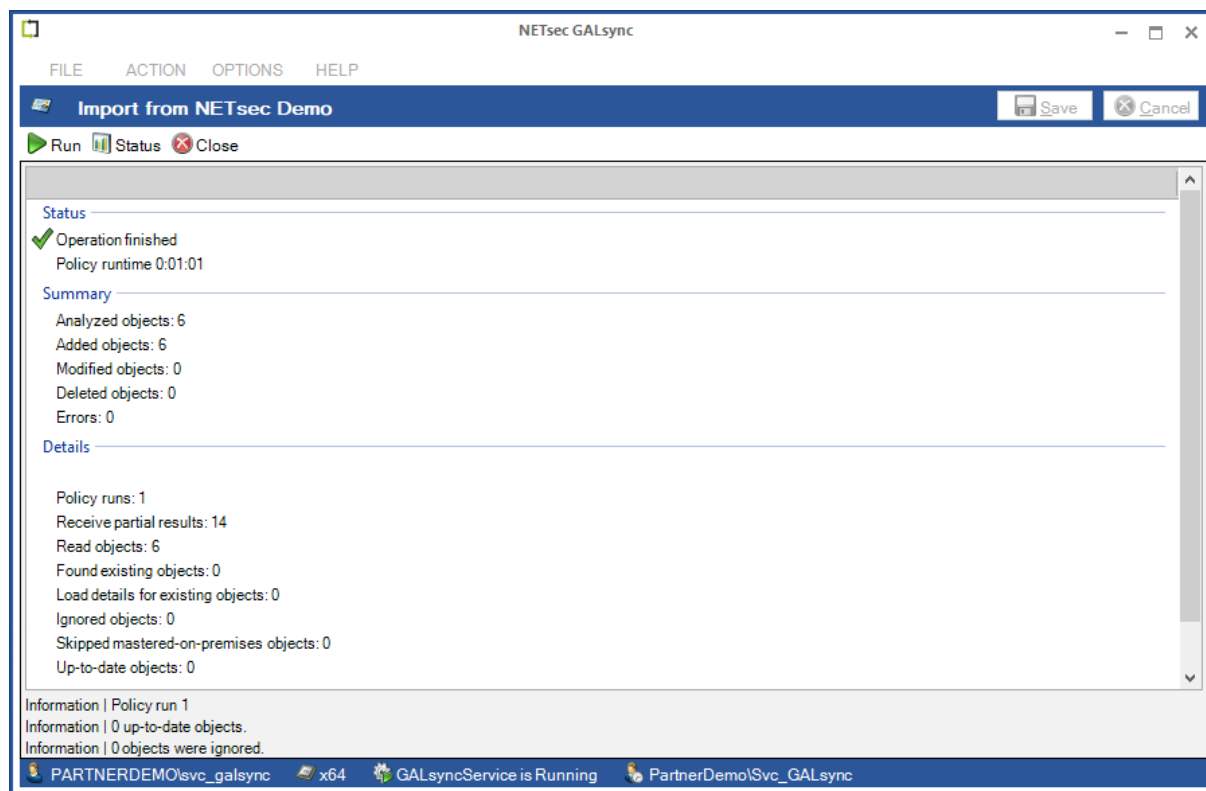
The new policy is accessible by selecting it from either link shown below.



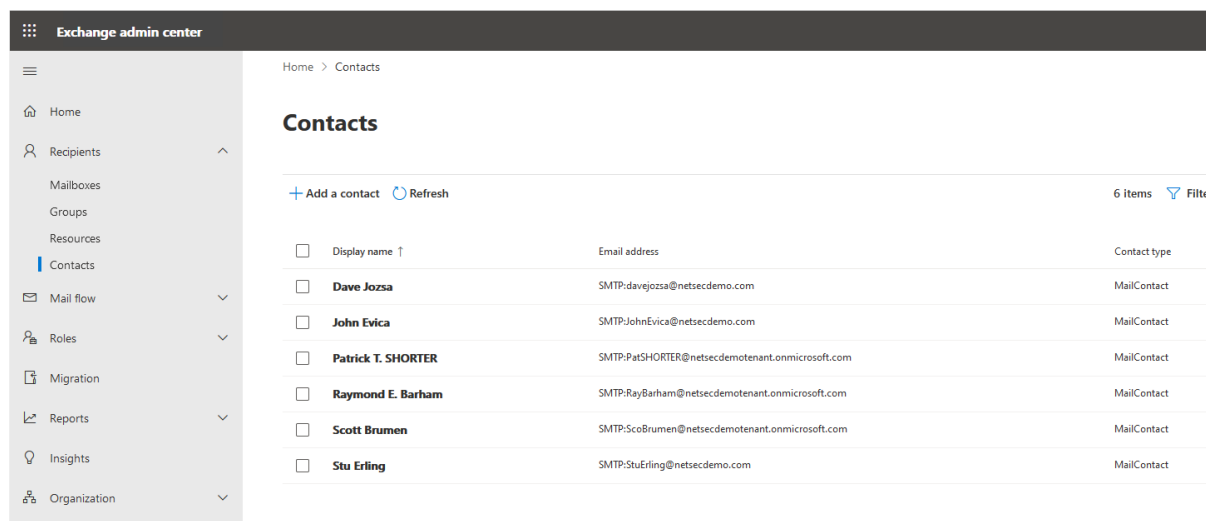
Select the policy node. Then click the **Run** button.



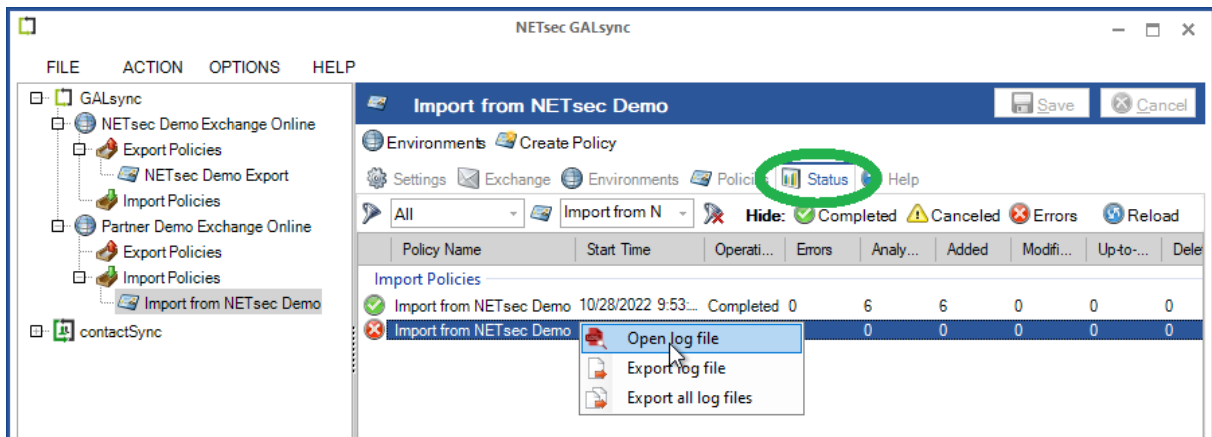
GALsync successfully imported all 6 members of the NETsec Demo Customer Support Security Group into the target tenant (Partner Demo) as contacts.



The import has been verified in the target tenant.



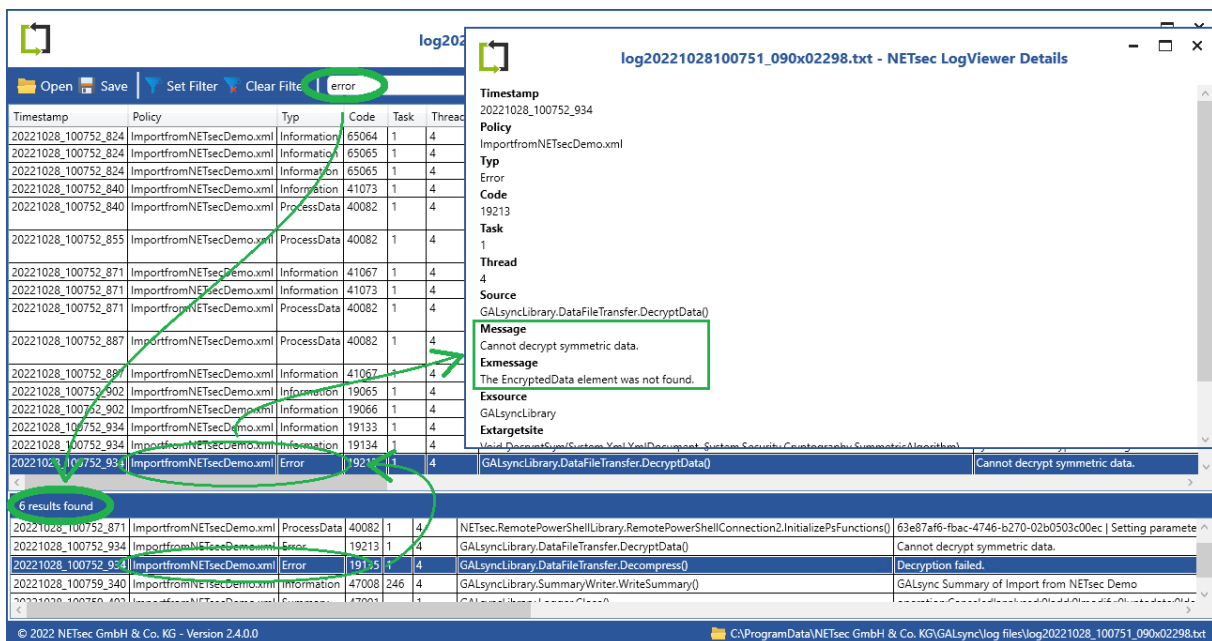
The corresponding log file can be opened by selecting the Status tab, and right-clicking the associated log and selecting **Open log file** from the context menu. This allows you to easily find the error and identify its cause, as shown in the example below.



Searching for the string "error" yields 6 log entries containing this string.

Double-click the line which contains the error. This will highlight the line in the log which contains the details of this log entry.

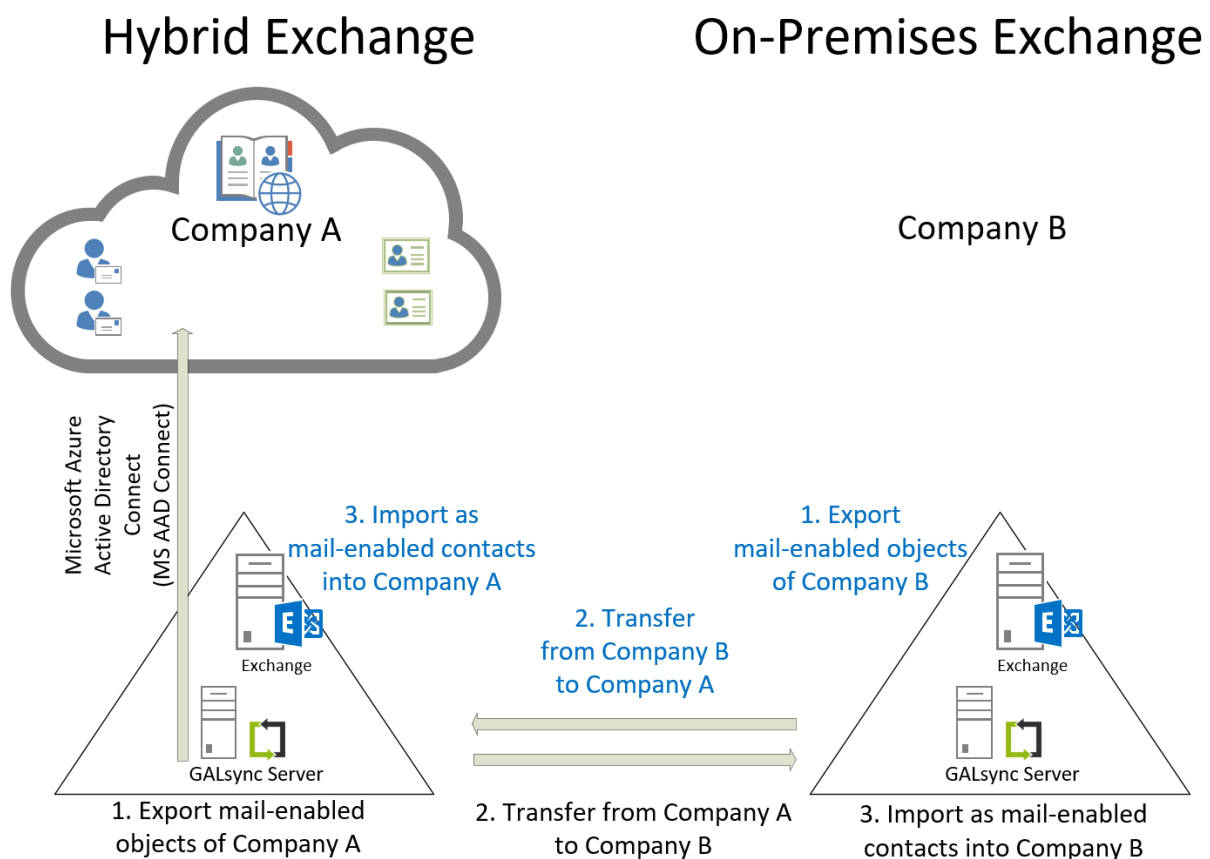
Double-click the highlighted line in the log viewer.



On-premises Exchange to on-premises Exchange Synchronization

Synchronizing between different on-premises Exchange environments

If you want directly synchronize between 2 different on-premises Exchange environments, there must be a domain-joined GALsync Server in each of the corresponding Exchange environments.

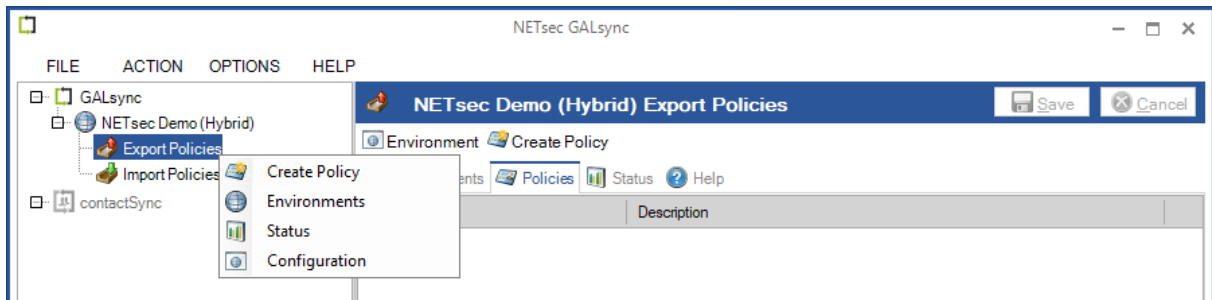


In this scenario the administrator of each on-premises Exchange environment configures an Environment Configuration for their own Exchange environment. The corresponding policies to export and import are configured within the Environment Configuration of the Exchange environment.

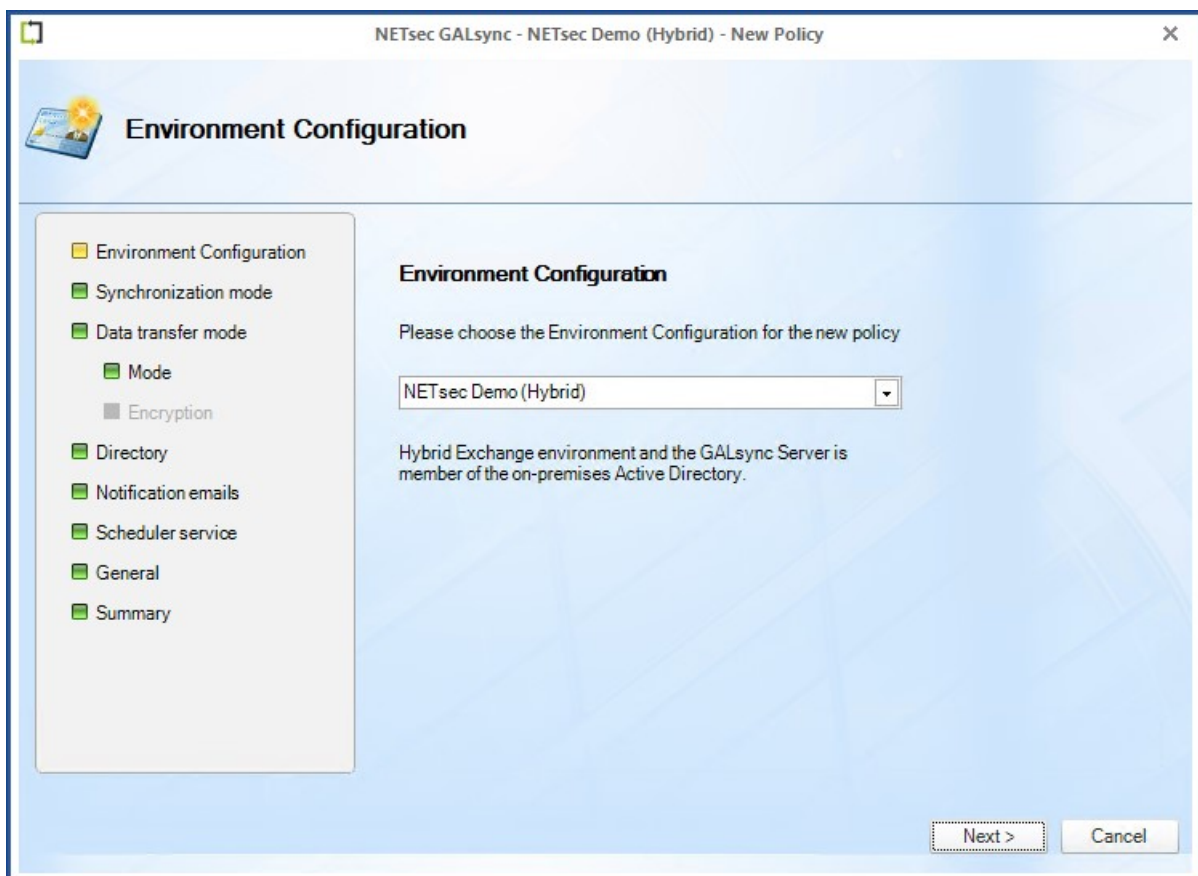
How to configure this scenario is described below in a step-by-step guide:

Create and Run Export Policy from on-premises Exchange

Right-click the **Export Policies** node under the desired environment from which to export, and select **Create Policy**.



The selected environment is pre-populated.



Since this is a hybrid Exchange environment, the option is presented whether to connect to Exchange On-Premises, and export from Active Directory (preferred), or to export from Exchange Online.

Select the **On-premises Exchange organization of hybrid environment** radio button, then click **Next**.

NETsec GALsync - NETsec Demo - New Policy

New Export Policy

- Environment Configuration
- Synchronization mode**
- Data transfer mode
 - Mode
 - Encryption
- Directory
- Notification emails
- Scheduler service
- General
- Summary

Synchronization mode

1. What do you want to do?

☒ Export directory information (GAL)

☐ Import directory information (GAL)

2. What kind of environment do you have?

☒ An on-premises Exchange organization or a hybrid Exchange organization. Export directory information (GAL) from an on-premises Exchange organization or from the on-premises part of a hybrid Exchange organization.

☐ An Office 365 Exchange Online tenant or a hybrid Exchange organization. Export directory information (GAL) from an Office 365 Exchange Online tenant or directly from the Office 365 part of the hybrid Exchange organization.

< Back Next > Cancel

Select the **via email – Send directory information by email** radio button, then check the **Encrypt directory information** checkbox

Click **Next**

NETsec GALsync - NETsec Demo - New Policy

New Export Policy

- Environment Configuration
- Synchronization mode
- Data transfer mode
- Encryption
- Directory
- Notification emails
- Scheduler service
- General
- Summary

Data transfer mode

Please choose a type of transfer.

☐ manual
Export to a file on a local drive of the server.

☒ via email
Send directory information by email.

☐ via network share
Store directory information to a network share.

☐ via FTP
Upload directory information to a FTP server.

☒ Encrypt directory information.

< Back Next > Cancel

GALsync will attach the data file to an email. Enter a subject line and the email address of the GALsync account in the target forest. This subject line will need to be configured in the corresponding import policy so GALsync can identify which email contains the data file.

Click **Test** to send an optional test email to verify routing to the target mailbox.

Click **Next**.

NETsec GALsync - NETsec Demo - New Policy

New Export Policy

- Environment Configuration
- Synchronization mode
- Data transfer mode
 - via email
 - Encryption
- Directory
- Notification emails
- Scheduler service
- General
- Summary

via email

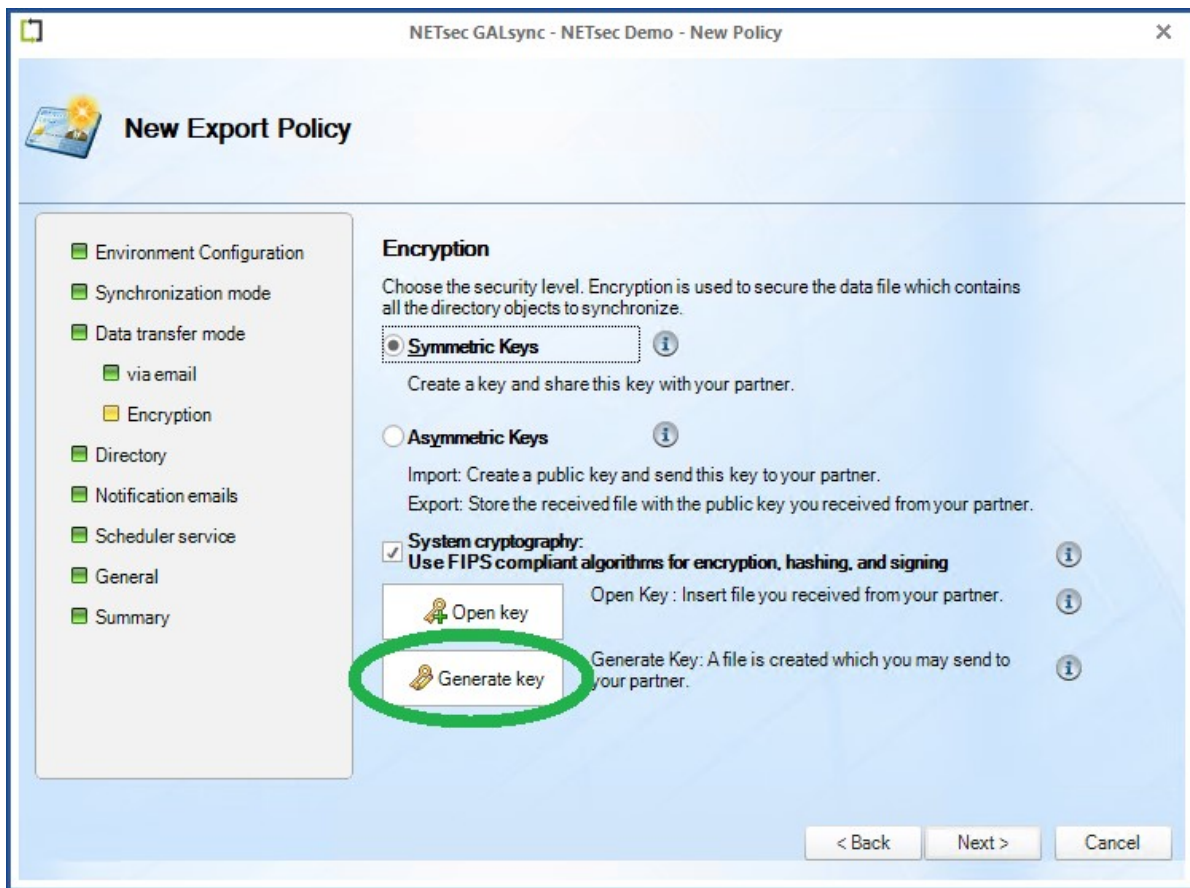
Subject: NETsec Demo Export from On-Prem ⓘ

Send to: svc_galsync@companydemo.de ⓘ

Test ⓘ

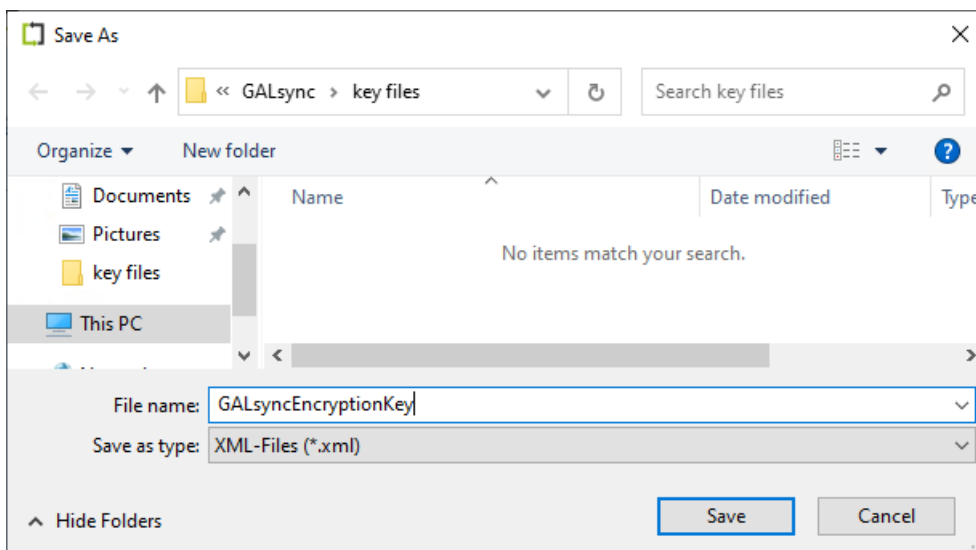
< Back Next > Cancel

Select the **Symmetric Keys** radio button, then click **Generate Key**.

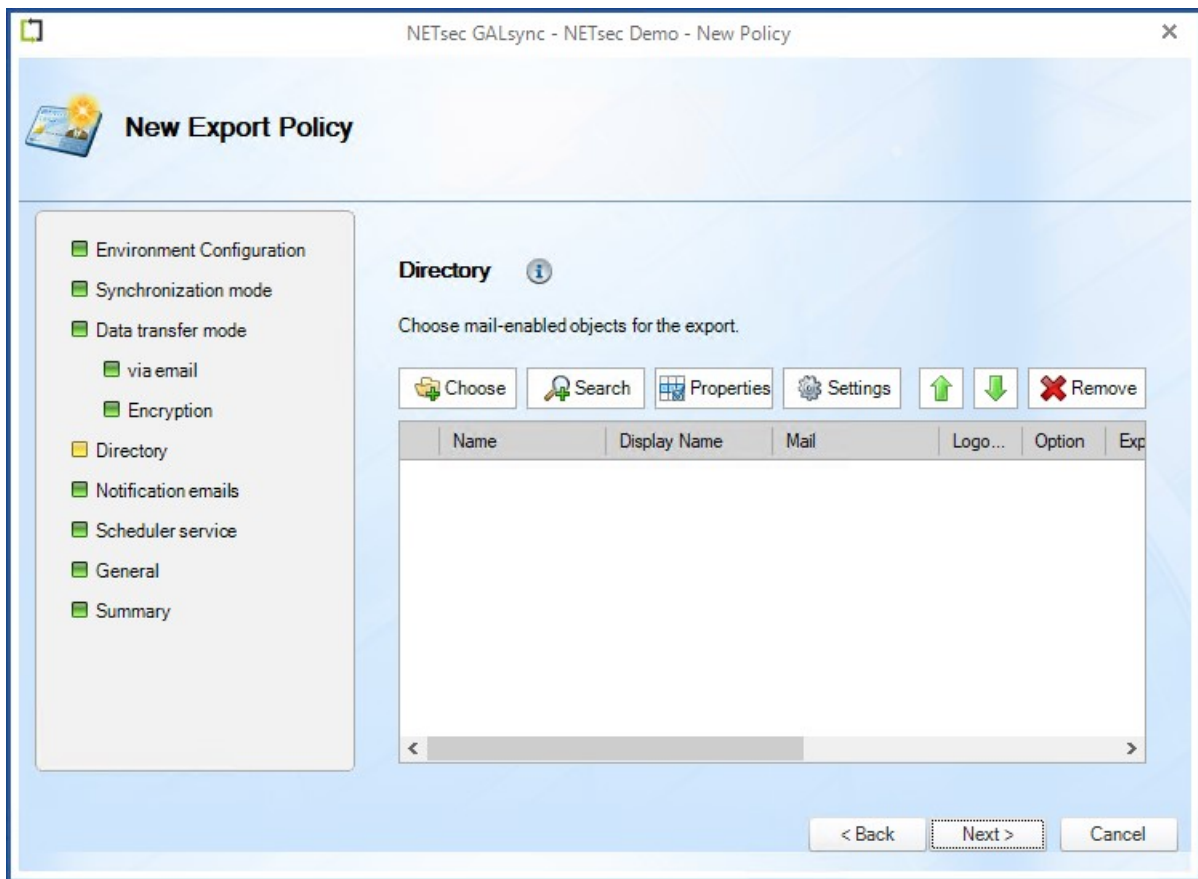


Give the encryption key a file name and save it. The default directory to save it is:

C:\ProgramData\NETsec GmbH & Co. KG\GALsync\key files

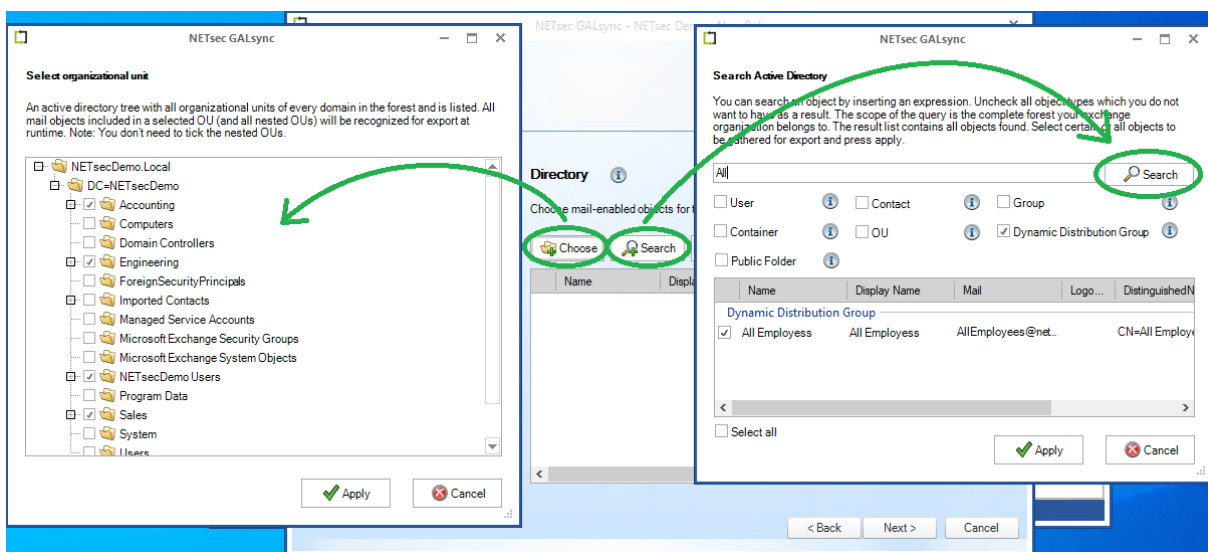


After saving the encryption key, click **Next**. The window below is presented.



There are two ways to select objects to be exported.

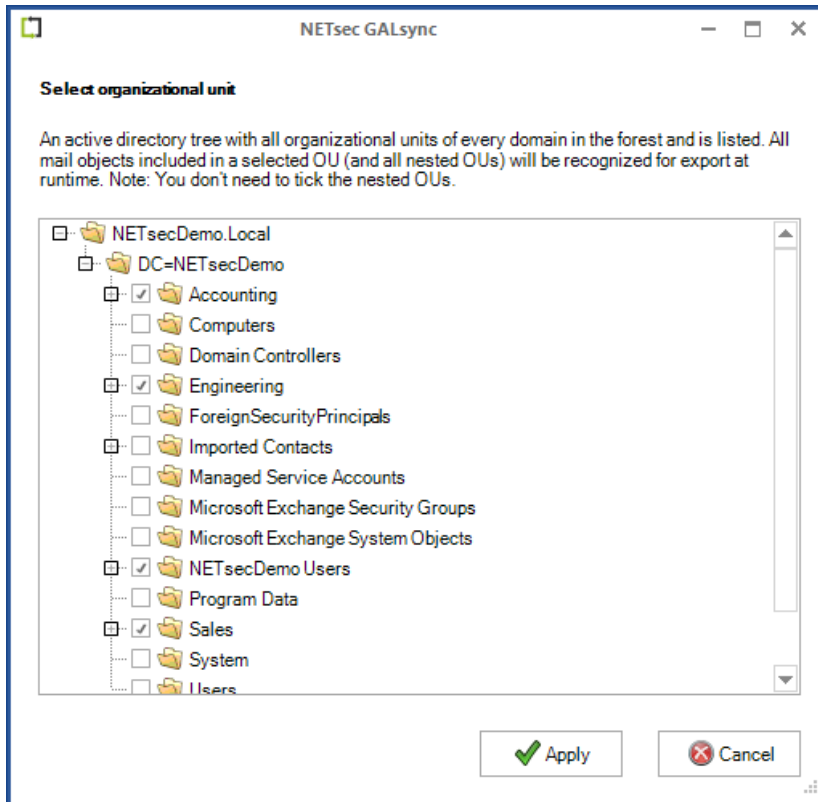
1. Click **Choose** to select objects by OU.
2. Click **Search** to initiate an LDAP query to search for select mail-enabled objects.



Selection by OU:

Select the desired OU(s) which contain the objects to be exported by checking the corresponding checkbox(s)

Click **Apply**



Select the desired option which you would like to apply to your OU selection. If multiple OUs have been selected, the same settings can be applied to all OUs by checking the **Setting for all OUs** checkbox.

Select the **Exportable RecipientTypeDetails** tab

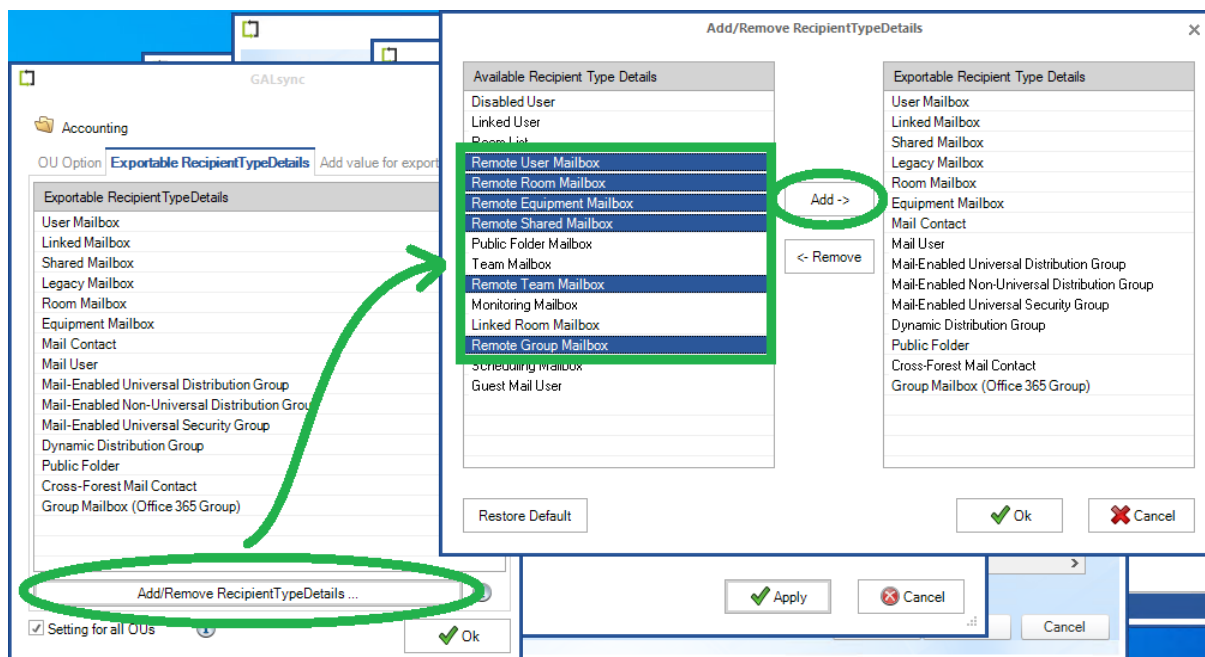
The screenshot shows the 'Accounting' dialog box in the GALsync application. The 'Exportable RecipientTypeDetails' tab is selected and highlighted with a green circle. Below the tab, there are five radio button options: 'Only this OU', 'Only Sub-OUs', 'OU + Sub-OUs' (which is selected), 'Include group memberships', and 'Include nested groups + memberships'. Each option has an information icon to its right. At the bottom left, the 'Setting for all OUs' checkbox is checked and highlighted with a green circle. An 'Ok' button with a green checkmark is located at the bottom right.

The dialog window displays the default exportable recipient type details values (msExchRecipientTypeDetails AD property) which are to be exported.

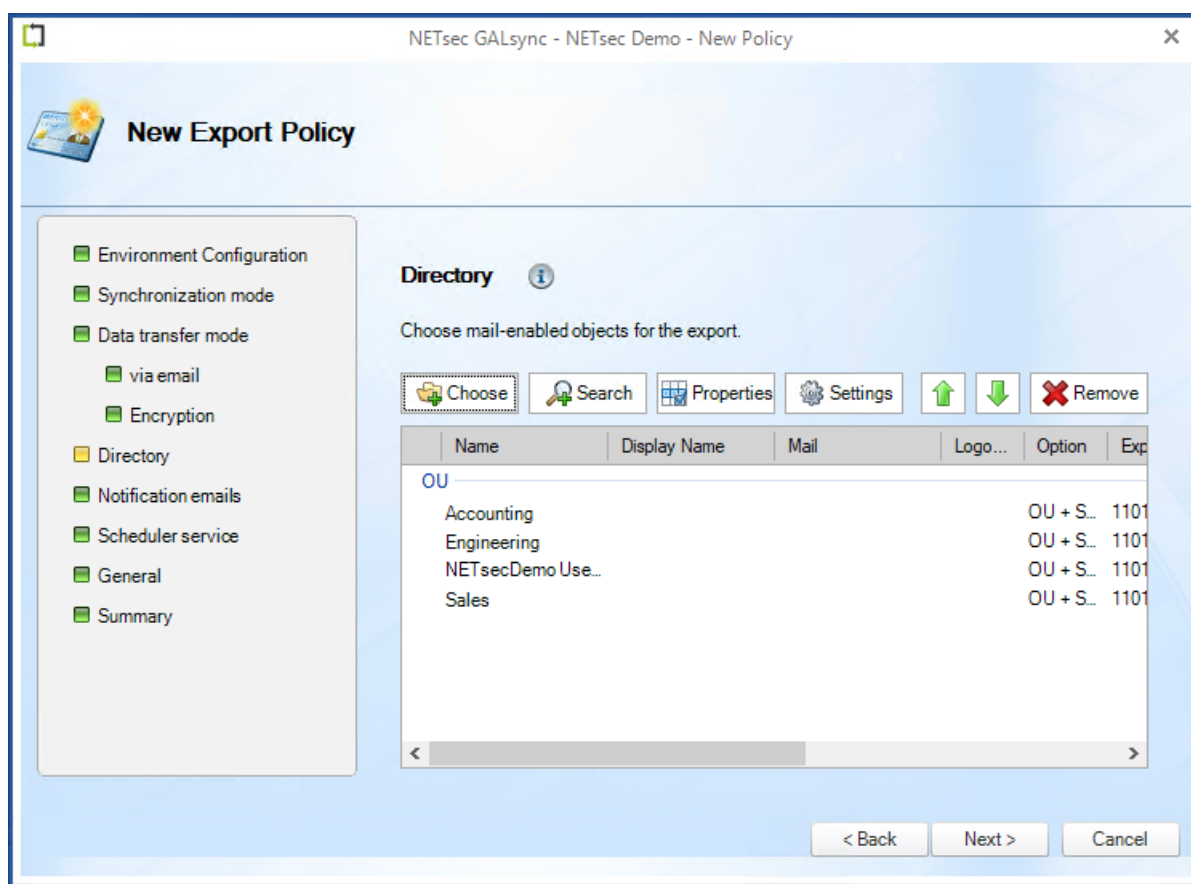
Click the **Add/Remove RecipientTypeDetails** button to modify your selection.

Important: By default, remote mailboxes are not exported from on-premises Exchange. They must be explicitly added as shown below.

Click **OK**.



Click **Next**.



An optional status notification email can be configured to be sent each time the policy runs, which contains a brief summary of the export operation. It can be configured to **Send only on error**, when checked.

Click **Test** to send an optional test email to the specified recipient.

Click **Next**.

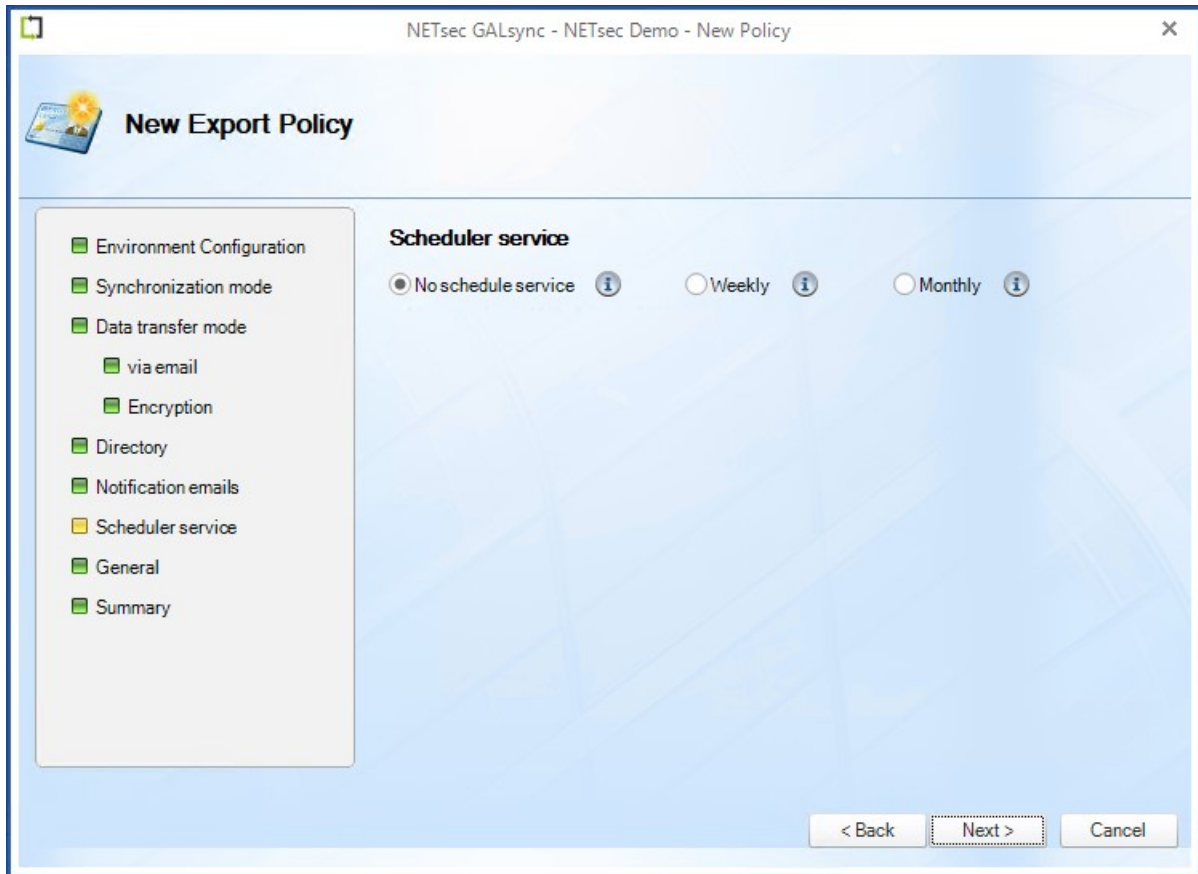
The screenshot shows the 'New Export Policy' configuration window for NETsec GALsync. The window title is 'NETsec GALsync - NETsec Demo - New Policy'. The sidebar on the left contains the following options: Environment Configuration, Synchronization mode, Data transfer mode (with a sub-option 'via email'), Encryption, Directory, Notification emails (highlighted in yellow), Scheduler service, General, and Summary. The main area is titled 'Status notification emails' and contains the following settings:

- ☒ Send Summary (with an information icon)
- Subject: GALsync Summary - NETsec Demo Export (On-Prem) (with an information icon)
- Send to: svc_galsync@netsecdemo.com (with an information icon)
- A 'Test' button (with an information icon)
- ☒ Send only on error (with an information icon)

At the bottom right, there are three buttons: '< Back', 'Next >' (which is highlighted with a dotted border), and 'Cancel'.

GALsync can be scheduled to run at regular intervals. We recommend the policy is manually run before any schedules are set. After the synchronization has completed successfully, you can go back and set it to run on the desired schedule.

Click **Next**.




Enter a policy name and optional description, then click **Next**.


NETsec GALsync - NETsec Demo - New Policy


New Export Policy

- Environment Configuration
- Synchronization mode
- Data transfer mode
 - via email
 - Encryption
- Directory
- Notification emails
- Scheduler service
- General**
- Summary

General

Policy Name 
NETsec Demo Export (On-Prem)

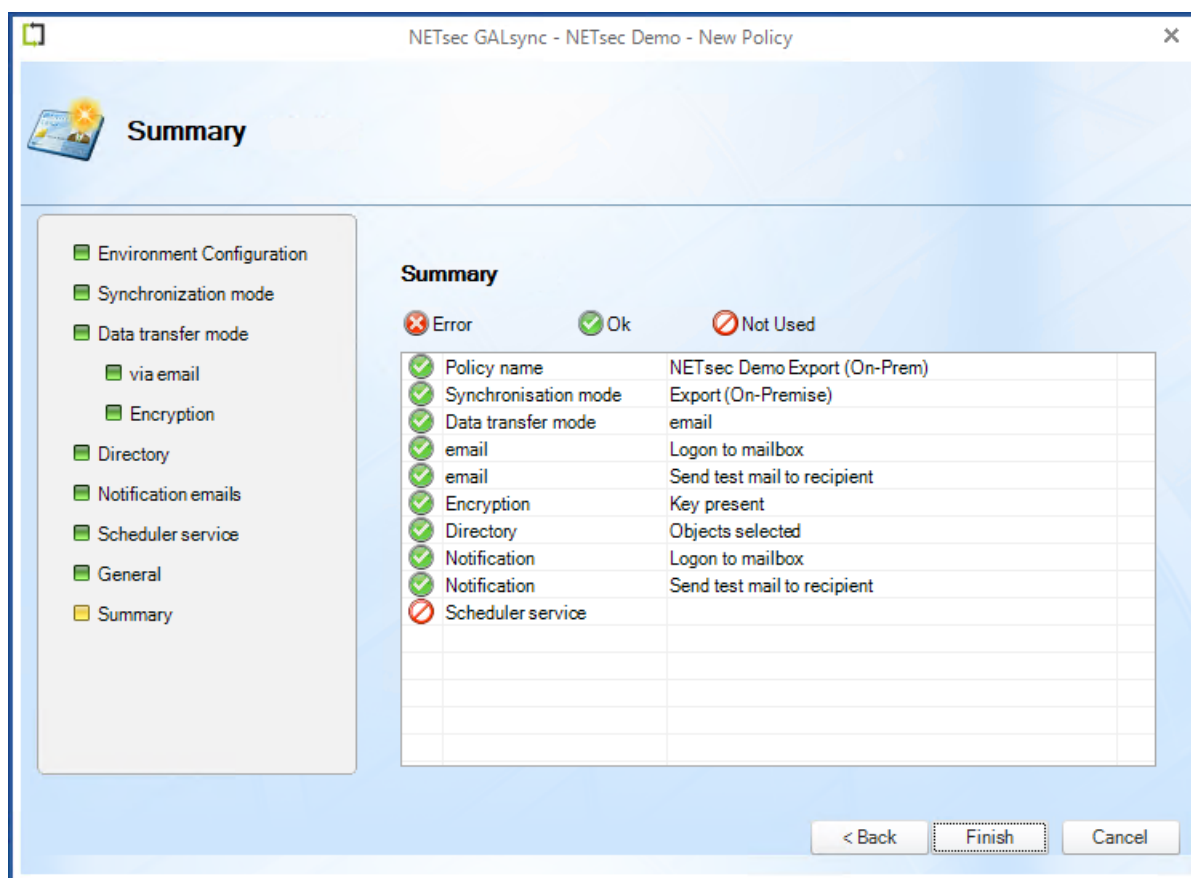
Description 
Export of user objects from NETsecDemo.local Hybrid Exchange environment's On-Prem Active Directory

Environment Configuration 
NETsec Demo

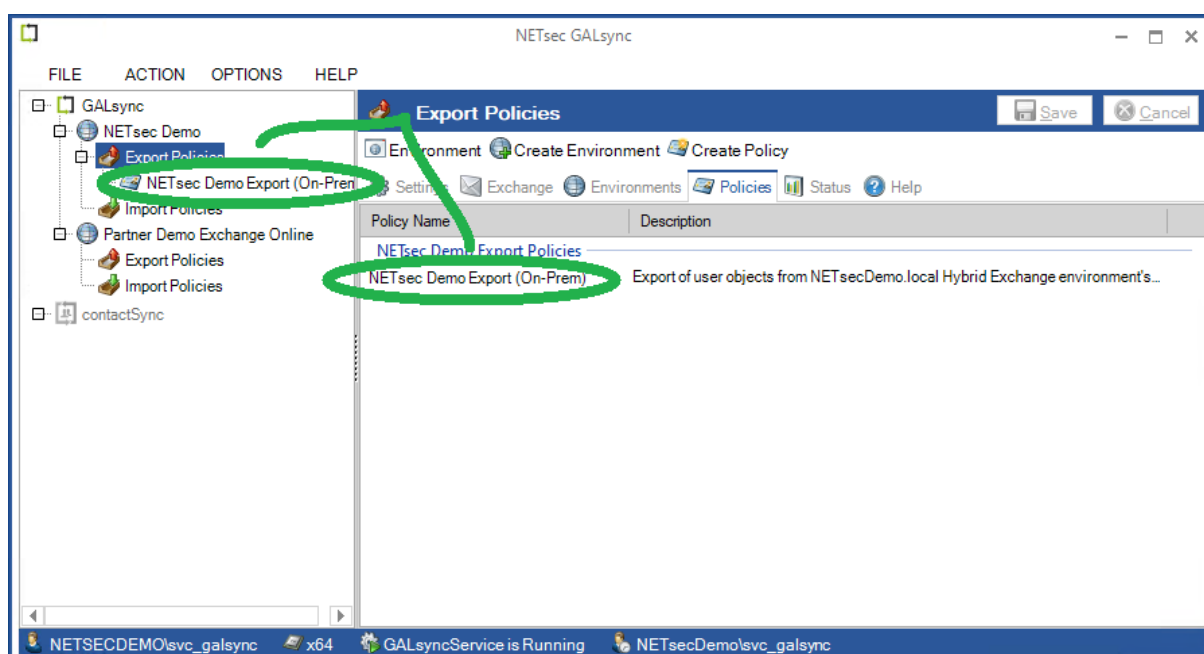
< Back Next > Cancel

To ensure your settings have been properly configured GALsync will check your policy settings and notify you of any detected errors.

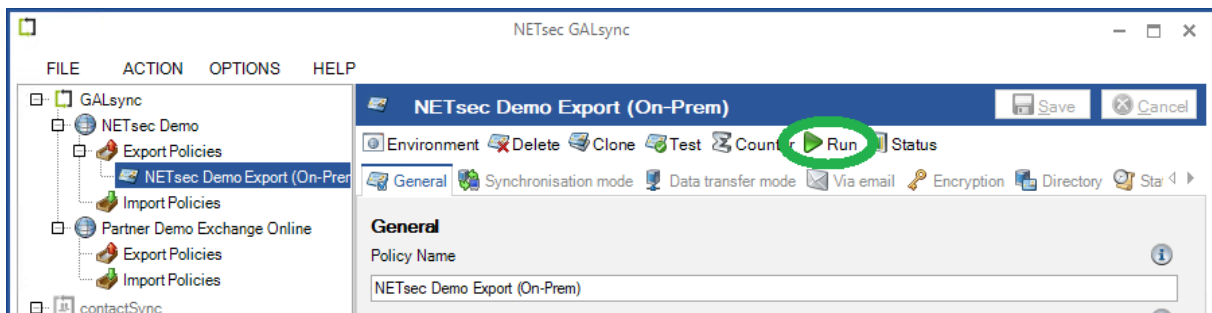
Click **Finish** to complete the wizard.



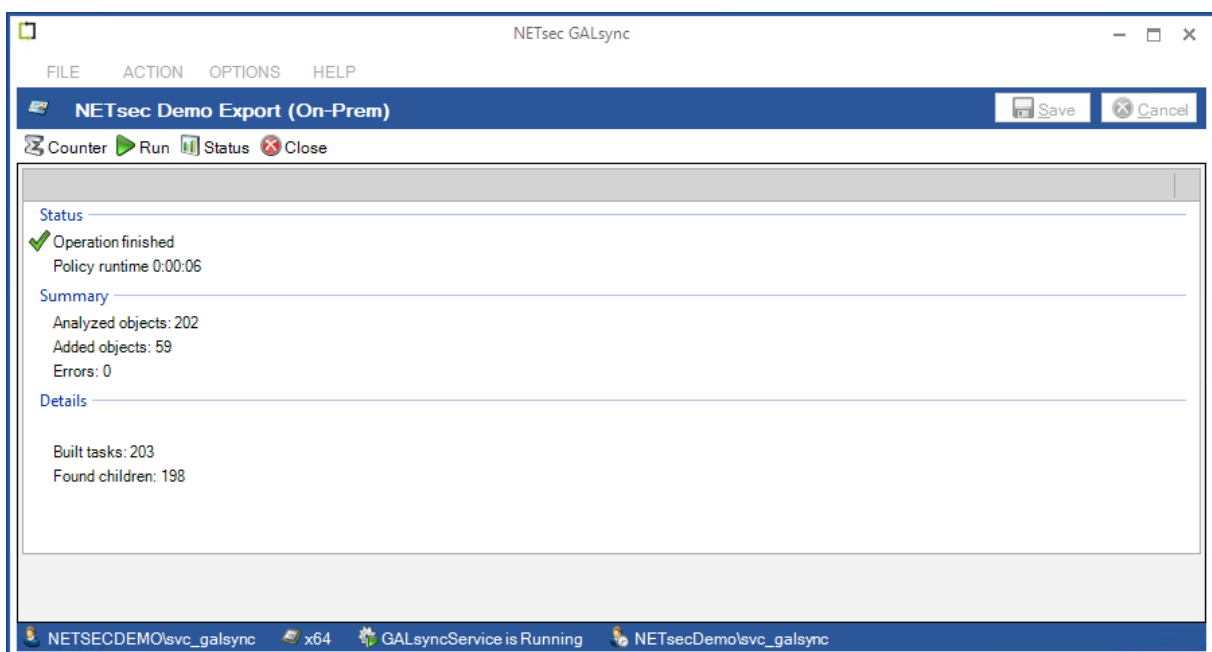
Select the new policy from either node shown below.



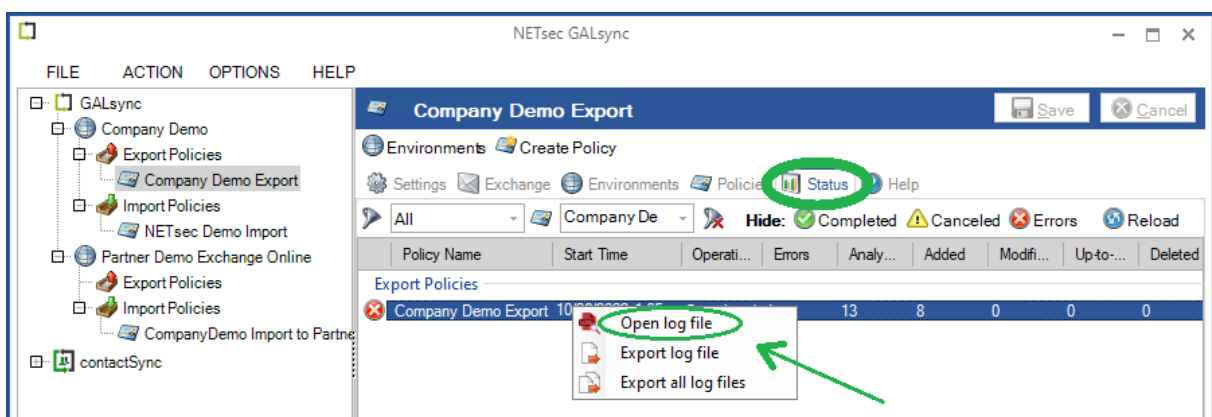
Click **Run**



Export completed successfully



The corresponding log file can be opened by selecting the Status tab, and right-clicking the associated log and selecting **Open log file** from the context menu. This allows you to easily find the error and identify its cause, as shown in the example below.



Searching for the string "error" yields 5 log entries containing this string.

Double-click the line which contains the error. This will highlight the line in the log which contains the details of this log entry.

Double-click the highlighted line in the log viewer.

The screenshot shows the NETsec LogViewer application with a search filter set to "error". The main log table displays 19 entries. The entry at index 4 (timestamp 20221026_130503_421) is highlighted in blue and contains an error. A green box highlights the details of this error in the right-hand pane.

Timestamp	Policy	Type	Code	Task	Thread
20221026_130503_296	CompanyDemoExport1.xml	ProcessData	22005	45	21
20221026_130503_296	CompanyDemoExport1.xml	ProcessData	23001	45	21
20221026_130503_312	CompanyDemoExport1.xml	ProcessData	23002	44	11
20221026_130503_312	CompanyDemoExport1.xml	ProcessData	23002	45	21
20221026_130503_312	CompanyDemoExport1.xml	ProcessData	24008	44	11
20221026_130503_312	CompanyDemoExport1.xml	ProcessData	24008	45	21
20221026_130503_343	CompanyDemoExport1.xml	ProcessData	24011	45	21
20221026_130503_374	CompanyDemoExport1.xml	ProcessData	24011	44	11
20221026_130503_374	CompanyDemoExport1.xml	ProcessData	22003	51	11
20221026_130503_374	CompanyDemoExport1.xml	ProcessData	22005	52	11
20221026_130503_374	CompanyDemoExport1.xml	ProcessData	23001	52	11
20221026_130503_374	CompanyDemoExport1.xml	ProcessData	23002	52	11
20221026_130503_374	CompanyDemoExport1.xml	ProcessData	23040	52	11
20221026_130503_374	CompanyDemoExport1.xml	Information	19001	54	11
20221026_130503_374	CompanyDemoExport1.xml	Information	19001	54	11
20221026_130503_374	CompanyDemoExport1.xml	Information	19121	54	11
20221026_130503_390	CompanyDemoExport1.xml	Information	19123	54	11
20221026_130503_421	CompanyDemoExport1.xml	Information	12090	54	11
20221026_130503_421	CompanyDemoExport1.xml	Error	12078	54	11

Log Entry Details (Index 4):

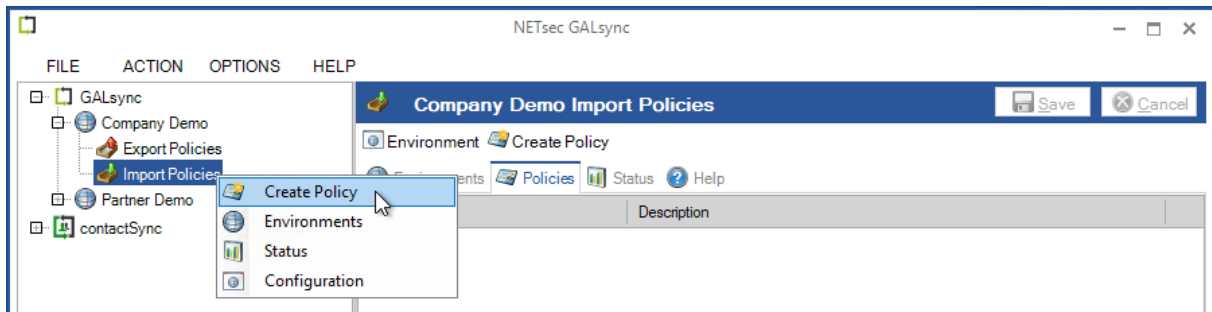
- Policy:** CompanyDemoExport1.xml
- Type:** Error
- Code:** 12078
- Task:** 54
- Thread:** 11
- Source:** GALsyncLibrary.EWSManager.GetExchangeServiceExchangeOnPremises()
- Message:** Error getting Exchange Web Services for on-premises Exchange: Resolving autodiscover url failed. You may want to check selected mailaddress svc_galsync@CompanyDemo.de. Please check permissions and credentials for in the ews credentials settings, too. (ExMessage: The Autodiscover service couldn't be located.)
- Exmessage:** Resolving autodiscover url failed. You may want to check selected mailaddress svc_galsync@CompanyDemo.de. Please check permissions and credentials for in the ews credentials settings, too. (ExMessage: The Autodiscover service couldn't be located.)
- Exsource:** ExchangeWebServicesBase

Search Results (5 results found):

Timestamp	Policy	Type	Code	Task	Thread	Source	Message
20221026_130503_468	CompanyDemoExport1.xml	Error	12078	54	11	GALsyncLibrary.EWSManager.GetExchangeServiceExchangeOnPremises()	Error getting Exchange Web Services for on-premises Exchange: Resolving autodiscover url failed. You may want to check selected mailaddress svc_galsync@CompanyDemo.de. Please check permissions and credentials for in the ews credentials settings, too. (ExMessage: The Autodiscover service couldn't be located.)
20221026_130503_468	CompanyDemoExport1.xml	Error	12111	54	11	GALsyncLibrary.EWSManager.CheckEwsCredentialsForEnvironmentConfiguration()	Please check the configuration!
20221026_130503_468	CompanyDemoExport1.xml	Error	19044	54	11	GALsyncLibrary.DataFileTransfer.sendMailDataFile()	Error connecting to Exchange server.
20221026_130503_468	CompanyDemoExport1.xml	Information	47008	54	11	GALsyncLibrary.SummaryWriter.WriteSummary()	GALsync Summary of Company Demo Export
20221026_130503_468	CompanyDemoExport1.xml	Information	47009	54	11	GALsyncLibrary.SummaryWriter.WriteSummary()	GALsync Summary of Company Demo Export

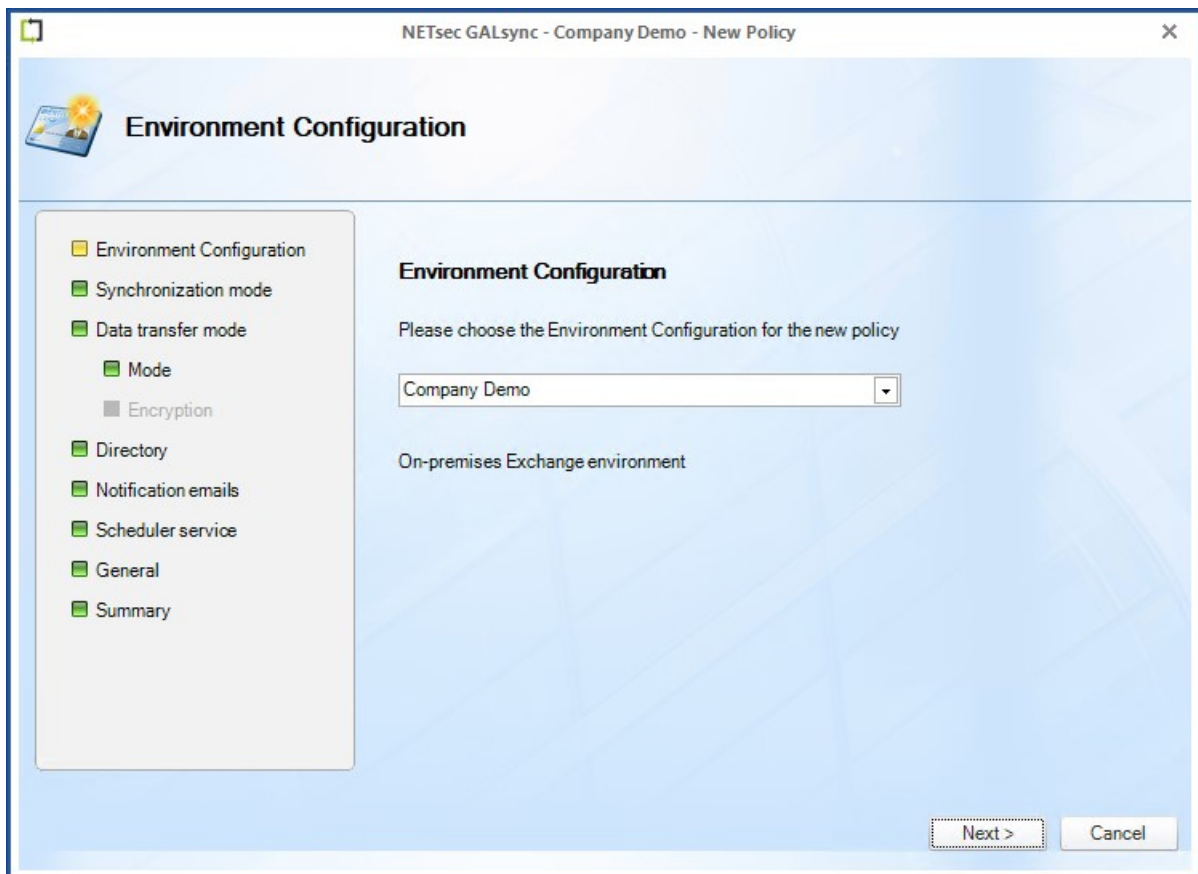
Create and Run Import Policy for on-premises Exchange

Right-click the **Import Policies** node under the Environment you would like to import to, then select **Create Policy**.



The environment is preselected, if it is not, reselect it from the dropdown.

Click **Next**.



Import directory information has been preselected, and since this is an on-premises Exchange environment, this option has also been preselected.

Click **Next**.

NETsec GALsync - Company Demo - New Policy

New Import Policy

- Environment Configuration
- Synchronization mode
- Data transfer mode
 - Mode
 - Encryption
- Directory
- Notification emails
- Scheduler service
- General
- Summary

Synchronization mode

1. What do you want to do?

☐ Export directory information (GAL) i

☒ Import directory information (GAL) i

2. What kind of environment do you have?

☒ An on-premises Exchange organization or a hybrid Exchange organization. Import directory information (GAL) to an on-premises Exchange organization or to the on-premises part of a hybrid Exchange organization. i

☐ An Office 365 Exchange Online tenant or a hybrid Exchange organization. Import directory information (GAL) to an Office 365 Exchange Online tenant. The Office 365 Exchange Online tenant can be part of a hybrid Exchange organization. i

< Back Next > Cancel

Select the **via email – Receive directory information from email** radio button, then check the **Decrypt directory information** checkbox.

Click **Next**.

NETsec GALsync - Company Demo - New Policy

New Import Policy

- Environment Configuration
- Synchronization mode
- Data transfer mode
 - via email
- Encryption
- Directory
- Notification emails
- Scheduler service
- General
- Summary

Data transfer mode

Please choose a type of transfer.

☐ manual
Import from a file on a local drive of the server.

☒ via email
Receive directory information from email.

☐ via network share
Receive directory information from a network share.

☐ via FTP
Download directory information from a FTP server.

☒ Decrypt directory information.

< Back Next > Cancel

Enter the subject line which had been configured in the corresponding export policy. Connectivity to the GALsync mailbox can be validated by clicking the **Test** button.

Click **Next**.

NETsec GALsync - Company Demo - New Policy

New Import Policy

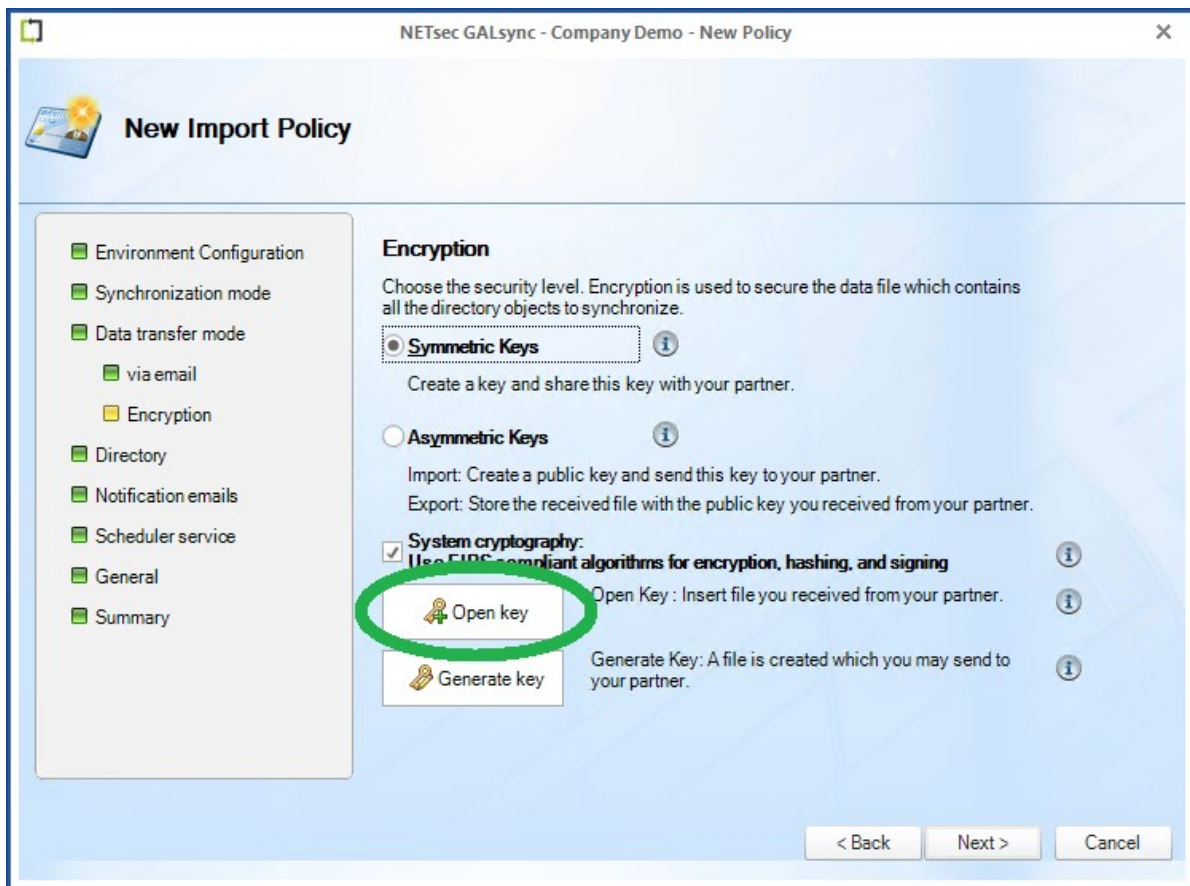
- Environment Configuration
- Synchronization mode
- Data transfer mode
 - via email
- Encryption
- Directory
- Notification emails
- Scheduler service
- General
- Summary

via email

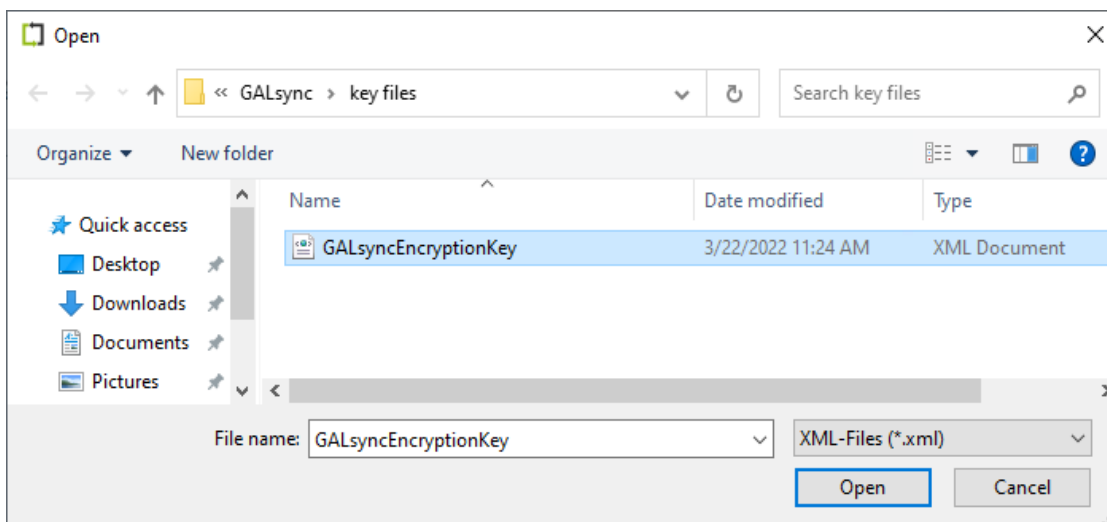
Filter: Subject

< Back Next > Cancel

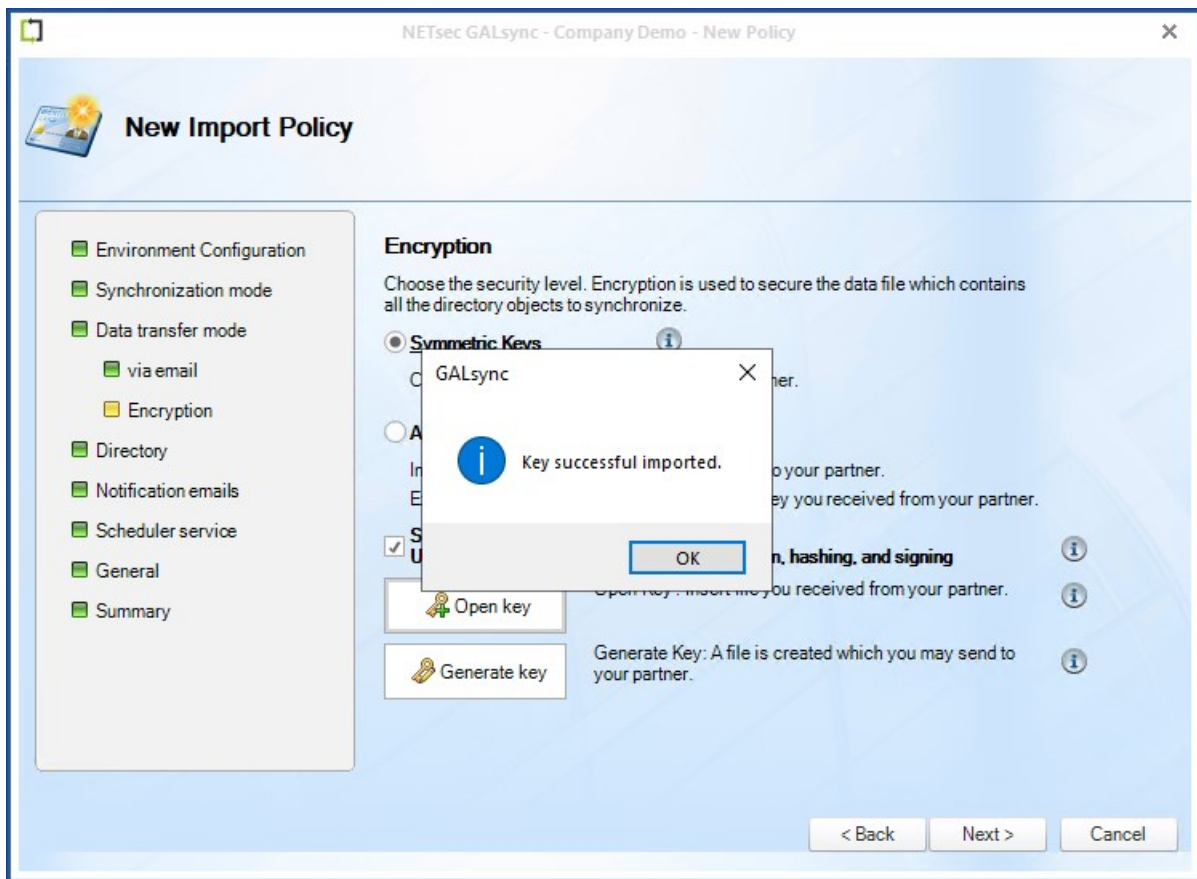
Click **Open key**.



Then select the encryption/decryption key to be used to decrypt the data file.



Key successfully imported. Click **OK**, then **Next**



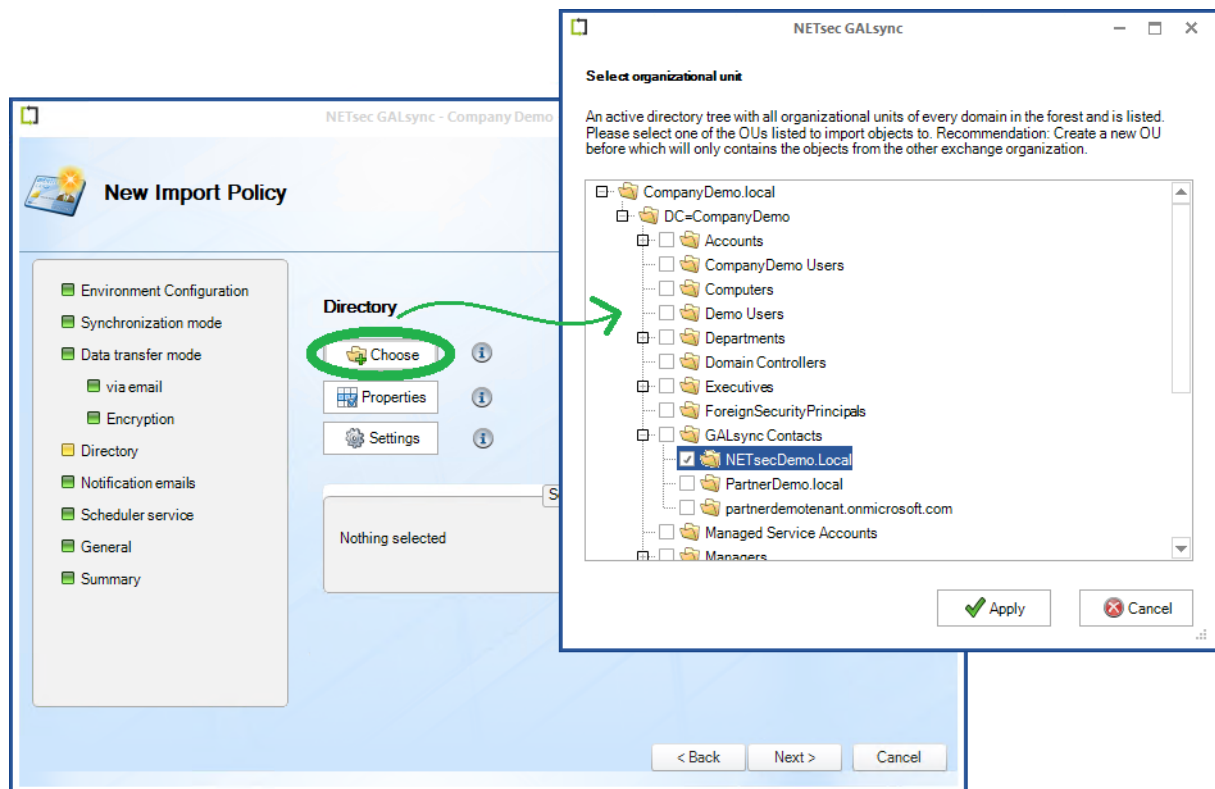
Please note, that the on-premises GALsync service account needs the permission to create, modify and delete objects and their attributes below your defined Import-OU's for synchronizing into an on-premises Exchange environment.

Please take a look at the chapter

Active Directory Permission for the Import OU (on-premises).

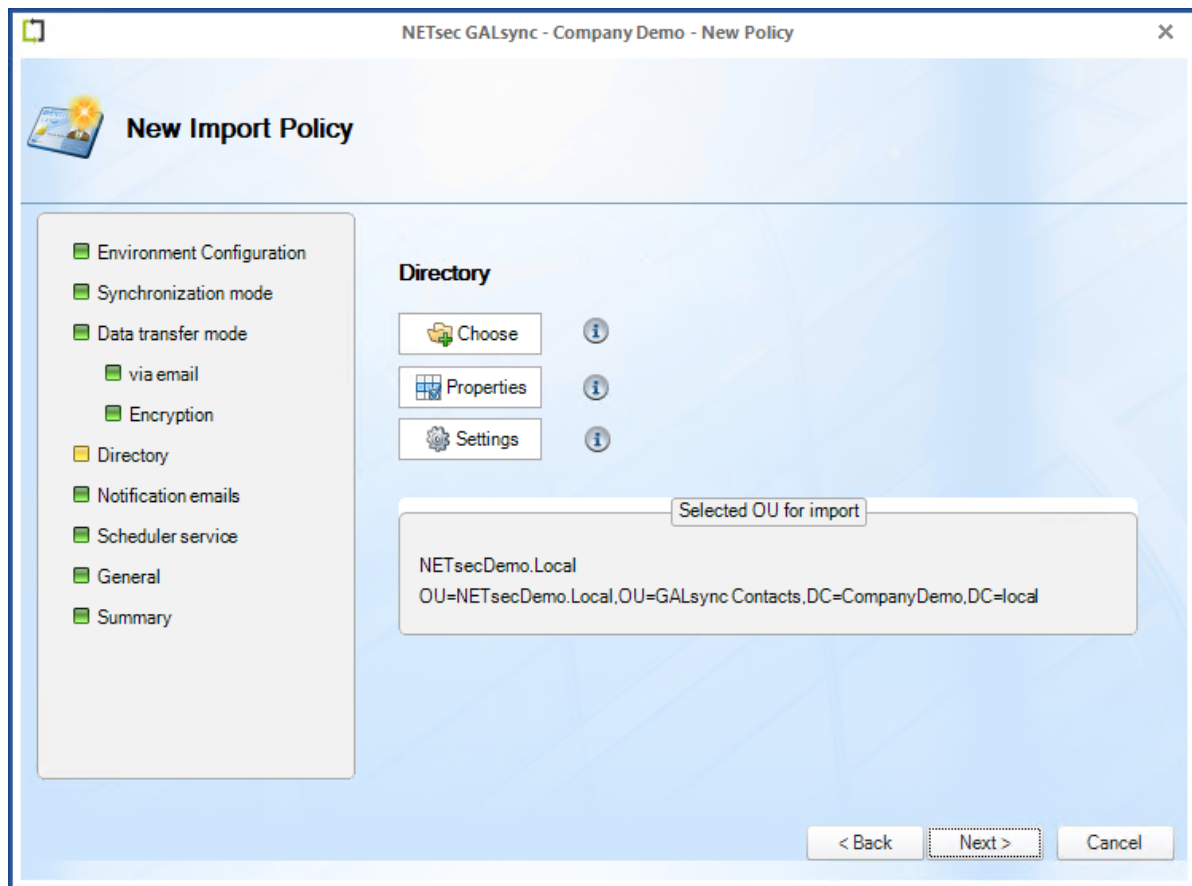
Click **Choose**, which opens an Active Directory tree. Select the target OU which will receive the imported contacts.

Important: Please ensure the necessary permissions have been granted to the GALsync Service account for the import OU



Click **Apply**.

Ensure the selected OU is displayed, then click **Next**.



An optional status notification email can be configured to be sent each time the policy runs, which contains a brief summary of the export operation. It can be configured to **Send only on error** as the checkbox suggests, when checked.

Click **Test** to send an optional test email to the specified recipient.

Click **Next**.

NETsec GALsync - Company Demo - New Policy

New Import Policy

- Environment Configuration
- Synchronization mode
- Data transfer mode
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- General
- Summary

Status notification emails

☒ Send Summary ⓘ

Subject: GALsync Summary - NETsec Demo Import ⓘ

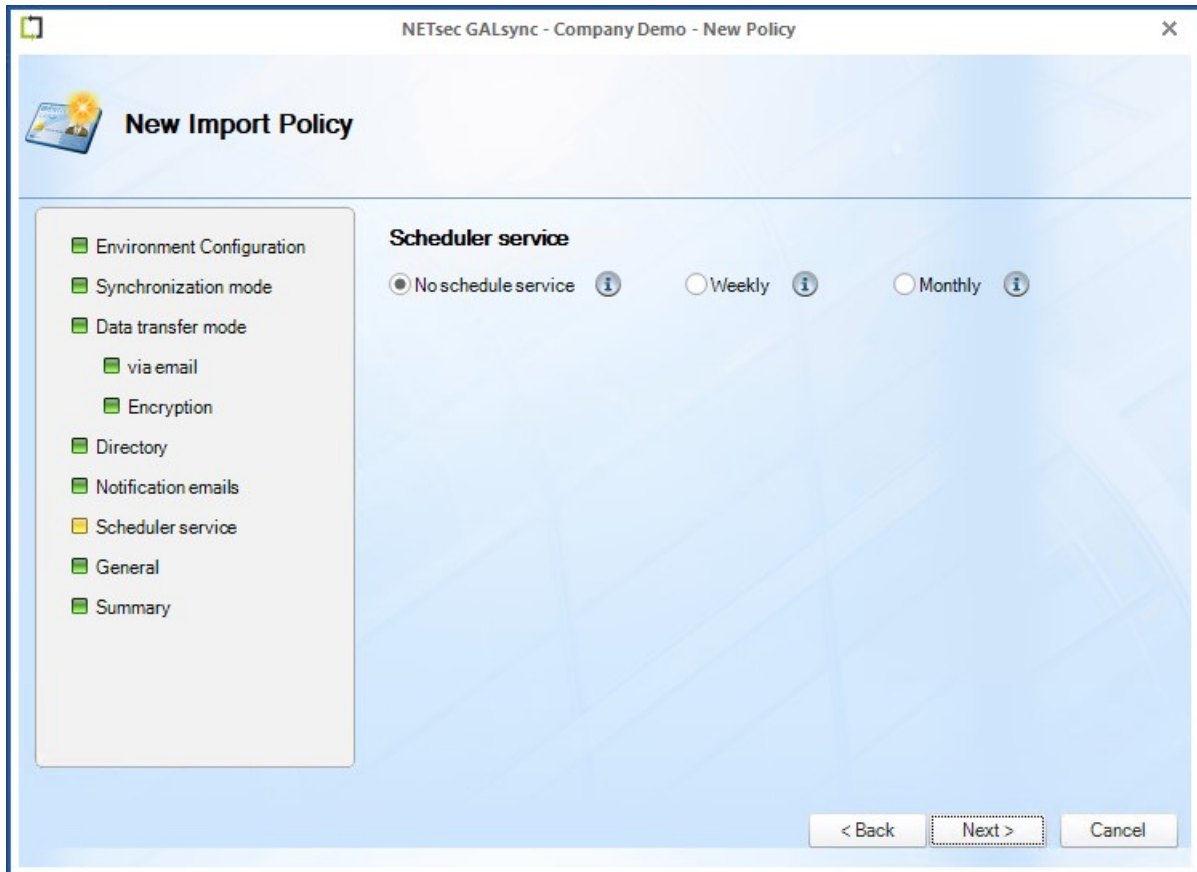
Send to: administrator@companydemo.de ⓘ

ⓘ ☒ Send only on error ⓘ

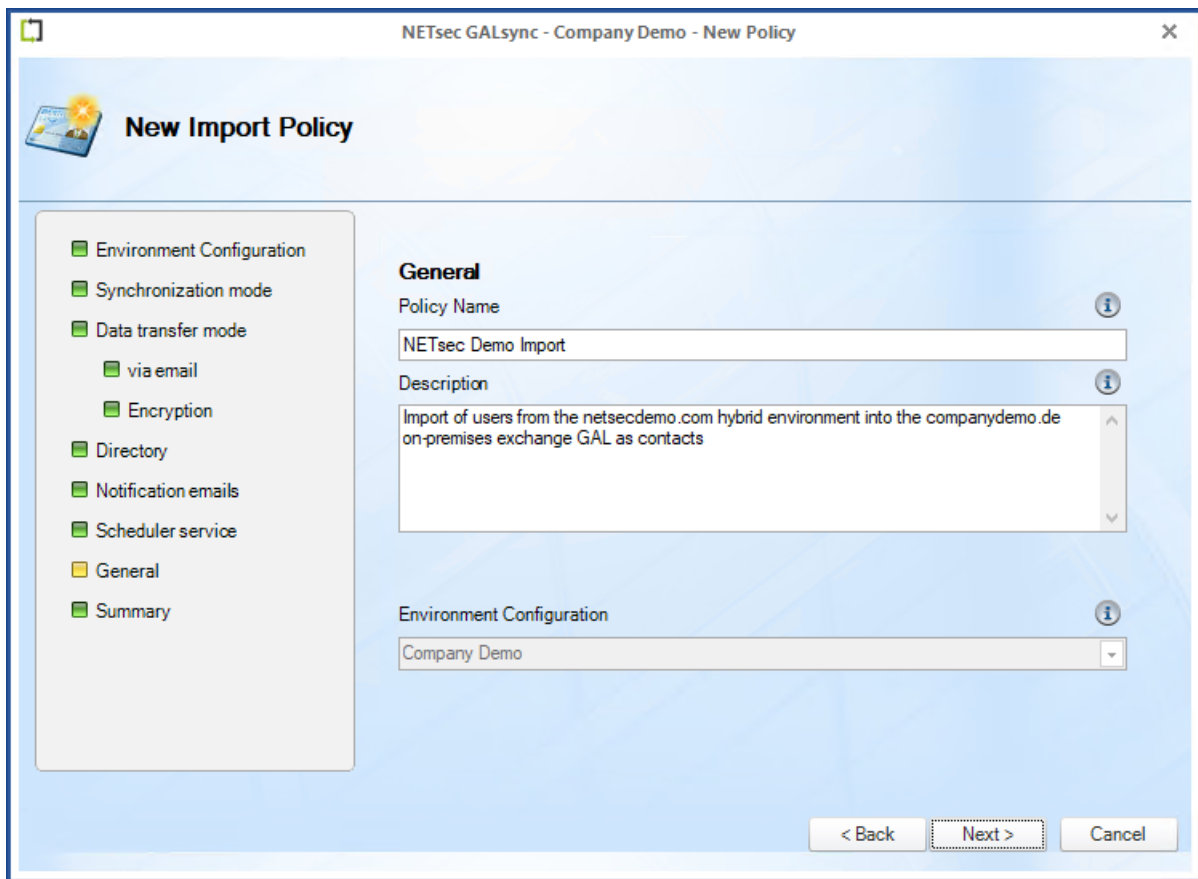
< Back Next > Cancel

GALsync can be scheduled to run at regular intervals. We recommend the policy is manually run before any schedules are set. After the synchronization has completed successfully, you can go back and set it to run on the desired schedule.

Click **Next**.



Add a policy name and optional description, then click **Next**.



The screenshot shows the 'New Import Policy' window in the 'NETsec GALsync - Company Demo' application. The window has a title bar with the application name and a close button. The main area is divided into a sidebar on the left and a main content area on the right.

Sidebar:

- Environment Configuration
- Synchronization mode
- Data transfer mode
 - via email
- Encryption
- Directory
- Notification emails
- Scheduler service
- General (highlighted)
- Summary

Main Content Area:

General

Policy Name: NETsec Demo Import

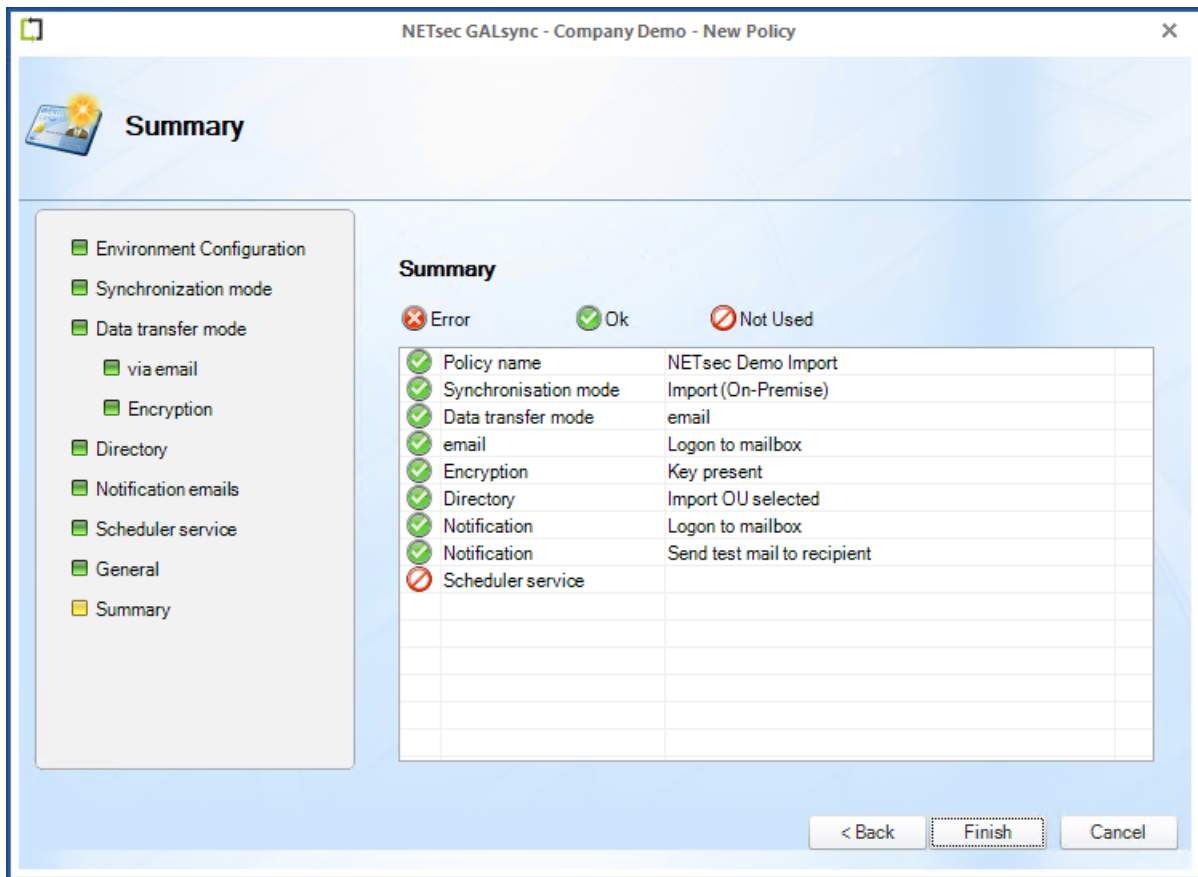
Description: Import of users from the netsecdemo.com hybrid environment into the companydemo.de on-premises exchange GAL as contacts

Environment Configuration: Company Demo

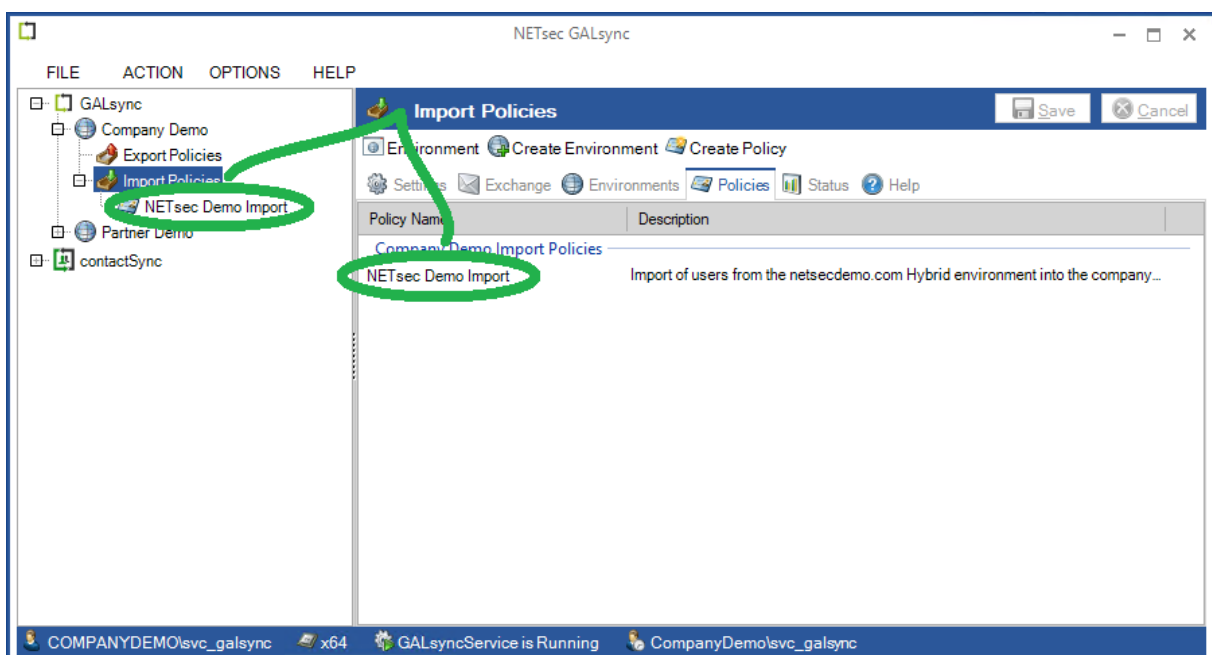
Navigation buttons: < Back, Next >, Cancel

To ensure your settings have been properly configured GALsync will check your policy settings and notify you of any detected errors.

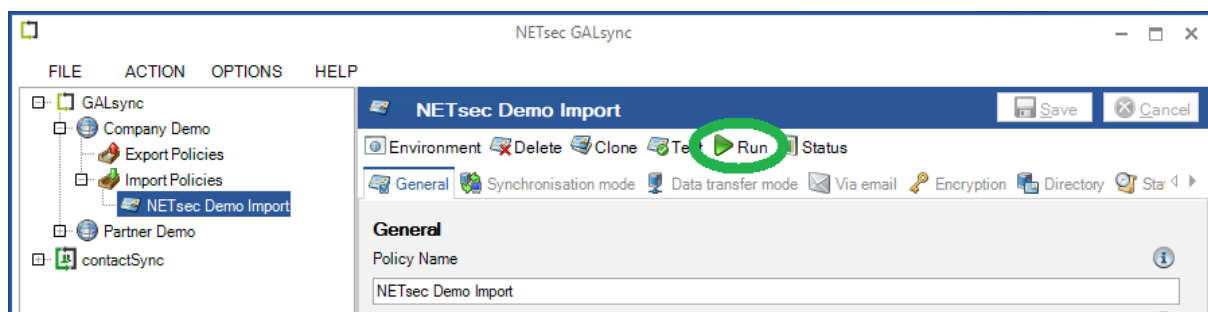
Click **Finish** to complete the wizard.



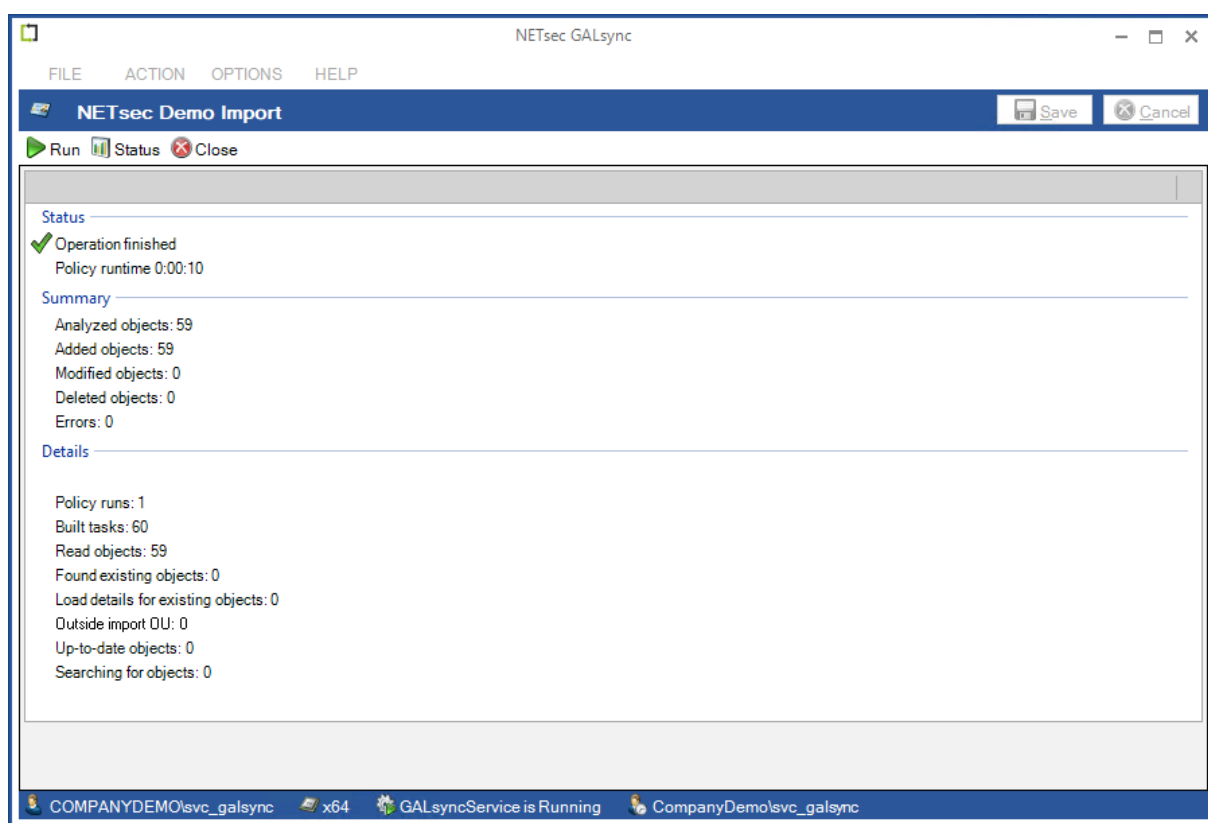
Select the policy from either node shown below.



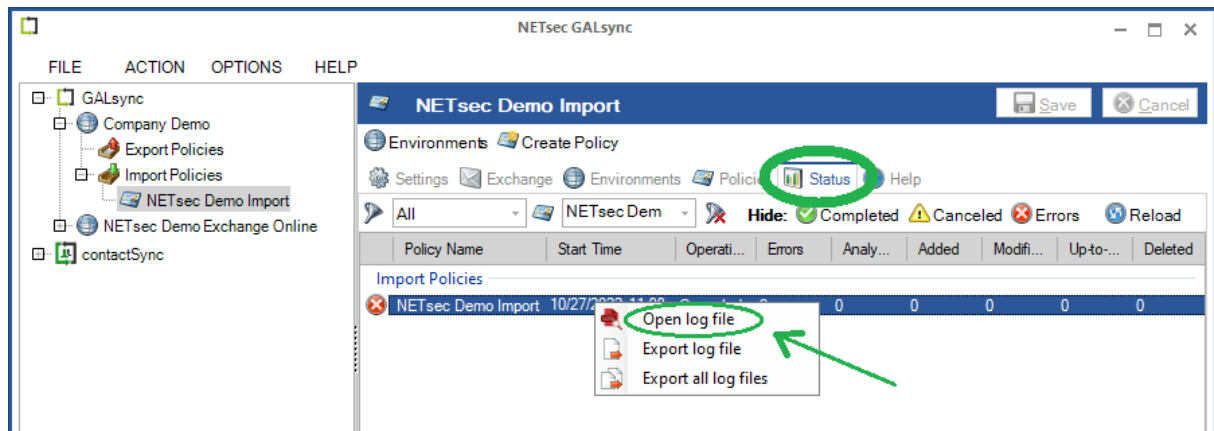
Click **Run**.



59 objects were added.



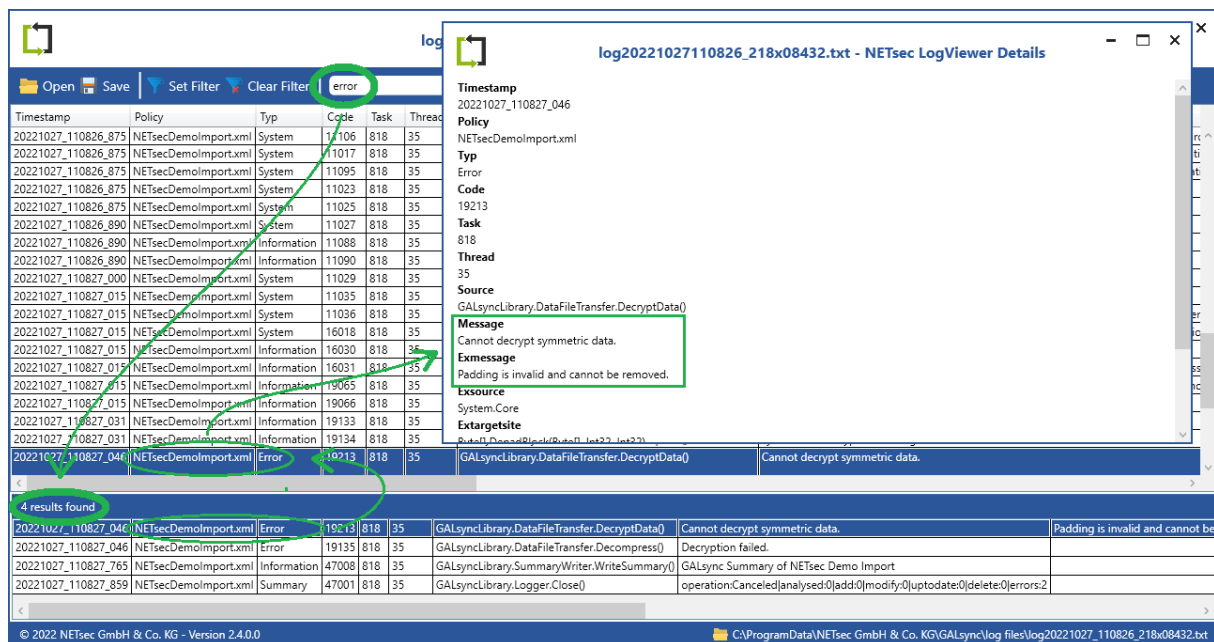
The corresponding log file can be opened by selecting the Status tab, and right-clicking the associated log and selecting **Open log file** from the context menu. This allows you to easily find the error and identify its cause, as shown in the example below.



Searching for the string "error" yields 4 log entries containing this string.

Double-click the line which contains the error. This will highlight the line in the log which contains the details of this log entry.

Double-click the highlighted line in the log viewer.



Support: What to do when I notice an error / bug?

We always try to provide a very responsive, solution orientated and effective support. Should you encounter any issue, bug or inconvenience please do not hesitate to contact us.

Please email us at support@netsec.de.

To enable us to provide you the best quality support possible, please provide us with the following information:

Environment Overview

- Which Exchange version do you use?
- Which GALsync version do you use?
- Does the GALsync service account have an Exchange mailbox and where it is located?

Description of the issue

Please describe your issue/bug/inconvenience thoroughly, in detail, what you wanted to achieve and what you were doing as it occurred.

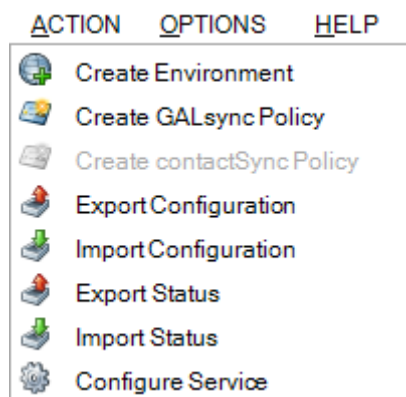
A screenshot of the issue often helps us to understand.

Configuration and log files

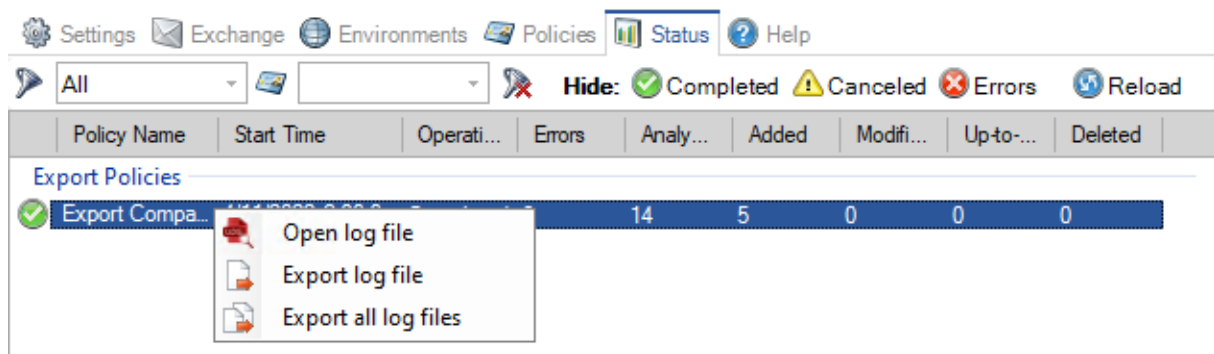
We also require the configuration and the logs, preferably zipped.

In menu **Action** -> **Export Configuration** you can zip the policies.

In menu **Action** -> **Export Status** you can zip the log files.



The log files of a policy can be also compressed on the **Status** tab:



Please send an email to support@netsec.de with a description of the issue and attach the compressed file with the configuration and the compressed file with the log files.

Alternatively, you could also upload the compressed files for us at the **NETsec Support Dropzone**

<https://transfer.netsec.de/dropzone/support>

Do you have more questions or need further support? Please do not hesitate to contact the GALsync Support Team.

GALsync Support Team

By phone +49 2421 998 78 16 or via e-mail support@netsec.de