

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 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.

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.

🤱 NETSECDEMO\svc_galsync 🛛 🖉 x64 🛛 🎋 GALsyncService is Running 🛛 🐍 NETsecDemo\svc_galsync

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-OUs 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).
- 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-powershellv2?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-powershellv2?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**.

Active Directory Users and Computers
File Action View Help
🗢 🄿 📶 🤞 📋 🗙 🖾 🤉 🔤 🖌 🖬 🔧 😒
Active Directory Users and Computers [forestB-DC.forestB.com]
Saved Queries
⊿ 🚔 forestB.com
Builtin
Computers
Domain Controllers
ForeignSecurityPrincipals
📓 Import OU
ImportFror Delegate Control
LostAndFo Move
Managed 9 Find
Microsoft I
Program D New

Follow the wizard and click **Next**.

De	elegation of Control Wizard	x
	Welcome to the Delegation of Control Wizard This wizard helps you delegate control of Active Directory objects. You can grant users permission to manage users, groups, computers, organizational units, and other objects stored in Active Directory Domain Services. To continue, click Next.	
	< Back Next > Cancel Help	

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

Delegation of Control Wizard					
Users or Groups Select one or more users or groups to whom you want to delegate control.					
Selected users and groups: galsync (galsync@forestB.com)					
Add Remove					

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

Delegation of Control Wizard	x
Tasks to Delegate You can select common tasks or customize your own.	P
 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**.

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 addln 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 exclude **Full Control** in the **Permissions**: list and click **Next**.

Delegation of Control Wizard	x
Permissions Select the permissions you want to delegate.	P
Show these permissions: General Property-specific Creation/deletion of specific child objects Permissions:	
 Full Control Read Write Create All Child Objects Delete All Child Objects Read All Properties 	~
< Back Next > Cancel	Help

You complete the wizard clicking Finish.

D	elegation of Control Wizard
	Completing the Delegation of Control Wizard You have successfully completed the Delegation of Control wizard.
	You chose to delegate control of objects in the following Active Directory folder: forestB.com/Import OU The groups, users, or computers to which you have given control are: galsync (galsync@forestB.com) They have the following permissions:
	< Back Finish Cancel Help

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



Select the GALsync Service account and click Advanced.

Import OU Pro	operties	? X	
General Managed By Object Security	COM+ Attribut	te Editor	
Group or user names:			
🍇 Exchange Trusted Subsystem (FORE	STB\Exchange	Trusted S 🔨	
Exchange Windows Permissions (FO	RESTB\Exchang	e Windo	
galsync (galsync@forestB.com)			
Comain Admins (FORESTB\Domain	Admins)	_	
Enterprise Admins (FORESTB\Enterp	rise Admins)		
Administrators (FORESTB\Administra	tors)		
	Add	Remove	
Permissions for galsync	Allow	Deny	
Full control			
Read	~		
Write	~		
Create all child objects	~		
Delete all child objects	✓		
For special permissions or advanced settings, click Advanced Advanced			
OK Cancel	Apply	Help	

Select the GALsync Service account again and click Edit.

r		Adv	vanced Security Settin	igs for Import OU	_ □	x
Owr	Owner: Domain Admins (FORESTB\Domain Admins) Permissions Auditing Effective Access					
For Perr	additiona mission e	l information, double-click a per ntries:	mission entry. To modify a	permission entry, select t	he entry and click Edit (if available)	
	Туре	Principal	Access	Inherited from	Applies to	<u> </u>
8	Allow	galsync (galsync@forestB.co	Generate resultant set	None	This object and all descendan	
8	Allow	galsync (galsync@forestB.co	Generate resultant set	None	This object and all descendan	
2	Allow	galsync (galsync@forestB.co	Special	None	This object and all descendan	
8	Allow	Domain Admins (FORESTB\D	Full control	None	This object only	1
8	Allow	ENTERPRISE DOMAIN CONT	Special	None	This object only	
8	Allow	Authenticated Users	Special	None	This object only	
8	Allow	SYSTEM	Full control	None	This object only	
8	Allow	Exchange Windows Permissi	Change password	DC=forestB,DC=com	Descendant User objects	
8	Allow	Exchange Windows Permissi	Reset password	DC=forestB,DC=com	Descendant User objects	
88	Allow	Exchange Servers (FORESTB\	Special	DC=forestB,DC=com	Descendant User objects	\mathbf{v}
	Add Disable inf	Remove Edit			Restore default	5
					OK Cancel App	oly

Check that the permission applies to:

This object and all descendant objects

1		Ре	rmission Entry for Import OU		x
	Principal: Type: Applies to:	galsync (galsync@forestB.com) Select a principal Allow v This object and all descendant objects v			
	Permissions				
		Full control	Create msExchMDBContainer objects		
		✓ List contents	Delete msExchMDBContainer objects		
		Read all properties	Create msExchMonitorsContainer objects		
		Write all properties	Delete msExchMonitorsContainer objects		
		Delete	Create msExchMSOSyncServiceInstance objects		
		Delete subtree	Delete msExchMSOSyncServiceInstance objects		
		Read permissions	Create msExchOmaCarrier objects		
		Modify permissions	Delete msExchOmaCarrier objects		
		Modify owner	Create msExchOmaConfigurationContainer objects		
		All validated writes	Delete msExchOmaConfigurationContainer objects		
		All extended rights	Create msExchOmaContainer objects		
		Create all child objects	Delete msExchOmaContainer objects		
		Delete all child objects	Create msExchOmaDataSource objects		
		Create account objects	Delete msExchOmaDataSource objects		
		Delete account objects	Create msExchOmaDeliveryProvider objects		
		Create applicationVersion objects	Delete msExchOmaDeliveryProvider objects		~
			ОК	Canc	el

Select the permissions: Delete and Delete subtree

1	Peri	mission Entry for Import OU	_		x	
Principal: Type: Applies to:	galsync (galsync@forestB.com) Select a principal Allow This object and all descendant objects					=
Permission	ns:	 Create msExchMDBContainer objects Delete msExchMDBContainer objects Create msExchMonitorsContainer objects Delete msExchMonitorsContainer objects Create msExchMSOSyncServiceInstance objects Delete msExchMSOSyncServiceInstance objects Delete msExchOmaCarrier objects Create msExchOmaCarrier objects Delete msExchOmaCarrier objects Create msExchOmaConfigurationContainer objects Create msExchOmaConfigurationContainer objects 				
	 In totalce miles All extended rights Create all child objects Delete all child objects Create account objects Delete account objects Create applicationVersion objects 	 Create msExchOmaContainer objects Create msExchOmaContainer objects Create msExchOmaDataSource objects Create msExchOmaDataSource objects Create msExchOmaDeliveryProvider objects Create msExchOmaDeliveryProvider objects Delete msExchOmaDeliveryProvider objects 		Cance	el	- -

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.

🖟 NETsec GALsync License Agreement	×
End-User License Agreement	
Please read the following license agreement carefully	
	_
License agreement	^
BEFORE YOU CLICK ON THE "I AGREE" BUTTON AT "LICENSE AGREEMENT" STEP AND INSTALL THE SOFTWARE, CAREFULLY READ THE TERMS AND CONDITIONS OF THIS LICENSE. BY CLICKING ON THE "I AGREE" BUTTON AND BY INSTALLING THE SOFTWARE YOU ARE CONSENTING TO BE BOUND BY AND ARE BECOMING THE LICENSEE TO THIS LICENSE. IF YOU DO NOT AGREE TO ALL OF THE TERMS OF THIS LICENSE, CLICK THE "DO NOT ACCEPT" BUTTON AND DO NOT INSTALL OR USE THE	~
I accept the terms in the License Agreement	
\bigcirc I $\underline{d}o$ not accept the terms in the License Agreement	
< <u>B</u> ack <u>N</u> ext > Cano	el

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**.

🖟 NETsec GALsync Setup	×
Select Installation Folder	
The installer will install NETsec GALsync to the following folder.	GALIY
To install in this folder, click "Next". To install to a different folder, enter it .	
Folder: C:\Program Files\NETsec GALsync\ Create a shortcut for this program on the desktop.	Browse
Create a start menu entry for this program.	
Reset < Back Next >	Cancel

Click Install.



Click **Yes**, if prompted.

User Account Control	×				
Do you want to allow this app to make changes to your device?					
GALsync					
Verified publisher: NETsec GmbH & Co. KG File origin: Hard drive on this computer					
Show more details					
Yes No					

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.

	GALsync Service Wizard	×
[]	Welcome	
	Welcome to the GALsync Service Wizard	
	This wizard will guide you through the GALsync Service configuration.	
	To continue, click Next.	
	<back next=""> C</back>	Cancel

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

GALsync Service Wizard	×
Logon Information	
Logon Information	
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. Account Name (Domain\Username):	
netsecdemo\svc_galsync	
Password:	
••••••	
< Back Next > Cance	
	GALsync Service Wizard Logon Information Logon Information 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 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. Necount Name (Domain\Username): metseedemo\svc_galsync Password: < Seck Next >

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

Ċ,	GALsync Service Wizard	×
	gon Information	
	Logon Information Specify a user account to be used by the application and for running the service.	
	Choose GALsync The GA The use to log or The use After the Are you sure you want to run the service as Are you sure you want to run the service as After the Are you want to run the service as After the Are you want to run the service as After the Are you want to run the service as Are you want to run the service as After the Are you want to run the service as Are yo	
	Account Yes No netsecdemo\svc_galsync	
\rightarrow	Password:	
	< Back Next > Cance	

Click Finish.

Ċ)	GALsync Service Wizard	×
Ser	rvice Control	
	Service Control	
	The GALsync Service is running.	
	The Service Account is NETsecDemo\svc_galsync	
	Click the Finish button to exit the GALsync Service configuration wizard.	
	Stop service Change Credentials Uninstall Service	
	< Back Finish Can	cel

The GALsync user interface opens upon completion of this wizard.

¢,				NETsec GALsync	_	Π×
FILE	ACTION	OPTIONS	HELP			
GAI	sync			GALsync	8	<u>C</u> ancel
다. 다 con	contactSync			Environments 🚳 Delete 🞯 Clone		
				🍪 Settings 📓 Exchange 🌐 Environments 🖉 Policies ᠾ Status 🔞 Help		
				Policy Name Description		
Sec. NETSE	CDEMO\svc_	galsync 🧔	/ x64	🏶 GALsyncService is Running 🛛 🐁 NETsecDemo\svc_galsync 🛛 🗚 Trial version with random res	ults.	â

Apply GALsync License

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

Ċ,	NETsec GALsync	- 🗆 ×
FILE ACTION OPTION	LP	
🗗 🛄 GALsync 📀	HelpGALsync	Save 🐼 Cancel
다. 프 프 contactSync 🛛 📢	About	
	🏟 Settings 📓 Exchange 📵 Environments 🖉 Policies 🕡 Status 😢 Help	
	Policy Name Description	

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

Ċ,	NETsec GALsync	×
	GALsync Version 8.0	
	NETsec GmbH & Co. KG 2008-2022.	
	All rights reserved.	
	Contact: sales@netsec.de	
L)	Please contact us for a license: sales@netsec.de	~
GALsync		
		$\mathbf{>}$
	Add License	

Click OK.

L	NETsec GALsyn	c	×
	GALsync Version 8.0 NETsec GmbH & Co. KG 2008-202 All rights reserved. Contact: <u>sales@netsec.de</u>	2.	
GALsync	Company Name: Company Address: Düren Contact Name: Contact Email: GALsync Objects: GALsync Forests: There are 91 days left of The license is still 91 of product.	NETsec GmbH & Co. KG Schillingsstr. 117, 52355 Dennis Bodden sales@netsec.de 50000 2 f your support. days valid for this	<
	Add Licer	<u>D</u> K	

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.

Ċ)				NETsec GALsync	- 🗆 ×
<u>F</u> ILE		<u>O</u> PTIONS	<u>H</u> ELP		
🖻 🛄 GAI	🚱 Crea	te Environment	2	GALsync	🙆 <u>C</u> ancel
🗗 🖳 con	t 🧐 Crea	te GALsync Pol	icy	Environments	
	Crea	te contactSync	Policy	🛿 Settings 🕅 Exchange 🖨 Environments 🖙 Policies 🖬 Status 🗿 Help	
	S Expo	ort Configuration		nicy Name Description	
	🧐 Impo	rt Configuration			
	Service Servic	ort Status			
	impo	in Status			
	289 COM	igure Service	ŝ		
			Í		
🚨 NETSE	CDEMO\svo	_galsync 🖉	x64 🕴	🖗 GALsyncService is Running 🛛 👶 NETsecDemo\svc_galsync	

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

٥	Environment Configuration	- 🗆 ×
General Exchange Scenario		Ŧ
General Name		æ
Company Demo		
Description		i
		^
		~
	V 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.

0	Environment Configuration – 🗆 🗙
Г	General Exchange Scenario Exchange Server on-premises
	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 Similar Similar

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	- 🗆 ×
Γ	General Exchange	Scenario Exchange Server on-premises	1
	Exchange Serve	er on-premises	
	Manage the settings	for the on-premises Exchange environment.	
	Use Autodiscove	r to find the Exchange Web Services URL	
	 Manual setting 	o a https://conserver.domain.logal/EN/S/Evolutions.com/	P
		e.g. https://casserver.uomain.iocai/Ews/Exchange.ashk	
		Only for GALsync	
	Note: This setting	is only for GALsync in a special sychronization scenario with a hub-spoke to	pology.
	No Exchange Se	erver available. Only Active Directory Preparation.	1
	Use Exchan	ge Online mailbox of an external Microsoft 365 tenant for mailing	
	Use Exchan	ge Online mailbox for mailing	
	I he Exchan	ge Online mailbox must be hosted by Microsoft Azure public cloud	
		Exchange Mailbox Test	
		Send a test email to the recipient:	
	Email address		
		Send test email (1)	
		V Ok 😵 Cancel	Reply
			.::

Apply the changes, then click $\ensuremath{\text{OK}}$.

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.

¢	Environment Configuration	-		¢
	General Exchange Scenario		1	
	General Name		I)	
	Company Demo			
	Description	(i	
			\checkmark	
	V Ok 🔞 Cancel	🔚 App	ply	:

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.

¢,	Environment Configuration	-	□ ×
	General Exchange Scenario Exchange Server on-premises 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.		
	V Ok Scancel	a A	oply .::

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.

C		Environment Configuration	- 🗆 ×
	General Exchange	Scenario Exchange Server on-premises Exchange Online	3
	Exchange Serve	er on-premises	
	Manage the settings	for the on-premises Exchange environment.	
	Use Autodiscove	r to find the Exchange Web Services URL	1
	○ Manual setting	e.g. https://casserver.domain.local/EW/S/Exchange.asmx	
		Exchange Mailbox Test	
		Send a test email to the recipient:	
	Email address		
		Send test email	
		V Ok Sancel	Apply:

Select the Exchange Online tab.

Environment Configuration –	×
General Exchange Scenario Exchange Server on-premises 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	
Add C Add C Kemove C	
Usemame 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	
Place test the Perrete Perus Shall connection to Evolution Online	
Flease lest the Remote FowerShell connection to Exchange Online	
Test (1)	
Show log	
Exchange Mailbox Test	
Send a test email to the regiment:	
Send test email	
V Ok 🔯 Cancel 📊 Apply	

There are two available methods to establish a connection to Exchange Online.

1. 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.

General Exchange Scen	nario 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 (
	Credentials				
Add (Add (1) Modify (1) Kemove (1)				
	Exchange Online App Registration	×			
Corresponding settings AD) App registrations t	s for the Enterprise Application in the Microsoft Entra ID (formerly A hat enables access to Exchange Online.	Azure			
Organization / Tenant		i			
Application Display Na	me	i			
Application ID		i			
	Certificate				
Friedly Name	FriedlyName				
Not After	Not After				
Subject	Subject				
Thumbprint	Thumbprint				
Has PrivateKey	Has PrivateKey				
User	User				
Choose Certificate	Create Certificate	i			
	Assigned API permissions				

A detailed description is in chapter

Exchange Online certificate-based authentication via App Registration
2. The **Add** button on the right, will open a dialog window in which to configure **user-based authentication** via **Service Account** for the Exchange Online tenant.

Note, the user-based authentication is deprecated. The certificate-based authentication is recommended.

Please note, that user-based authentication via OAuth 2.0 works only for the Microsoft Azure Public Cloud instance. If your Microsoft 365/Office 365 instance is hosted by a national cloud, please configure **Exchange Online certificate-based authentication via App Registration**.

General Exchan	nge Scenario Exchange Online
Exchange O	nline
Manage the setti All accounts of th	ings for the Exchange Online tenant. he Microsoft 365 tenant have Exchange Administrator role permission for Exchange (
	Credentials
🚑 Add	I Add I Modify I Kemove I
¢,	Exchange Online Credentials X
User-ID:	(I)
Password:	i
E-mail:	(1)
Maximum Connection	2 ➡ (i) ✓ Set as primary account (i)
The au	thentication method for Exchange Web Services of the Office 365 tenant
Please login	for the Modern Authentication OAuth 2.0
Modern A	uthentication OAuth 2.0 Login
	Apply 🐼 Cancel

A detailed description is in chapter Exchange Online authentication via Service Account

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.

Ċ)				N	NETsec GALsync	- 🗆 ×
<u>F</u> ILE	ACTION	OPTIONS	<u>H</u> ELP	_		
🗗 🛄 GAI	🕞 Creat	te Environment	6	GALsync	n se	🙆 <u>C</u> ancel
🗗 🖳 con	t 🧐 Creat	te GALsync Pol	icy	Environments		
	Creat	te contactSync	Policy	Settings 🖾 Exchar	ange 🖨 Environments 🜌 Policies 闻 Status 🙆 Help	
	🥏 Expo	rt Configuration		olicy Name	Description	
	🔿 impor	rt Status				
	impor	rt Status				
	🏶 Confi	gure Serviœ				
			:			
NETSEC	CDEMO\svc	_galsync 🖉	x64 🖤	GALsyncService is R	Running 🛛 🗞 NE I secDemo\svc_galsync	

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

¢	Environment Configuration	- 🗆 ×
G	General Exchange Scenario	(
	General	
[Company Demo	
[Description	(i)
		^
		~
	V 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.

Ľ,	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.
	O 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.
	V Cancel 🕞 Apply

Select the Exchange Online tab.

E E	nvironment Configuration —	×
General Exchange Scenario Exch Exchange Online	ange Online	*
All accounts of the Microsoft 365 ten	Credentials Modify Modify Remove	l
Usemame	Max. Connection	
Instance hosted by	Organization Settings Microsoft 365 or Microsoft 365 GCC Microsoft Azure public cloud	*
	V Ok S Cancel	у:

There are two available methods to establish a connection to Exchange Online.

 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.

l accounts of the Micro	soft 365 tenant have Exchange Administrator role permission f	or Exchang
🔒 Add 🕕	Add (1) Modify (1) Kemove (i
	Exchange Online App Registration	×
Corresponding settings AD) App registrations t	s for the Enterprise Application in the Microsoft Entra ID (former hat enables access to Exchange Online.	rly Azure
O		
Organization / Tenant		i
Organization / Tenant Application Display Na	Ime	(i) (i)
Organization / Tenant Application Display Na Application ID	ime	(i) (i)
Organization / Tenant Application Display Na Application ID	Ime Certificate	(i) (i)
Organization / Tenant Application Display Na Application ID Friedly Name	Ime Certificate FriedlyName	(i) (i)
Organization / Tenant Application Display Na Application ID Friedly Name Not After	me Certificate FriedlyName Not After	(i) (i)
Organization / Tenant Application Display Na Application ID Friedly Name Not After Subject	me Certificate FriedlyName Not After Subject	i
Organization / Tenant Application Display Na Application ID Friedly Name Not After Subject Thumbprint	me Certificate FriedlyName Not After Subject Thumbprint	(i) (i)
Organization / Tenant Application Display Na Application ID Friedly Name Not After Subject Thumbprint Has PrivateKey	me Certificate FriedlyName Not After Subject Thumbprint Has PrivateKey	i
Organization / Tenant Application Display Na Application ID Friedly Name Not After Subject Thumbprint Has PrivateKey User	me Certificate FriedlyName Not After Subject Thumbprint Has PrivateKey User	i

A detailed description is in chapter

Exchange Online certificate-based authentication via App Registration

2. The **Add** button on the right, will open a dialog window in which to configure **user-based authentication** via **Service Account** for the Exchange Online tenant.

Note, the user-based authentication is deprecated. The certificate-based authentication is recommended.

Please note, that user-based authentication via OAuth 2.0 works only for the Microsoft Azure Public Cloud instance. If your Microsoft 365/Office 365 instance is hosted by a national cloud, please configure **Exchange Online certificate-based authentication via App Registration**.

General Exchan	ge Scenario Exchange Online
Exchange O	nline
Manage the setti All accounts of th	ngs for the Exchange Online tenant. ne Microsoft 365 tenant have Exchange Administrator role permission for Exchange C
	Credentials
🗛 Add	I Add I Modify I Remove I
	Exchange Online Credentials X
User-ID:	(i)
Password:	(i)
E-mail:	i
Maximum Connection	2 ➡ i Set as primary account i
The au	thentication method for Exchange Web Services of the Office 365 tenant
Please login	for the Modern Authentication OAuth 2.0
Modern A	uthentication OAuth 2.0 Login
	Apply 🐼 Cancel

A detailed description is in chapter Exchange Online authentication via Service Account

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.

NETSECDEMO\svc_galsync	a x64	🐝 GALsyncService is Running	🗞 NETsecDemo\svc_galsync

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.

Exchange Online	
Manage the settings for the Exchange Online tenant. All accounts of the Microsoft 365 tenant have Exchange Administrator role permission for Excha	ange (
Credentials	
Add (1) Add (1) Modify (1) Remove (1)	
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	
FriedlyName FriedlyName	
Not After Not After	
Subject Subject	
Humoprint Humoprint	
Inds FilvateRey Has FilvateRey	
User	
Choose Certificate Create Certificate)
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-powershellv2?view=exchange-ps

Ċ,	Exchange Online App Registration	×
Corresponding settings AD) App registrations t	s for the Enterprise Application in the Microsoft Entra ID (formerly hat enables access to Exchange Online.	Azure
Organization / Tenant		(i)
Application Display Na	me	i
Application ID		(
	Certificate	
Friedly Name	FriedlyName	
Not After	Not After	
Subject	Subject	
Thumbprint	Thumbprint	
Has PrivateKey	Has PrivateKey	
User	User	
Choose Certificate	Create Certificate	(i)
	Assigned API permissions	
Microsoft Graph	(i)	
Exchange Web Se	rvices (1)	
Maximum Connection	2 🗘 💽 🗹 Set as primary account	i
Email Address		(i)
	🖌 Apply 🔞 Ca	ncel

Register an Enterprise Application in Microsoft Entra ID

Logon 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	℅ Search resources, services, and docs (G+/)
A Home	Home >
	App registrations * ··· ×
★ Favorites	+ New registration 🌐 Endpoints 🧷 Troubleshooting 🖒 Refresh 🞍 Download 🖼 Preview features 🛛 🖗 Got feedback?
Identity	All applications Owned applications Deleted applications
(i) Overview	P Start typing a display name or application (client) ID to filter these r
A Users	Y
^ନ X ^A Groups	This account isn't listed as an owner of any applications in this directory.
E Devices	View all applications in the directory
Applications	∧
Enterprise applications	
App registrations	
Co Roles & admins	\vee .
🙎 Learn & support	
	· · · · · · · · · · · · · · · · · · ·

M	icrosoft Entra admin center	ρs	earch resources, services, and docs (G+/)	
A	Home	<u>^</u>	Home > App registrations > Register an application	×
*	Favorites	\sim		A
4	Identity	^	* Name The user-facing display name for this application (this can be changed later).	
(i)	Overview		GALsync Enterprise App	- 1
8	Users	\sim		- 1
ĥpª	Groups	\sim	Supported account types	- 1
£	Devices	\sim	Who can use this application or access this API? Accounts in this organizational directory only (NETsec Demo only - Single tenant)	
₿,	Applications	^	Accounts in any organizational directory (Any Azure AD directory - Multitenant)	
	Enterprise applications		Accounts in any organizational directory (Any Azure AD directory - Multitenant) and personal Microsoft accounts (e.g. skype, Xbox) Personal Microsoft accounts only	
	App registrations		Help me choose	
ĉ	Roles & admins	~ •		-
2	Learn & support	^	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.

м	icroso	ft Entra admin center P Search resources, services, and docs (G+/)			
\$	Hom	e Home > App registrations > GALsync Enterpri	ise A	\pp	×
*	Favo	Exchange Online App Registration	×	🔋 Delete 🤀 Endpoints 🐱 Preview features	
۵	lden	Corresponding settings for the Enterprise Application in the Microsoft Entra ID (formerly A AD) App registrations that enables access to Exchange Online.	Azure	Got a second? We would love your feedback on Microsoft identity platform (previously Azure AD for developed)	\rightarrow
()	Over	Organization / Tenant	i	develope),	
8	User	netsecdemotenant.onmicrosoft.com	Image: A start of the start	↑ Essentials	*
200	Grou	GALsync Enterprise App		Display name Client credentials	
-6	Devi	Application ID	١	Application (client) ID Redirect URI 9b5fb788-77e1-4225-a574-a96f7c8fed5d Add a Redirect URI	
₩6	Appl	Friedly Name FriedlyName		Object ID Application ID URI 8b7f64a5-68a3-4ec9-84eb-16dca3bd90e1 Add an Application ID URI	- 1
	Enter	Not After Not After		Directory (tenant) ID Managed application in local directory	
	Арр	Subject Subject Thumbprint Thumbprint		Supported account types	- 1
ළ	Role:	Has PrivateKey Has PrivateKey		My organization only	
Ŀ	Billin	User User Choose Certificate Create Certificate	i	Welcome to the new and improved App registrations. Looking to learn how it's changed from App registrations (Legacy)? <u>Learn more</u>	c
ŝ	Setti	Maximum 2 🔹 👔 🗸 Set as primary account	(Get Started Documentation	
	Previ	Email Address	(1)		
	Dom			Build your application with the Microsoft identity	,
	Mob	🖌 Apply 😵 Car	icel	platform	r

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**

М	icrosoft Entra admin center			Mi	icrosoft Entra admin center		
A	Home	ľ		A	Home		^
*	Favorites	~		*	Favorites	\sim	
٩	Identity	^		4	Identity	^	
i	Overview		U	(i)	Overview		
8	Users	\sim		8	Users	\sim	
^A X ^A	Groups	\sim		^a α ^a	Groups	\sim	
£	Devices	\sim		£	Devices	\sim	
₿	Applications	\sim		₿	Applications	\sim	
8	Protection	\sim		දී	Roles & admins	\sim	
۲	Identity governance	\sim		2	Billing	\sim	
ą	External Identities	\sim		0	Settings	\sim	ľ
	Show more			A	Protection	\sim	

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

N	licrosoft Entra admin center	ρs	earch resources, services, and docs (G+/)				
4	Identity	^ *	Home >				
()	Overview		Custom domain names				\times
8	Users	\sim	+ Add custom domain Č Refresh 🗙 Troubleshoot ☷ Column	is 🔗 Got feedback?			
^92 ⁶	Groups	\sim					
Ð	Devices	\sim	Cooking to move an on-premises application to the cloud and use Azure Act	ive Directory Domain Services?			
₩6	Applications	\sim					
ළ	Roles & admins	\sim					
	Billing	\sim	Name	Status	Federated	Primary	
677	Cattings		netsecDemo.com	Verified		\checkmark	
-552	Settings		netsecdemotenant.onmicrosoft.com	🔮 Available			
	Preview hub						
	Domain names						
	Mobility						
≙	Protection	\sim					

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.

Ċ	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.onmi	crosoft.com						
Application Display Nan	ne	i					
GALsync Enterprise App							
Application ID		i					
9b5fb788-77e1-4225-af	74-a96f7c8fed5d						
	Certificate						
Friedly Name	NETsecDemo GALsync Server						
Not After	2025-07-20						
Subject	CN=NETsecDemoGALsyncServer						
Thumbprint	4ED9DE2A0212C115CBB71D4FE3F959E5B5924C8C						
Has PrivateKey	True						
User	NETSECDEMO\svc_galsync						
Choose Certificate	Create Certificate	i					
	Assigned API permissions						
✓ Microsoft Graph	(1)						
Exchange Web Ser	vices (1)						
Maximum Connection	2 ➡ I Set as primary account	(
Email Address		i					
svc_galsync@netsecde	mo.com						
	🖌 Apply 🚳 Car	ncel					

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.

	NETsec GALsync – X						
Create certificates in current user store							
Create a self-sign	ed certificate for the Azure AD Enterprise Application registration.						
Subject:	NETsecDemoFromGALsyncServer						
Friendly Name:	NETsecDemo from GALsync Server						
NotAfter:	7/20/2025 🔹 🔳						
KeyLength:	4096 🔹 🚺 keySpec: KeyExchange						
FilePath:	C:\ProgramData\NETsec GmbH & Co. KG\GALsync\certificate 10 files\NETsecDemoFromGALsyncServer_2025-07-20.cer						
	Creating self-signed certificate is only possible starting with Windows Server 2016						
	^						
	~						
lertificate	Directory Apply Solose						

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.

	NETsec GALsync –	×					
Create certificate	Create certificates in current user store						
Create a self-sign	ned certificate for the Azure AD Enterprise Application registration.						
Subject:	NETsecDemoFromGALsyncServer	i					
Friendly Name:	NETsecDemo from GALsync Server	i					
NotAfter:	7/20/2025	i					
KeyLength:	4096 🔹 🚺 keySpec: KeyExchange	i					
FilePath:	FilePath: C:\ProgramData\NETsec GmbH & Co. KG\GALsync\certificate files\NETsecDemoFromGALsyncServer_2025-07-20.cer						
	Creating self-signed certificate is only possible starting with Windows Server 2016						
\NETsecDemoFr	omGALsyncServer_2025-07-20.cer'	^					
Code: 0 Message: The public part of Certificate BDB65782A2035F6C046E2DFFC1A55878B1433AB2 is exported to the file C:\ProgramData\NETsec GmbH & Co. KG\GALsync\certificate files \NETsecDemoFromGALsyncServer_2025-07-20.cer.							
Code: 0 Message: Operation successfully completed							
Certificate	Certificate Directory Completed						

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**

	NETsec GALsync		– ×				
Create certificates in current user store							
Create a self-sigr	ed certificate for the Azure AD Enterpr	ise Application registration.					
Subject:	NETsecDemoFromGALsyncServer		i				
Friendly Name:	NETsecDemo from GALsync Server		i				
NotAfter:	7/20/2025		-				
KeyLength:	4096 🗨 🚺	keySpec: KeyExchange	i				
FilePath:	C:\ProgramData\NETsec GmbH & C files\NETsecDemoFromGALsyncSer	o. KG\GALsync\certificate ver_2025-07-20.cer	i				
	Creating self-signed possible starting with	certificate is only Windows Server 2016	reate				
Code: 0 Message: The pu exported to the fil \NETsecDemoFr	blic part of Certificate BDB65782A2035 e C:\ProgramData\NETsec GmbH & Co omGALsyncServer_2025-07-20.cer.	F6C046E2DFFC1A55878B1433AB2 b. KG\GALsync\certificate files	2 is				
Code: 0 Message: Operat	ion successfully completed		~				
🔄 Certificate	Certificate Directory Science Close						
View							
Disk (C:) > ProgramData > NETsec GmbH & Co. KG > GALsync > certificate files							
Name	^	Date modified	Туре				
🔄 NETsecDemoFr	omGALsyncServer_2025-07-20	7/20/2023 9:18 AM	Securit				

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 Entry 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



Microsoft Entra admin center								
4	ldentity	^	Home > App registrations > GALsync	Enterprise App • App Certificates &	Upload certificate Upload Completed for × NETsecDemoFromGALsyncServer_2025			
()	Overview		0 a 1		Upload a certificate (public key) with one or the ronowing me types: .cer, .pem, .crt ~			
8	Users	\sim	Verview	Ar Got feedback?	"NETsecDemoFromGALsyncServer_2025-07-20.cer"			
⁴ 2 ⁴	Groups	\sim	Quickstart	Credentials enable confidential ap	Enter a description for this certificate			
-6	Devices	\sim	🚀 Integration assistant	client secret) as a credential.				
₿,	Applications	^	Manage					
	Enterprise applications		🔤 Branding & properties	 Application registration certi 				
	App registrations		Authentication					
			📍 Certificates & secrets	Certificates (0) Client secre				
Ö	Protection	\sim	Token configuration	Certificates can be used as secre				
:	Identity governance	\sim	 API permissions 	keys.				
Q	External Identities	\sim	🔷 Expose an API	↑ Upload certificate				
		*	App roles	Thumbprint				
_			A Owners	No certificates have been added				
-	Learn & support	^	& Roles and administrators		Add			
		~	🔟 Manifest 🗸 🗸					

Add the selected certificate.

м	licrosoft Entra admin center	Ps	Search resources, services, and docs (G+/)						
\$	Home	*	Home > GALsync Enterprise App	App Certificates &	secrets 🖈 …			×	
*	Favorites	~	Search «	🖗 Got feedback?					
٩	Identity	\sim	Overview						
(i)	Overview		🍊 Quickstart	Credentials enable confidential appl (using an HTTPS scheme). For a high	lications to identify themselves to her level of assurance, we recomm	the authentication service end using a certificate (in	when receiving tokens a stead of a client secret) a	at a web addressable location s a credential.	
8	Users	\sim	🚀 Integration assistant						
⁹ 2 ⁰	Groups	\sim	Manage	() Application registration certific	ates, secrets and federated credentia	Is can be found in the tabs	below.	×	
8	Devices	\sim	Branding & properties Authentication	Certificates (1) Client secrets	(0) Federated credentials (0	0			
₿,	Applications	\sim	📍 Certificates & secrets					es establications	
	Enterprise applications		Token configuration	Certificates can be used as secrets	to prove the application's identity	when requesting a toker	. Also can be referred to	as public keys.	
	App registrations		API permissions	Upload certificate					
A	Protection	\sim	Expose an API App roles	Thumbprint BDB65782A2035F6C046E2	Description CN=NETsecDemoFromGALs	Start date 7/20/2023	Expires 7/20/2025	Certificate ID	-
:	Identity governance	~ .	A Owners						-
			& Roles and administrators						
2	Learn & support	^	Manifest						
		~	Support + Troubleshooting						

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

м	licrosoft Entra admin center	م	Search resources, services, and docs (G+/)		
٩	Identity	^	▲ ··· > GALsync Enterprise App AF	Request API permissions	×
()	Overview		₋ GALsync Enterpri		
8	Users	\sim	🔎 Search	All APIs Microsoft Graph	
⁹ 2 ⁰	Groups	\sim	Overview	What type of permissions does your application require?	
る	Devices	\sim	🗳 Quickstart	Delegated permissions	Application permissions
₽6	Applications	^	 Integration assistant Diagnose and solve problems 	Your application needs to access the API as the signed-in user.	Your application runs as a background service or daemon without a signed-in user.
	Enterprise applications				
	App registrations		Manage	Select permissions	expand all
0	Deles 9. educies	~	Branding & properties	Start typing a permission to filter these results	
6	Roles & aumins	~	Authentication	Permission	Admin consent required
	Roles & admins		📍 Certificates & secrets	AccoreBowiew	
	Admin units		Token configuration	/ ALCESSREVIEW	
	Balancia da da la contener		 API permissions 	> Acronym	
	Delegated admin partners		🙆 Expose an API		

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

м	icrosoft Entra admin center	ρs	earch resources, services, and docs (G+/)		
٩	Identity	^ *	··· > GALsync Enterprise App API perr	nissions > App registrations > GALsync Enterprise App API permissions > App registrations > GALsync Enterprise App	
(i)	Overview		GALsync Enterprise	App API permissions 👒 \cdots	×
8	Users	\sim	₽ Search «	🖒 Refresh 🖗 Got feedback?	
የአቶ	Groups	~	Overview	A You are editing permission(s) to your application, users will have to consent even if they've already done so previously.	
Ð	Devices	\sim	📣 Quickstart		
₩6	Applications	^	💉 Integration assistant	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 to a series of the s	×
	Enterprise applications	- 1	X Diagnose and solve problems	used. <u>Learn more</u>	
	App registrations	- 1	Manage	Configured permissions	
			Branding & properties	Applications are authorized to call APIs when they are granted permissions by users/admins as part of the consent process. The list	of
°°	Roles & admins		Authentication	configured permissions should include all the permissions the application needs. Learn more about permissions and consent	
	Roles & admins		📍 Certificates & secrets	+ Add a permission 🗸 Grant admin consent for NETsec Demo	
	Admin units		Token configuration	API / Permissions n Type Description Admin consent req Status	
	Delevated edulation at the		 API permissions 	✓ Microsoft Graph (3)	
	Delegated admin partners	- 1	🙆 Expose an API	Mail.ReadWrite Application Read and write mail in all mailboxes Yes 🔺 Not granted for NETsec	
8	Protection	\sim	App roles	Mail.Send Application Send mail as any user Yes 🛕 Not granted for NETsec	
۲	Identity Governance	\sim	A Owners		
đ	External Identities	\sim	👃 Roles and administrators	To view and manage consented permissions for individual apps, as well as your tenant's consent settings, try Enterprise applications,	
Ĩ			Manifest		
	Show more		Support + Troubleshooting		
			New support request		
_		*			
2	Learn & support	^			
		~			

Select Add a permission again.

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

Microsoft Entra admin cen	ter 🔎 s	Search resources, services, and docs (G+/)			
	^	Home > App registrations > GALsy	Request API permissions		×
Identity	^	_{- S} GALsync Enterpri			
Overview		_	Select an API		
A Users	\sim		Microsoft APIs APIs my organization uses My APIs		
්ත් Groups	\sim	 Overview Quickstart 	Apps in your directory that expose APIs are shown below		
🖾 Devices	\sim	🚀 Integration assistant	P Office 365 Name	Application (client) ID	
Applications	^	Manage	Office 365 Enterprise Insights	f9d02341-e7aa-456d-926d-4a0ca599fbee	
Enterprise applications		Branding & properties	Office 365 Exchange Online	00000002-0000-0ff1-ce00-00000000000	
App registrations		Authentication	Office 365 Information Protection	2f3f02c9-5679-4a5c-a605-0de55b07d135	
A Protection	\sim	Certificates & secrets	Office 365 Management APIs	c5393580-f805-4401-95e8-94b7a6ef2fc2	
		Token configuration	Office 365 Mover	d62121f3-e023-4972-b6b0-794190c0fd98	
Identity governance	\sim	API permissions	Office 365 Search Service	66a88757-258c-4c72-893c-3e8bed4d6899	
External Identities	\vee .	Expose an API	Office 365 SharePoint Online	00000003-0000-0ff1-ce00-00000000000	
		App roles			
Learn & support	^	A Owners			
	~	Roles and administrators			

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

Select Application permissions

Μ	licrosoft Entra admin center	ρs	earch resources, services, and docs (G+/)			
		-	Home > App registrations > GALsy	Request API permissions		×
٩	Identity	^	_{- G} GALsync Enterpri			
0	Overview			CAll APIs		
Q	Users	\sim	₽ Search	03 Office 365 Exchange Online https://ps.outlook.com		
8-8			Overview	What type of permissions does your application require?		
x	Groups	~	📣 Quickstart	Delegated permissions	Application permissions	
-6	Devices	\sim	🚀 Integration assistant	Your application needs to access the API as the signed-in user.	Your application runs as a background service or daemon without a signed-in user.	
₩6	Applications	^	Manage		- ,	
	Enterprise applications	12	Branding & properties			
	App registrations		Authentication			
0			📍 Certificates & secrets			
	Protection	~	Token configuration			
۲	Identity governance	\sim	API permissions			
ą	External Identities	~ -	Expose an API			
			App roles			
2	Learn & support	^	A Owners			
		~	Roles and administrators	Add permissions Discard		

Select Exchange.ManageAsApp Manage Exchange As Application



Click Add permissions



Click Grant admin consent for your tenant.

Click Yes to confirm the consent.



N	licrosoft Entra admin center	و م	earch resources, services, and docs (G+/)		
 (i) 	Identity Overview	^ *		nissions > App registrations > GALsync Enterprise App API permissions > App registrations > GALsync Enterprise App API permissions > $\#$	×
8	Users	\sim	₽ Search «	🕐 Refresh 🖉 Got feedback?	
	Groups	v I	OverviewQuickstart	Successfully granted admin consent for the requested permissions.	
₩3	Applications	^	 Integration assistant Diagnose and solve problems 	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	×
	App registrations		Manage Branding & properties	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	f
°	Roles & admins Roles & admins	^	 Authentication Certificates & secrets 	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	
	Admin units		Token configuration API permissions	API / Permissions n Type Description Admin consent req Status	
A	Protection	\sim	 Expose an API App roles 	Mail.ReadWrite Application Read and write mail in all mailboxes Yes Ø Granted for NETsec Demo Mail.Send Application Send mail as any user Yes Ø Granted for NETsec Demo	
۲	Identity Governance	\sim	A Owners	✓ Office 365 Exchange	
¢	External Identities	\sim	 Roles and administrators Manifest 	Exchange Mana Application Manage Exchange As Application Yes 🥥 Granted for NETsec Demo	•••
		Ţ	Support + Troubleshooting	To view and manage consented permissions for individual apps, as well as your tenant's consent settings, try Enterprise applications.	
2	Learn & support	~ «			

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.

	Assigned API permissions	
Microsoft Graph	i	
Exchange Web Services	(i)	

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-inexchange-online/ba-p/3924440



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

		, , , , , , , , , , , , , , , , , , , ,		
Identity	^	Home > App registrations > GALsy	Request API permissions	×
Overview		Search	Select an API	
Q Users	~	Overview	Apps in your directory that expose APIs are shown below	
🖾 Devices	\sim	 Restant Integration assistant 	✓ Office 365 Name	Application (client) ID
Applications	^	Manage	Office 365 Enterprise Insights	f9d02341-e7aa-456d-926d-4a0ca599fbee
Enterprise applic	ations	Authentication	Office 365 Exchange Online	00000002-0000-0ff1-ce00-00000000000
App registration:	s ~	📍 Certificates & secrets	Office 365 Management APIs	c5393580-f805-4401-95e8-94b7a6ef2fc2
Identity governa	nce 🗸	Token configuration API permissions	Office 365 Mover	d62121f3-e023-4972-b6b0-794190c0fd98
印 External Identitie	15 V ¥	Expose an API	Office 365 Search Service Office 365 SharePoint Online	66a88757-258c-4c72-893c-3e8bed4d6899 00000003-0000-0ff1-ce00-000000000000
Learn & suppor	nt ^	App roles Owners Roles and administrators		

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

Select Application permissions

Microsoft Entra admin center P Search resources, services, and docs (G+/)		earch resources, services, and docs (G+/)				
		-	Home > App registrations > GALsy	Request API permissions		×
٨	Identity	^ _				
()	Overview			< All APIs		
0		~		Office 365 Exchange Online		
~	Users	Ť	Overview	What type of permissions does your application require?		
200	Groups	\sim	🍊 Quickstart	Delegated permissions	Application permissions	
-6	Devices	\sim	🚀 Integration assistant	Your application needs to access the API as the signed-in user.	Your application runs as a background service or daemon without a	
⊞a	Applications	~	Manage		signed-in user.	
	Enterprise applications		Branding & properties			
	cincerprise applications		Authentication			
	App registrations		Certificates & secrets			
8	Protection	\sim	Token configuration			
۲	Identity governance	\sim	 API permissions 			
- În	Cutomal Islandition	~ -	Expose an API			
цa	external identities	· •	App roles			
	Learn & support	~	A Owners			
			Roles and administrators	Add permissions Discard		
		~~				

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.



Click **Yes** to confirm the consent.

Microsoft Er	ntra admin center	ρs	search resources, services, and docs (G+/)				
		-	Home > App registrations > GALsync I	Enterprise App			
Identity		^	💊 🚙 GALsync Enterprise App API permissions 👒 🐇				
Overview Overview				🕐 Refresh 🔊 Got feedback?			
প্রিম্ Groups		~	 Overview Quickstart 	Grant admin consent confirmation.	10		
🔁 Devices		\sim	🚀 Integration assistant	admin consent records this application already has to match what is listed below.	9		
B Application	ns	~	Manage	Yes No			
Enterprise	applications		Branding & properties	used. <u>Leam more</u>			
App regist	rations		Authentication Certificates & secrets	Configured permissions			
A Protection		\sim	Token configuration	Applications are authorized to call APIs when they are granted permissions by users/admins as part of the consent process. The list configured permissions should include all the permissions the application needs. Learn more about permissions and consent	of		
🕄 Identity go	overnance	\sim	- API permissions	+ Add a permission 🗸 Grant admin consent for NETsec Demo			
ଞ୍ଚିତି External Id	lentities	\sim	Expose an API	API / Permissions n Type Description Admin consent req Status			
··· Show more	e		App roles	✓ Office 365 Exchange (
			Owners Deles and a desinistantees	Exchange.Manage: Application Manage Exchange As Application Yes 🔺 Not granted for NETsec			
Protection	n	\sim	Manifest	full_access_as_app Application Use Exchange Web Services with fu Yes 🛕 Not granted for NETsec			
-		*	Support + Troubleshooting	To view and manage concepted permissions for individual apps, as well as your topasts concept attings, to Extension applications	_		
🤱 Learn & s	upport	~		to view and manage consented permissions for individual apps, as well as your tenant's consent setungs, ity enterprise applications	5.		
	abbore	«	New support request				

Microsoft Entra admin cente	${\cal P}$ Search resources, services, and doo	cs (G+/)	
Identity	App registrations :	> GALsync Enterprise App eerprise App API permissions 🛷 …	♂ Grant consent × Grant consent successful
ি Overview ৪ Users পুশ Groups	 ✓ Search W Overview ✓ Quickstart 	 Refresh R Got feedback? Successfully granted admin consent for the requested permissions. 	
Devices Applications Enterprise applications	Integration assistant Manage Branding & properties	The "Admin consent required" column shows the default value for an permission, user, or app. This column may not reflect the value in you used. <u>Learn more</u>	organization. However, user consent can be customized per $$\times$$ ir organization, or in organizations where this app will be
App registrations	Authentication Certificates & secrets III Token configuration	Configured permissions Applications are authorized to call APIs when they are granted permiss configured permissions should include all the permissions the applicati	ions by users/admins as part of the consent process. The list of on needs. Learn more about permissions and consent
 Identity governance External Identities 	API permissions Expose an API	+ Add a permission \checkmark Grant admin consent for NETsec Demo API / Permissions n Type Description	Admin consent req Status
Show more Protection	Approves A Owners A Roles and administrators	✓ Office 365 Exchange (Exchange Manage: Application Manage Exchange As Applicati full_access_as_app Application Use Exchange Web Services wit	ion Yes O Granted for NETsec Demo ···· th fu Yes O Granted for NETsec Demo ····
- 2 Learn & support	Manifest Support + Troubleshooting P Troubleshooting	To view and manage consented permissions for individual apps, as well	as your tenant's consent settings, try Enterprise applications.

API permissions are assigned to the registered Application.

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

	Assigned API permissions	
Microsoft Graph	١	
✓ Exchange Web Services	(1)	

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**.

N	licrosoft Entra admin center	P	Search resources, services, and docs (G+/)		
-		^	Home >		
۵	Identity	^	Roles and administr	rators All roles	×
()	Overview		NEIsec Demo - Azure AD for workforce	+ New autom role 🗎 Delate autom role 4 Developed preizementer 🖒 Refrech 🗌 📼 Braview festurer	
8	Users	\sim	🤱 All roles		
⁹ 2°	Groups	\sim	Protected actions	$igcel{eq:constraint}$ To create custom roles, your organization needs Azure AD Premium P1 or P2. Start a free trial. $ o$	
-60	Devices	\sim	X Diagnose and solve problems	(i) Your Role: Global Administrator and 1 other roles	
₩6	Applications	^	Activity	Administrative roles Administrative roles are used for granting access for privileged actions in Azure AD. We recommend using these built-in rol	les for
	Enterprise applications		 Access reviews Audit logs 	delegating access to manage broad application configuration permissions without granting access to manage other parts or related to application configuration. Lear more than the second secon	of Azure AD not
	App registrations		👶 Bulk operation results		
್	Roles & admins	\sim	Troubleshooting + Support	P Exchange Administrator × + Add filters	
	Roles & admins	-	New support request	Role 1 1 1 Description Type	↑↓
				🗌 🍰 Exchange Administrator 🛛 Can manage all aspects of the Exchange product. Built-in	
2	Learn & support	^			
		~			

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

N	Aicrosoft Entra admin center	₽ Se	earch resources, services, and docs (G+/)					
R	Users	~ ^	Home > Exchange Administrator	ator Accignments				~
2	Groups	\sim		ator Assignments				^
2	Devices	\sim	× *	+ Add assignments $ imes$ Remo	ove assignments 🞍 Download assignments 🤇	🕐 Refresh 🛛	🕈 Manage in PIM 📔 😶	
€	Applications	^	Diagnose and solve problems					
	Enterprise applications		Manage Assignments	 You can also assign built-in ro 	les to groups now. <u>Learn More</u> 🗹			×
	App registrations		Description	Search				
ŝ	Roles & admins	^	Activity	Search by name				
Г	Roles & admins		👶 Bulk operation results	All				\sim
	Admin units		Troubleshooting + Support	Name	UserName	Туре	Scope	
			New support request	Svc_contactSync	Svc_contactSync@NETsecDemo.com	User	Directory	
	Delegated admin partners		A new support request	Svc_GALsync	svc_galsync@NETsecDemo.com	User	Directory	
Ŀ,	Rilling	~ *						
2	Learn & support	^						
		~						

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

N	licrosoft Entra admin center	٩	Search resources, se	ervices, and docs (G+/)				
8	Users	\sim	Add assi	gnments				×
⁴ 2 ⁴	Groups	\sim						-
-6	Devices	\sim	 Try change 	ing or adding filters if you don't s	ee what you're looking for.		Selected (1)	- 1
₩6	Applications	^	Search 🗊					- 1
	Enterprise applications		GALsync			X	GALsync Enterprise App 9b5fb788-77e1-4225-af74-a96f7c8fed5d	Û
	App registrations		All Users	Enterprise applications				- 1
° 6	Roles & admins	^		Name	Туре	Details		- 1
	Roles & admins		V	GALsync Enterprise App	Enterprise ap	9b5fb788-77e1-4225-af74-a96f7c8fed5d		- 1
	Admin units		2	Svc_GALsync	User	svc_galsync@NETsecDemo.com		- 1
	Delegated admin partners							- 1
ß	Rilling	~ *						- 1
	Learn & support	~						•
		~	Add					

Select the newly registered application and click Add.

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

N	licrosoft Entra admin center	Q	Search resources, services, and docs (G+/)						
8	Devices	\sim	Home > Roles and administrators	All roles > Exchange Administrato	r	Successfully adde	d assignment X		
₩8	Applications	^	Exchange Admin	istrator Assignmen	ts …	Successfully added as	signment GALsync Enterprise App		
	Enterprise applications			$^{\scriptscriptstyle (\!$	Remove assignments 🞍 Download assignments 💍	Refresh 🗹 Manage	in PIM 🕴 🖗 Got feedback?		
	App registrations		🗙 Diagnose and solve problems						
4	Roles & admins	\sim	Manage	1 You can also assign built	-in roles to groups now. <u>Learn More</u>		×		
	Roles & admins		Assignments						
	Admin units		Description	Search	Search				
			Activity	Search by name Type					
	Delegated admin partners		👶 Bulk operation results	All			\sim		
ľ	Billing	\sim	Troubleshooting + Support	Name	UserName	Туре	Scope		
٢	Settings	\sim	New support request	GALsync Enterprise App	9b5fb788-77e1-4225-af74-a96f7c8fed.	. ServicePrincipal	Directory		
	Draviaw huh		*	Svc_contactSync	Svc_contactSync@NETsecDemo.com	User	Directory		
				Svc_GALsync	svc_galsync@NETsecDemo.com	User	Directory		
2	Learn & support	^							
		«							

Overview of the registered Application in App registrations

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

Microsoft Entra admin center		₽ si	earch resources, services, and docs (G+/)			
\$	Home		Home > App registrations 🔗 …			×
*	Favorites	\sim	+ New registration ⊕ Endpoints 🤌 Troubleshooting	🖒 Refresh 🞍 Download	💀 Preview featu	ures 🔗 Got feedback?
٩	Identity	^	All applications Owned applications Deleted appli	ications		
()	Overview		Start typing a display name or application (client) ID to fill	ter these r	ters	
8	Users	\sim				
⁴ 2 ⁰	Groups	\sim	1 applications found Display name 个()	Application (client) ID	Created on $\uparrow\downarrow$	Certificates & secrets
-6	Devices	\sim	GALsync Enterprise App	9b5fb788-77e1-4225-af74-a	7/12/2023	🕑 Current
₿	Applications	^				
	Enterprise applications					
	App registrations					
ී	Roles & admins	^				
	Roles & admins					
	Admin units	*				
2	Learn & support	^				
		~				

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.

GALsync Enterprise App	¢	Exchange Online App Registration	×
Delete Endpoints Preview features		Corresponding settings for the Enterprise Application in the Microsoft Entra ID (formerly Azu AD) App registrations that enables access to Exchange Online.	ure
Got a second? We would love your feedback on Micro	soft identity platform (previously Azure AD for	Organization / Tenant	
 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 <u>1 certificate</u> , 0 secret Redirect URIs <u>Add a Redirect URI</u> Application ID URI <u>Add an Application ID URI</u> Managed application in local directory <u>GALsync Enterprise App</u>	Application Display Name (C GALayno Enterprise App Application ID (C SoStb 788-77e1-4225-af74-a98f7c8fed5d Friedly Name NETsecDemo from GALayno Server Not After 2025-07-20 Subject CN=NETsecDemoFromGALaynoServer Thumbprint BDB5782A2035F6C046e2DFFC1A55878B1433AB2 Has PrivateKey True User NETSECDEMOIsvo_galayno	
Get Started Documentation Build your application v pla The Microsoft identity platform is libraries, and application manag	vith the Microsoft ide tform an authentication service, open-source ement tools. You can create modern,	Choose Certificate Create Certificate Assigned API permissions Assigned API permissions Exchange Web Services Maximum Connection Z Set as primary account Email Address	 I I

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

certmgr - [Certificates - Current User\Personal\Certificates] -								
File Action View Help								
Certificates - Current User Certificates - Current User Personal Certificates Trusted Root Certification Aur Enterprise Trust Intermediate Certification Aur Active Directory User Object Trusted Publishers Untrusted Certificates Untrusted Certificates Third-Party Root Certification Trusted People Client Authentication Issuers Other People Certificate Enrollment Reques	Issued To	Issued By NETsecDemoFromGALsyncServer	Expiration Date 7/20/2025					

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

📙 🕑 📙 👻 certificate files		
File Home Share View		
← → → ↑ 📙 ≪ Local Disk (C:) → ProgramData → NETsec GmbH & Co. KG → GALsy	/nc → certificate files	√ 5 √
V NETsec GmbH & Co. KG ^ Name	Date modified	Туре
> contactSync NETsecDemoFromGALsyncServer 2025-07-20	7/20/2023 9:18 AM	Security Certificate
V GALsync		,
📴 cache		
certificate files		
Exchange Online App Registration		
Corresponding settings for the Enterprise Application in the Office 365 Azura Active Directory		
App registrations that enables access to Exchange Online.		
Organization / Tenant		
netsecdemotenant.onmicrosoft.com		
Application Display Name		
GALsync Enterprise App		
Application ID (1)		
9b5fb788-77e1-4225-af74-a96f7c8fed5d		
Certificate		
Friedly Name NETsecDemo from GALsync Server		
Subject CN=NETsecDemoFromGALsyncServer		
Thumbprint BDB65782A2035F6C046E2DFFC1A55878B1433AB2		
Has PrivateKey True		
User NETSECDEMO\svc_galsync		
Choose Certificate Create Certificate		
Assigned API permissions		
I Microsoft Graph		
Exchange Web Services		
Maximum Connection 2 €		
Email Address		
svc_galsync@netsecdemo.com		
V 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.

м	icrosoft Entra admin center	9 م	Search resources, services, and docs (G+/)			
٩	Identity	^ *	··· > GALsync Enterprise App API perr	nissions > App registrations > GALsync Enterprise App API permissions > App registrations > GALsync Enterprise App		
()	Overview		_ə GALsync Enterprise App API permissions 🛷 … 🛛 👋			
8	Users	\sim		🕐 Refresh 🔰 🔗 Got feedback?		
የድ	Groups	\sim	Overview	Successfully granted admin consent for the requested permissions.		
む	Devices	\sim	📣 Quickstart			
₿,	Applications	^	🚀 Integration assistant	In "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	×	
	Enterprise applications		Diagnose and solve problems	usea. <u>Learn more</u>		
		- 1	Manage	Configured permissions		
	App registrations	- 1	Branding & properties	Applications are authorized to call APIs when they are granted permissions by users/admins as part of the consent process. The list o	of	
ී	Roles & admins		Authentication	configured permissions should include all the permissions the application needs. Learn more about permissions and consent		
	Roles & admins	- 1	📍 Certificates & secrets	+ Add a permission 🗸 Grant admin consent for NETsec Demo		
	Admin units	- 1	Token configuration	API / Permissions n Type Description Admin consent req Status		
		- 1	API permissions	✓ Microsoft Graph (2)		
	Delegated admin partners	- 1	🗠 Expose an API	Mail.ReadWrite Application Read and write mail in all mailboxes Yes 📀 Granted for NETsec Demo		
A	Protection	\sim	K App roles	Mail.Send Application Send mail as any user Yes 📀 Granted for NETsec Demo		
۲	Identity Governance	\sim	A Owners	✓ Office 365 Exchange		
QD	External Identities	\sim	Roles and administrators	Exchange.Mana Application Manage Exchange As Application Yes 🥥 Granted for NETsec Demo		
	Show more		10 Manifest			
	Show more		Support + Troubleshooting	To view and manage consented permissions for individual apps, as well as your tenant's consent settings, try Enterprise applications.		
			New support request			
_		· · ·				
2	Learn & support	^				
		**				

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.

	Assigned API permissions	
Microsoft Graph	1	
Exchange Web Services	(i)	

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			
netsecdemotenant.onmi	crosoft.com				
Application Display Nan	ie	i			
GALsync Enterprise App					
Application ID		i			
9b5fb788-77e1-4225-af7	74-a96f7c8fed5d				
	Certificate				
Friedly Name	NETsecDemo from GALsync Server				
Not After	2025-07-20				
Subject	CN=NETsecDemoFromGALsyncServer				
Thumbprint	BDB65782A2035F6C046E2DFFC1A55878B1433AB2				
Has PrivateKey	True				
User	NETSECDEMO\svc_galsync				
Choose Certificate	Create Certificate	(i)			
	Assigned API permissions				
✓ Microsoft Graph	١				
Exchange Web Ser	vices 🕕				
Maximum Connection	2 🔹 🚺 🗹 Set as primary account	(i)			
Email Address		i			
svc_galsync@netsecde	mo.com				
	🖌 Apply 🔞 Ca	ncel			

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

Environment Configuration –	×					
General Exchange Scenario Exchange Server on-premises Exchange Online						
Manage the settings for the Exchange Unline tenant. All accounts of the Microsoft 365 tenant have Exchange Administrator role permission for Exchange Online.						
Credentials						
Add (1) Add (1) Modify (1) Remove (1)						
Usemame Max. Connection						
Image of the second and the second						
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 (1)						
Show log						
Exchange Mailbox Test						
Send a test email to the recipient:						
Email address						
Send test email						
V S 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.

Env	rironment Configuration	- 🗆 ×
General Exchange Scenario Exchange	ge Server on-premises Exchange	Online
Manage the settings for the Exchange All accounts of the Microsoft 365 tenan	Online tenant. t have Exchange Administrator role Credentials	permission for Exchange Online.
🕼 Add 🕕 🖓 Add	1 Modify 1	Remove
Usemame		Max. Connection
Primary Mailbox Account		2
	Organization Sottings	
Instance hosted by	Microsoft 365 or Microsoft 365 C	GCC
	Microsoft Azure public cloud	
Exchange Web Services URL	https://outlook.office365.com/EV	/S/Exchange.asmx
Organization Settings		
R	emote PowerShell Connection Tes	t
Please test the R	emote PowerShell connection to E	xchange Online
Test (1) Warning I No remo Connection test w Test finished.	te PowerShell connections is availab as successful for GALsync Enterprise	e App

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**.

GALsync			×	
Codes Messa	0 age: Run as svc_galsyn	c		
Code: Messa	12091 age: Hybrid Exchange s	scenario is configured.		
Code: Messa Direct	12092 age: GALsync Server is i ory of the Hybrid Exch	member of the on-premises Active ange scenario.	e.asmx	
Code: Messa	12102 age: Svc_GALsync mailb	oox is on-premises.		
Code: Messa used.	: 12093 age: The email settings	for on-premises Exchange are		
Code: Messa succe	: 12101 age: Sending mail to a ssful.	dministrator@netsecdemo.com	line	
				Û
1		ОК		
	(Exchange Mailbox Test		
	Send a test email to th	e recipient:		
Email address	administrator@netsecc	demo.com		
	Send test email	(
		J Ok	Cancel	Apply
			Canod	

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

Exchange Online authentication via Service Account

Please note, that user-based authentication via OAuth 2.0 works only for the Microsoft Azure Public Cloud instance. If your Microsoft 365 instance is hosted by a national cloud, please use **Exchange Online certificate-based authentication via App Registration**.

Note, the user-based authentication is deprecated. The certificate-based authentication is recommended.

Service Account (Microsoft 365 Exchange Online)

The GALsync service account needs to be a licensed Exchange Online mailbox user 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.

The service account must be a member of the **Exchange Administrator** role. GALsync uses the Exchange Online PowerShell commands, which are incomplete if the service account is not an Exchange Administrator for Exchange Online.

Note: By default, the Exchange Online password has to be changed within 30 days. To ensure, that GALsync works properly, you have to configure user passwords to never expire. To configure your password please follow the steps described in the following article:

https://support.office.com/en-us/article/Set-a-user-s-password-expiration-policy-0f54736f-eb22-414c-8273-498a0918678f

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

Please note, service accounts are non-human privileged accounts used by applications, automated services, and that execute other IT processes. Because these are machine accounts, they cannot be protected by **multi-factor authentication (MFA)**, since there is no way for it to interactively logon.

We recommend disabling **multi-factor authentication (MFA)** for this account, and use conditional access policies to lock down this account, such as allowing login only from trusted public IP addresses.

Modern Authentication OAuth 2.0 for Exchange Web Services (EWS) to access Exchange Online

The GALsync service account of a Microsoft 365 tenant needs access to its own mailbox, therefore, Modern Authentication OAuth 2.0 for Exchange Web Services (EWS) must be configured.

Please note, that user-based authentication via OAuth 2.0 works only for the Microsoft Azure Public Cloud instance. If your Microsoft 365 instance is hosted by a national cloud, please use **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 token later.

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

💄 NETSECDEMO\svc_galsync 🛛 🖉 x64 🛛 🏶 GALsyncService is Running 🛛 🐍 NETsecDemo\svc_galsync

Admin consent requires in Entra ID Enterprise Applications (formerly Azure AD Enterprise Applications) to register NETsec GALsync as Enterprise Application.

Please note, that GALsync cannot request the necessary **User consent** for a non admin user with restricted settings **Consent and permissions** for Modern Authentication OAuth 2.0 for Exchange Web Services (EWS) of Exchange Online.

How to check the Consent and permissions settings for Enterprise Applications? Microsoft Entra admin center -> Identity -> Applications -> Enterprise applications -> Consent and permissions

м	licrosoft Entra admin center	,₽ s	earch resources, services, and docs (G+/)		
\$	Home	Î	Home > Enterprise applications Enterprise applicati	ons All applications ···· ×	
*	Favorites	\sim	NETsec Demo - Azure AD for workforce	+ New application 🕐 Refresh 🞍 Download (Export) 🚯 Preview info 🎫 Columns …	
۵	Identity	^	Overview		
()	Overview		 Overview Diagnose and solve problems 	View, https://andisearch.applications in your organization that are set up to use your Azure AU tenant as their identity Provider.	
8	Users	\sim	Manage	The list of applications that are maintained by your organization are in application registrations.	
^ <u>2</u> 2 ⁶	Groups	\sim	All applications	Search by application name or object ID	
-6	Devices	\sim	Application proxy	Application type == Enterprise Applications \times Application ID starts with \times $^{+}_{\nabla}$ Add filters	
₿	Applications	~	Dser settings	Name ↑↓ Object ID Application ID Homepage URL Created on ↑↓	,
[Enterprise applications App registrations	٦ľ	 App launchers Custom authentication extensions (Preview) 		
A	Protection	\sim	Security		
۲	Identity governance	\sim	 Conditional Access Consent and permissions 		
đ	External Identities	\sim	Activity		
	Show more	Ŧ	 Sign-in logs 		
			🕍 Usage & insights		
2	Learn & support	^	Audit logs		
		~	Provisioning logs		

The Consent and permissions settings of the Enterprise applications are restricted:

м	icrosoft Entra admin center	و م	Search resources, services, and docs (G+/)	
	Hama	î	Home > Enterprise applications Cons	sent and permissions >
			_ठ Consent and perm	issions User consent settings 🧁 🛛 🕹
*	Favorites	\sim	Azure AD for workforce	
-			Manage	☐ Save X Discard A Got feedback?
•	Identity		User consent settings	Control when end users and group owners are allowed to grant consent to applications, and when they will be required to request administrator review and approval. Allowing users to grant apps acress to data balas them acquire useful
i	Overview		Admin consent settings	applications and be productive, but can represent a risk in some situations if it's not monitored and controlled carefully.
8	Users	\sim	Permission classifications	User consent for applications Configure whether users are allowed to concent for applications to access your organization's data. Loarn more
^A R ^e	Groups	\sim		Do not allow user consent A contraction of the second se
-6	Devices	\sim		All administrator will be required for an apps. Allow user consent for apps from verified publishers, for selected permissions (Recommended)
₿,	Applications	^		All users can consent for permissions classified as "low impact", for apps from verified publishers or apps registered in this organization.
	Enterprise applications			Allow user consent for apps All users can consent for any and to access the organization's data
	App registrations			ni azera en consent io dig opp to decesa the organization a detai
A	Protection	\sim		When user consent for applications is disabled, users may still be able to connect their work or school accounts with LinkedIn. You can manage LinkedIn account connects in <u>User Settings.</u>
۲	Identity governance	\sim		
ą	External Identities	\sim		Configure whether group owners are allowed to consent for applications to access your organization's data for the groups they own. Learn more
	Show more	¥		Do not allow group owner consent Group owners cannot allow all applications to access data for the groups they own unless the group owners have been authorized in other ways. Learn more about the other ways that consent may be authorized.
2	Learn & support	~		 Allow group owner consent for selected group owners Only selected group owners can allow applications to access data for the groups they own.
		~		 Allow group owner consent for all group owners All group owners can allow applications to access data for the groups they own.

The **Consent and permissions** settings of the **Enterprise applications** are restricted and a Global Administrator account of the Microsoft 365 tenant must grant admin consent for the permissions of the Enterprise Application.

М	icrosoft Entra admin center	, Р se	Search resources, services, and docs (G		
A	Home	Î	Home > Enterprise applications	nsent and permissions > Consistent and permissions Admin	consent settings … ×
*	Favorites	~	Azure AD for workforce	« 🛛 🖓 Save 🗙 Discan	d
۵	Identity	^	Manage		
í	Overview		 User consent settings Admin consent settings 	Admin consent req Users can request admi	uests n consent to apps they are unable to consent to 🕕
8	Users	\sim	Permission classifications	Yes No	
⁹ 2 ⁶	Groups	\sim		Who can review admin	consent requests ①
-6	Devices	\sim		Reviewer type	+ Add users
₿	Applications	~		Groups (Preview)	+ Add groups
	Enterprise applications			Roles (Preview)	+ Add roles
	App registrations			Selected users will recei	ve email notifications for requests ①
A	Protection	\sim		Yes No	
۲	Identity governance	\sim		Ves No	ve request expiration reminders. O
ą	External Identities	\sim		Consent request expires	s after (days) 🕕
	Show more				30
		-			
2	Learn & support	~			
		~~			

If the **Admin consent requests** in the **Admin consent settings** is **No**, the admin consent for the permissions of the Enterprise Application can be done with a sign in of a Global Administrator account during the first login process for Modern Authentication OAuth 2.0 for Exchange Web Services (EWS) of Exchange Online. This process is described in the following chapter.

Please note, the GALsync service account should only be an Exchange Administrator of Exchange Online, but **not** *a Global Administrator of the Microsoft 365 tenant.*

If the **Admin consent requests** in the **Admin consent settings** is **Yes**, the GALsync service account will send an admin consent request during the first login process for Modern Authentication OAuth 2.0 for Exchange Web Services (EWS) of Exchange Online.

м	icrosoft Entra admin center	P Sei	arch resources, services, and docs (G+/)					
♠	Home	Î	Home > Enterprise applications Consent and permissions > Consent and permissions Consent and permissions Admin consent settings					
*	Favorites	\sim	Azure AD for workforce	Save X Discard				
۵	Identity	~	Manage					
í	Overview		 User consent settings Admin consent settings 	Admin consent requests Users can request admin consent to apps they are unable to consent to ①				
8	Users	\sim	Permission classifications	Yes No				
°2°	Groups	\sim		Who can review admin consent requests ①				
£	Devices	\sim		Reviewer type Reviewers				
₿,	Applications	~		Groups (Preview) + Add groups				
	Enterprise applications			Roles (Preview) + Add roles				
	App registrations			Selected users will receive email notifications for requests ①				
A	Protection	\sim						
٢	Identity governance	\sim		Yes No				
ą	External Identities	\sim		Consent request expires after (days)				
	Show more			30				
		-						
	Learn 9 annuart							
	Learn & support	«						

After that a user, who can review admin consent requests, must accept the request, before the GALsync service account does the login for Modern Authentication OAuth 2.0 for Exchange Web Services (EWS) of Exchange Online a second time to get the token successfully.

Login for Modern Authentication OAuth 2.0 for Exchange Web Services (EWS) of Exchange Online

Proceed with the Login for Modern Authentication OAuth 2.0 for Exchange Web Services (EWS) of Exchange Online with your GALsync Service Account.

¢	Exchange Online Credentials	×
User-ID:	svc_galsync@netsecdemo.com	1
Password:	•••••	(i)
E-mail:	svc_galsync@netsecdemo.com	i
Maximum Connection	2	i
The aut	hentication method for Exchange Web Services of the Office 365 tenant	.]
Please login f	for the Modern Authentication OAuth 2.0	
Modern Au	uthentication OAuth 2.0	
	Apply 🐼 Ca	incel

Please note, that the User-ID and the E-mail address can be different for an Exchange Online mailbox user. This depends on your Microsoft 365 Exchange Online tenant.

Insert the credentials for the GALsync service account, and click the **Login** button.

Sign in to	your account				×
	M	icrosoft			
	Pick	an account			
	à	svc_galsync@NETsecDemo.com	Ð	:	
	+	Use another account			
			Back		
Term	s of use Pri	vacy & cookies			

Select the same GALsync service account, which you have used in the **Exchange Online Credentials** dialog before.



Insert the password of the GALsync service account.

Sign in to your account	×
Microsoft	
svc_galsync@netsecdemo.com	
Need admin approval	
NETsec GmbH & Co. KG 🕏	
needs permission to access resources in your organization that only an admin can grant. Please ask an admin to grant permission to this app before you can use it.	
Have an admin account? Sign in with that account	
Return to the application without granting consent	
Terms of use Privacy & cookies	
terms of ase intracy of cookes intra	

NETsec GALsync needs a sign in of a Global Administrator, who will accept the requested permissions for the Enterprise Application.

Click on Have an admin account? Sign in with that account.

Otherwise, a Global Administrator account grants consent for the requested permissions to the application under **Permissions** of the **NETsec GALsync Enterprise Application** in the **Microsoft Entra ID**, before the GALsync service account does the login for Modern Authentication OAuth 2.0 for Exchange Web Services (EWS) of Exchange Online a second time to get the token successfully.

Sign i	in to y	your acc	ount					×	
	Microsoft								
	Pick an account								
		(Ă	svc_galsync@NETsecDemo.com			:		
		-	╀	Use another account	Ð				
						Back			
Т	erms	of use	Priv	racy & cookies ••••					

Use another account to sign in as a Global Administrator.

Please note, the GALsync service account should only be an Exchange Administrator of Exchange Online, but **not** *a Global Administrator of the Microsoft 365 tenant.*

Sign in to your account			×
Microsoft			
Sign in			
administrator@netsecden	no.com	×	
Can't access your account?			
	Back	Next	
Sign-in options			
Terms of use Privacy & cookies			

Sign in with a **Global Administrator** account of the Microsoft 365 tenant.



Insert the password of the Global Administrator account.

Sign in to your account	×
Microsoft	
administrator@netsecdemo.com	
Permissions requested	1
NETsec GALsync NETsec GmbH & Co. KG 🐲	
This app would like to:	
 Access mailboxes as the signed-in us Services 	er via Exchange Web
View users' basic profile	
Maintain access to data you have give	en it access to
Consent on behalf of your organization	on
If you accept, this app will get access to the s users in your organization. No one else will be permissions.	pecified resources for all e prompted to review these
Accepting these permissions means that you data as specified in their terms of service and change these permissions at https://myapps.r	allow this app to use your privacy statement. You can microsoft.com. Show details
Does this app look suspicious? Report it here	
Cance	el Accept
Terms of use Privacy & cookies	

Enable Consent on behalf of your organization, then click Accept.

The OAuth2 authentication will fail after the first login process.

Ċ,		Exchange Online Credentials	×
	GALsync		×
User-ID:			
Password:	\otimes	Error: The user administrator@netsecdemo.com is logged in, but the user svc_galsync@netsecdemo.com was expected to login. Please check your settings.	
E-mail:		OAuth2 authentication failed.	
Maximum Connection		Code: 62008 Message: The account svc_galsync@netsecdemo.com was not	
The		found in the token cache. Please check the login of OAuth 2.0 for the Exchange Web Services.	
Please lo		Code: 62005 Message: Acquired Token Interactive for administrator@netsecdemo.com	
Moder			
		OK	
		Apply 🐼 Cance	el 🛛

Proceed with the **Login** for Modern Authentication OAuth 2.0 for Exchange Web Services (EWS) of Exchange Online with your GALsync Service Account again.

Ċ	Exchange Online Credentials	×
		~
User-ID:	svc_galsync@netsecdemo.com	
Password:	•••••	i
E-mail:	svc_galsync@netsecdemo.com	i
Maximum Connection	2	i
The au	thentication method for Exchange Web Services of the Office 365 tenant]
Please login	for the Modern Authentication OAuth 2.0	
Modern A	uthentication OAuth 2.0	
	V Apply 🔯 Ca	ncel

GALsync 8.5 Quick Start Guide

Sign in to	your account				×
	Mi	icrosoft			
	Pick	an account			
	à	svc_galsync@NETsecDemo.com	Ę	:	
	+	Use another account			
			Daala		
			Васк		
Terms	s of use Priv	vacy & cookies			

Once again select the same GALsync service account, which has been previously used in the **Exchange Online Credentials** dialog.



Insert the password of the GALsync service account.

The login will now be successful.

Ċ		Exchange Online Credentials	×
User-ID: Password: E-mail: Maximum Connection The Please lo	GALsync	OAuth2 authentication successful. Code: 62008 Message: The account svc_galsync@netsecdemo.com was not found in the token cache. Please check the login of OAuth 2.0 for the Exchange Web Services. Code: 62005 Message: Acquired Token Interactive for svc_galsync@NETsecDemo.com	×
Moder		ОК	
		Apply 🔞 Cance	el

GALsync can now use OAuth tokens for authentication to access the Exchange Web Services (EWS) for your Exchange Online during the policy runs.

Click Apply to close the Exchange Online Credentials dialog.

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**.

GALsync			×	e i		
1	Code: 0 Messag	e: Run as svc_galsync		Connection		
	Code: 1 Messag	2091 e: Hybrid Exchange scenario is configured.				
	Code: 12096 Message: GALsync Server is not member of the on-premises Active Directory of the Hybrid Exchange scenario.					
	Code: 12097 Message: The email settings for Exchange Online are used.					
	Code: 1 Messag	2063 e: Username: svc_galsync@netsecdemo.com				
	Code: 1 Messag	2064 e: Email address: svc_galsync@netsecdemo.com		ange asmy		
	Code: 12065 Message: Exchange Web Services URL: https://outlook.office365.com/EWS/Exchange.asmx					
	Code: 62004 Message: Acquired Token Silent for svc. galsvpc@NETsecDemo.com					
	Exceptic Code: 1 Messag success	on: Mailbox does not exist. 2101 e: Sending mail to administrator@netsecdemo.com ful.		Online		
		ОК		~		
		Exchange Mailbox Test				
		Send a test email to the recipient:				
Email add	ress	administrator@netsecdemo.com Send test email				
		√ 0k	🚫 C	ancel 🛛 🕞 Apply		

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

Also, please see the GALsync manual chapter:

12010 - Error getting Exchange Online connection

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**

¢	NET	sec GALsync	– 🗆 ×
FILE ACTION OPTIONS	HELP		
GALsync	💭 NETsec Demo	b Exchange Online	Orancel
🖽 🍈 Partner Demo Exchange Online	Create Policy	te Policy	
⊡ 📳 contactSync	Environments	cies 🔟 Status 😰 Help	
	Status	Description	
	Configuration	Online Export Policies	

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.

	NETsec GALsync - NETsec Demo Exchange Online - New Policy	×
Environment Co	nfiguration	
 Environment Configuration Synchronization mode Data transfer mode Mode Encryption Directory Notification emails Scheduler service General Summary 	Environment Configuration Please choose the Environment Configuration for the new policy NETsec Demo Exchange Online Tybrid Exchange environment	
	Nex	tt > Cancel

Select Export directory information.

Click Next.

C N	ETsec GALsync - NETsec Demo Exchange Online - New Policy		×
New Export Policy	for Exchange Online		
Environment Configuration	Synchronization mode		
Synchronization mode Data transfer mode manual Encryption	What do you want to do? Export directory information (GAL) Import directory information (GAL)	(i) (i)	
Directory Notification emails Scheduler service General	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.	•	
Summary	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.	(i)	
	< Back Next >	Cancel	

Environment Configuration	Data transfer mode	
Synchronization mode	Please choose a type of transfer.	
Data transfer mode	manual	
🗏 manual	Export to a file on a local drive on this server.	(1)
Encryption	🔿 via email	
Directory	Send directory information by email.	(I)
Notification emails	Ovia network share	
Scheduler service	Store directory information to a network share.	(i)
🗏 General	Ovia FTP	
Summary	Upload directory information to an FTP server.	(I)
	Encrypt directory information.	(I)

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

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

Φ .	NETsec GALsync - NETsec Demo Exchange Online - New Policy	×
New Export Policy Rev Export Policy	y for Exchange Online manual Choose file on your local drive where directory information is to be stored. Data file 'gramData \NETsec GmbH & Co. KG\GALsync\data files\NETsecDemoExport.xml Compress data	(Î)
	< Back Next > C	ancel

100

There are two ways to select objects to be exported.

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

Select Exchar	ge Recipient Types X	NETsec GALsync - NETsec Demo (Hyb	Search for Exchange Online Objects – — ×
Export all Export Selected		for Exchange Online	You can search an object by inserting an expression. Uncheck all object types which you do not want to have as a result. The scope of the query is the complete forest your exchange organization belongs to. The result list contains all objects found. Select certain or all objects to be gathered for export and press apply.
Recipient Type	Description		customer Search
	User with mailbox Mail enabled User Contact pointing to external address Mail-enabled Distribution Group	Directory (1)	VuserMailbox ✓ MailContact ✓ MailUpierSalSecurityGroup MailUser ✓ MailUniversalDistributionGroup ✓ DurfamicDistributionGroup 500 €
DynamicDistributionGroup	Mail-enabled Security Group	Search and choose Exchange Online	e Information Remote PowerShell Connections: 0 ; No Sessions: 0
Office365Group	Office 365 Group	Name Disp	Display Name Mail Recipient Type DistinguishedNam MailUniversalSecurityGroup SMTP-CustomerSupport. MailUniversalSecurityGro. CN=Customer Support.
			Select all
		٢	>
			< Back Next > Cancel

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.

Directory (1)	
Search and choose Exc	change Online objects for the export.
😪 Choose 🛛 👰 S	Search 🔡 Properties 🎯 Settings 👔 🌗 🗱 Remove
Name	Display Name Mail Recipient T Group Option

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**.

	Select Membership Handling	×
	🕮 Customer Support	
Search for Exchange Online Objects	Group Option Exportable RecipientTypeDetails Add value for export	
Search Exchange Online	Only group	
You can search an object by inserting an expression. Uncheck all object types v The scope of the query is the complete forest your exchange organization belon found. Select certain or all objects to be gathered for export and press apply.	Only Membership Group + Membership	
customer	Include nested groups	
Display Name Mail F		
MailUniversalSecurityGroup		
Customer Support SMTP:CustomerSupport M.		
<	Setting for all groups (1)	el
Select all	Apply Sancel	

Ensure the selected group is displayed.

Then click Next.

1	NETsec GALsync - NETsec Demo - New Policy	×
New Export Policy	for Exchange Online	
 Environment Configuration Synchronization mode Data transfer mode 	Directory (i) Search and choose Exchange Online objects for the export.	
 manual Encryption 	Choose Search Reporties Settings 1 UK Remo	ve
 Directory Notification emails Scheduler service General Summary 	MailUniversalSecurityGroup Customer Support Customer Sup SMTP:Custom MailUniversal Only Mer	nber
	<	>
	< Back Next > Ca	ncel

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.

L) N	IETsec GALsync - NETsec D	emo Exchange Online - New F	olicy	×
New Export Policy	for Exchange Or	nline		
 Environment Configuration Synchronization mode 	Status notificatio	n emails		
Data transfer mode	Send Summary	(1)		
Encryption	Subject	GALsync Summary - NETsec	Demo Export	1
Directory	Send to	administrator@netsecdemo.cd		
Scheduler service		Test	Send only on error	U
General				
Summary				
			< Back Next >	Cancel

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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.

1	NETsec GALsync - NETsec Demo - New Policy	×
New Export Policy	y for Exchange Online	
Environment Configuration	Scheduler service	
Synchronization mode	No schedule service Oweekly Monthly	
🗏 Data transfer mode		
🗏 manual		
Encryption		
Directory		
Notification emails		
Scheduler service		
General		
Summary		
	1 1 / - from / h	
	< Back Next >	Cancel

Enter a policy name and an optional description, then click $\ensuremath{\textbf{Next}}.$

C NET	sec GALsync - NETsec Demo Exchange Online - New Policy	×
New Export Policy for	or Exchange Online	
 Environment Configuration Synchronization mode Data transfer mode 	General Policy Name	١
manual	Description	i
Directory	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	^
 Notification emails Scheduler service 		~
General		
Summary	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.

¢	NETsec GALs	ync - NETsec Demo Exch	ange Online - New Policy	×
Summary				
 Environment Configuration Synchronization mode Data transfer mode 	Sumi Sumi	mary ror 📀 Ok	⊘Not Used	
🗖 manual	🚫 F	Policy name	NETsec Demo Export	
	S 🚫	Synchronization mode	Export (ExchangeOnline)	
Encryption	🚫 (Data transfer mode	manual	
Directory	🛛 🚫 r	nanual	C:\ProgramData\NETsec GmbH & Co. KG\GALsync\da	
Notification emails	0	Encryption		
	S (Directory	Objects selected	
Scheduler service		Notification	Logon to mailbox	
General		Notification	Send test mail to recipient	
Summan/		scheduler service		
Summary				
			< Back Finish Cancel	

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

٥	NETsec GALsy	nc	- 🗆 ×
FILE ACTION OPTIONS HELF GALsync G ⊕ NETsec Demo Exchange Online File Export Policies G ⊕ Partner Demo Exchange Online G ⊕ Partner Demo Exchange Online G ⊕ ContactSync	NETsec GALsy NETsec Demo Excha Environment Create Policy Environments Policies Policy Name NETsec Demo Exchange Online Ex NETsec Demo Export	nc nge Online Export Policies Status Pelp Description port Policies Export of users from the netsecdemo.com exchange online ten	- C X
PARTNERDEMOlsvc_galsync 4/2 x64	GALsyncService is Running	PartnerDemo\Svc_GALsync	

Select the policy node. Then click Run.

٥	NETsec GALsync	- 🗆 ×
FILE ACTION OPTIONS HELI	2	
GALsync	NETsecDemo From EXO	🙆 <u>C</u> ancel
	🕒 Environments 🥝 Create Policy 🧟 Delete 🗟 Clone 🚳 Test 💈 Count r 🏓 Run 🛛 Status	
WETsecDemo From EXD	🧟 General 🎇 Synchronization mode 📱 Data transfer mode 📓 Manual 🖷 Directory 🥸 Status n	otification emi 4 🕨
🗄 🌐 Partner Demo Exchange Online	General	
⊡ 👜 contactSync	Policy Name	i
	NETsecDemo From EXO	

GALsync successfully exported 6 objects.

NETsec GALsync	- 🗆 ×
FILE ACTION OPTIONS HELP	
NETsec Demo Export	🙆 <u>C</u> ancel
🔀 Counter 🕨 Run 💵 Status 🚳 Close	
	^
Status	
V Operation finished	
Policy runtime 0:00:44	
Summary	
Analyzed objects: 7	
Added objects: 6	
Errors: 0	
Details	
Receive partial results: 19	
Merged objects: 7	
Skipped mastered-on-premises objects: 0	
Ignored objects: 0	
	×
Information 0 objects were ignored.	
Summary i operation:Completegianalysed://additiomouny/ujuptodate/ujdetete/ujerors/UMastered/UnPremiseSkipped/ Information I Additional information Callion Methode: GAI svore library Policy/ujitiator OnEO/EvontFinishedFvent/ Canceled State: False Finished State: True Tas	sks Running Sta
PARTNERDEMOlsvc_galsync Arka	ite ritaning old

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.

Ċ.	NETsec GALsync	– 🗆 ×
FILE ACTION OPTIONS HELI		
GALsync	NETsec Demo Export	🙆 <u>C</u> ancel
Provide the second exchange Online	Environments 🥰 Create Policy	
S NETsec Demo Export	🎲 Settings 🔯 Exchange 🌐 Environments 🜌 Policie 🕠 Status 🕩 Help	
	Mile: Completed 🕰 Canceled 🕸 Errors	🚳 Reload
⊞- 🖪 contactSync	Policy Name Start Time Operati Errors Analy Added Modifi Up to	o Deleted
	Export Policies	
	VETsec Demo Export 10/28/2022 8:14: Completed 0 7 6 0 0	0
	😣 NETsec Demo Export 10 Dog file 0 0 0 0	0
	Export log file	
	Export all log files	
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.

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.

	NETsec GALsync - Partner Demo Exchange Online - New Policy	×
Environment Configuration Environment Configuration Synchronization mode Synchronization mode Mode Encryption Directory Notification emails Scheduler service General Summary	Infiguration Environment Configuration Please choose the Environment Configuration for the new policy Partner Demo Exchange Online Exchange Online environment and the GALsync Server is member of the on-premises Active Directory.	
	Next >	Cancel

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

□	NETsec GALsync - Partner Demo Exchange Online - New Policy	×
New Import Polic	y for Exchange Online	
Environment Configuration	Synchronization mode	
Synchronization mode Data transfer mode Mode Encryption	1. What do you want to do? Export directory information (GAL) Import directory information (GAL)	() ()
Directory Notification emails Scheduler service General	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 bybrid Exchange organization	•
Summary	 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) on.
	< Back Next >	Cancel

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

1	NETsec GALsync - Partner Demo Exchange Online - New Polic	cy	×
New Import Policy	y for Exchange Online		
Environment Configuration	Data transfer mode		
Synchronization mode	Please choose a type of transfer.		
🗖 Data transfer mode	manual		
🗏 manual	Import from a file on a local drive on this server.	1	
Encryption	⊖via email		
E Directory	Receive directory information from email.	1	
Notification emails	via network share		
Scheduler service	Receive directory information from a network share.	1	
🗏 General	Ovia FTP		
Summary	Download directory information from an FTP server.	(i)	
	Decrypt directory information.	٢	
		Back Next > Ca	ancel

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



Cpen	×
\leftarrow \rightarrow \checkmark \bigstar GALsync \rightarrow data files \checkmark \eth Search	h data files 🔎
Organize 🔻 New folder	III 🕶 🔟 🕐
Desktop 🖈 ^ Name	Date modified Type
	4/6/2022 1:09 PM XML
🚆 Documents 🖈	
📰 Pictures 🛛 🖈	
certificate files	
This PC	
	>
File name: NETsecDemoExport V All F	iles (*.*) ~
	Open Cancel

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

ф –	NETsec GALsync - Partner Demo Exchange Online - New Policy	×
New Import Polic	y for Exchange Online	
 Environment Configuration Synchronization mode Data transfer mode manual Encryption Directory Notification emails Scheduler service General Summary 	manual Choose file on your local drive where directory information is stored. Data file gramData\NETsec GmbH & Co. KG\GALsync\data files\NETsecDemoExport.xml Import all files placed in the selected folder.	
	< Back Next > Canc	el

Click **Next** to bypass this window.

י נ	NETsec GALsync - Partner Demo Exchange Online - New Policy	×
New Import Polic	y for Exchange Online	
 Environment Configuration Synchronization mode 	Directory	
 Data transfer mode manual Encryption Directory Notification emails 	Properties (1) Settings (1)	
 Scheduler service General Summary 		
	< Back Next :	Cancel

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.

L. N	IETsec GALsync - Partner D	emo Exchange Online - New Policy		×
New Import Policy	for Exchange Or	nline		
 Environment Configuration Synchronization mode Data transfer mode 	Status notificatio	n emails		
 manual Encryption Directory Notification emails Scheduler service General 	Subject Send to	GALsync Summary - Import from NETs administrator@partnerdemo.de Test (1)	ec Demo Send only on error	() () ()
Summary		< Bac	sk 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.

1	NETsec GALsync - Partner Demo Exchange Online - New Policy	×
New Import Polic	y for Exchange Online	
Environment Configuration	Scheduler service	
Synchronization mode	No schedule service Oweekly Oweekly Monthly	1
🗏 Data transfer mode		
🗏 manual		
Encryption		
Directory		
Notification emails		
Scheduler service		
🗏 General		
Summary		
	< Back Nex	t> Cancel

Enter a policy name and optional description, then click $\ensuremath{\textbf{Next}}.$

Ц N	ETsec GALsync - Partner Demo Exchange Online - New Policy	×
New Import Policy	for Exchange Online	
 Environment Configuration Synchronization mode Data transfer mode 	General Policy Name	1
manual	Import from NETsec Demo Description	(i)
Encryption	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 GA	L
 Notification emails Scheduler service 		~
General		
Summary	Environment Configuration	i
	Partner 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.

口	NETsec GALsync - Partner Demo Exchange Online - New Policy			
Summary				
Environment Configuration	Summary	,		
Data transfer mode	😣 Error	📀 Ok	🖉 Not Used	
🗏 manual	Policy	/ name	Import from NETsec Demo	
	Synch	nronization mode	Import (Exchange Online)	
Encryption	📀 Data t	transfer mode	manual	
Directory	🖉 manu	al	C:\ProgramData\NETsec GmbH & Co. KG\GALsync\da.	
Matterities and its	C Encry	ption		
Notification emails	Ø Direct	tory		
Scheduler service	🚫 Notifi	cation	Logon to mailbox	
General	🖉 Notifi	cation	Send test mail to recipient	
	Scher	duler service		
Summary				
			< Pack Einich C	ancel
				ancer

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

Ċ.	NETsec GALsy	nc —	n ×
FILE ACTION OPTIONS HELF	2		
GALsync	🤞 Partner Demo Excha	nge Online Import Policies 🛛 🖬 Save 🔞	<u>C</u> ancel
Export Policies	Environment Screate Policy		
RETsec Demo Export	🕒 Environments 🖾 Policies 🕡	Status 🔞 Help	
🦾 🥔 Import Policies	Policy Name	Description	
Export Policies	Partner Demo Exchange Online Im	aport Policies	
🗄 🥩 Import Policies	Import from NETsec Demo	Import of user objects from the netsecdemo.com exchange online tenant into t	n
contactSync			
	A CAL avesService is Rupping		

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

Ċ.	NETsec GALsync	- 🗆 ×
FILE ACTION OPTIONS HELF		
GALsync	Import from NETsec Demo	Save Scancel
Export Policies	I Environment I Clone I Clone I I I I I I I I I I I I I I I I I I I	
WETsec Demo Export With Import Policies	General 🧱 Synchronization mode 📱 Data transfer mode 📓 Manual 🐔 Directory	Status notification emi
🖨 🌐 Partner Demo Exchange Online	General	
🥔 Export Policies	Policy Name	1
🖾 🐠 Import Policies	Import from NETsec Demo	
⊡ 📳 contactSync	Description Import of user objects from the netsecdemo.com exchange online tenant into the partnerdemo.de e as contacts which are published in the online GAL	exchange online tenant

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

Ū.	NETsec GALsy	nc – 🗆 🗙
FILE ACTION OPTIONS HELP		
Import from NETsec Demo		Save Sciencel
▶ Run 🔟 Status 🚳 Close		
		^
Status		
✓ Operation finished		
Policy runtime 0:01:01		
Summary		
Analyzed objects: 6		
Added objects: 6		
Modified objects: 0		
Deleted objects: 0		
Errors: 0		
Details		
Policy runs: 1		
Receive partial results: 14		
Read objects: 6		
Found existing objects: 0		
Load details for existing objects: 0		
Ignored objects: 0		
Skipped mastered-on-premises objects: 0		
Up-to-date objects: 0		v
Information Policy run 1		
Information 0 up-to-date objects.		
Information 0 objects were ignored.		0
🐣 PARTNERDEMO\svc_galsync 🛛 🖉 x64	GALsyncService is Running	🗞 PartnerDemo\Svc_GALsync

The import has been verified in the target tenant.

	Exchange admin center			
=		Home > Contacts		
ŵ	Home	Contacts		
8	Recipients ^			
	Mailboxes Groups	+ Add a contact 💍 Refresh		6 items 🍸 Filter
	Resources	Display name ↑	Email address	Contact type
	Mail flow	Dave Jozsa	SMTP:davejozza@netsecdemo.com	MailContact
2	Roles 🗸	John Evica	SMTP:JohnEvica@netsecdemo.com	MailContact
		Patrick T. SHORTER	SMTP:PatSHORTER @ netsecdemotenant.onmicrosoft.com	MailContact
12	Migration	Raymond E. Barham	SMTP:RayBarham@netsecdemotenant.onmicrosoft.com	MailContact
k	Reports 🗸	Scott Brumen	SMTP:ScoBrumen@netsecdemotenant.onmicrosoft.com	MailContact
Q	Insights	Stu Erling	SMTP:StuErling@netsecdemo.com	MailContact
윩	Organization 🗸			

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.

¢	NETsec GALsync	- 🗆 ×
FILE ACTION OPTIONS HELF		
GALsync	Import from NETsec Demo	Save 🙆 Cancel
Error WE I sec Demo Exchange Online	Denvironments 😂 Create Policy	
NETsec Demo Export	🆓 Settings 🔯 Exchange 🌐 Environments 🧟 Policity 🚺 Status 🕒 Help	
M Import Policies Properties Pr	All - See Import from N - N Hide: Completed A Cancel	ed 😣 Errors 🛛 🔞 Reload
Export Policies	Policy Name Start Time Operati Errors Analy Added	d Modifi Up-to Dele
🗅 📣 Import Policies	Import Policies	
🦾 Import from NETsec Demo	Import from NETsec Demo 10/28/2022 9:53 Completed 0 6 6	0 0 0
🖽 🔄 contactSync	😵 Import from NETsec Demo 🛃 Open log file 0 0	0 0 0
	Export log file	
	Export all log files	

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.

log20221028100751_090x02298.txt - NETse	ec LogViewer Details – 🗖 🗙
10g20221028100751_090x02298.txt - NE1SE	ec Logviewer Details
	^
Timestamp Policy Typ Code Task Thread	
20221028_100752_824 ImportfromNETsecDemo.xml Information 65064 1 4	
20221028_100752_824 ImportfromNETsecDemo.xml Information 65065 1 4 Trans	
20221028_100752_824 ImportfromNETsecDemo.xml Information 65065 1 4 Error	
20221028_100752_840 ImportfromNETsecDemo.xml Information 41073 1 4 Code	
20221028_100752_840 ImportfromNETsecDemo.xml ProcessData 40082 1 4 19213	
20221028_100752_855 ImportfromNETsecDemo.yml ProcessData 40082 1 4 1	
20221028 100752 871 ImportfromNETsectemo.xml Information 41067 1 4	
20221028 100752 871 ImportfromNEFeeCDemo.xml Information 41073 1 4	
20221028_100752_871 Importfrom/ETsecDemo.xml ProcessData 40082 1 4 GALsyncLibrary.DataFileTransfer.DecryptData()	
20221028 100752 887 ImmetticomNETcarDamo yml ProcescData 40082 1 4	
Cannot decrypt symmetric data.	
20221028_100752_88/ ImportfromNETsecDemo.xml Information 41067_44	
20221028_100752/902 ImportfromNETsecDemo.xml Information 19065 1 4	
20221028_100762_902 ImportfromNETsecDemonthil Information 19066 1 4 GAI surplice literary	
20221028_109752_934 ImportfromNETsecDemo.xml Information 19133 1 4 Feature Statements	
20221028 100752 934 Importment State Demotion 19134 1 4 Void December Ver Ver Ver Ver Ver Ver Ver Ver Ver V	orithm)
20221023 10°752_93 4 Importfrom NETsecDemoxmi Error 1921 4 GALsyncLibrary.DataFileTransfer.DecryptData()	Cannot decrypt symmetric data.
	· · · · · · · · · · · · · · · · · · ·
6 results found	
20221028_100752_871 mportfromNETsecDemo.xml ProcessData 40082 1 4/ NETsec.RemotePowerShellLibrary.RemotePowerShellConnection2.InitializePsFunctions() 63e87	/af6-fbac-4746-b270-02b0503c00ec Setting paramete 🔿
20221028_100752_934 Importfrom/NETeceDemontal Exce19213 1 4 GALsyncLibrary.DataFileTransfer.DecryptData() Canno	ot decrypt symmetric data.
20221028_100752_954 ImportfromNETsecDemo.xmi Error 19155174 GALsyncLibrary.DataFileTransfer.Decompress() Decry	ption failed.
20221028_100759_340 ImportfromINEISec.Demoxim Information 47008 246 4 GALsyncLibrary.SummaryWriter.WriteSummary() GALsy	/nc Summary of Import from NETsec Demo
	×

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**.

L NETsec GALsync –				
FILE ACTION OPTIONS HELP				
⊟ 🛄 GALsync	NETsec Demo (Hybrid) Export Policies	Save Scancel		
Export Policies	Environment Area Create Policy			
🥔 Import Policies 🥞 🛛 Create Policy	ents 🜌 Policies 🕡 Status 😢 Help			
contactSync Environments	Description			
III Status				
Configuration	1			

The selected environment is pre-populated.

	NETsec GALsync - NETsec Demo (Hybrid) - New Policy	×
Environment Cor	nfiguration	
 Environment Configuration Synchronization mode 	Environment Configuration	
Data transfer mode Mode	Please choose the Environment Configuration for the new policy	
Encryption	NETsec Demo (Hybrid)	
 Directory Notification emails Scheduler service General 	Hybrid Exchange environment and the GALsync Server is member of the on-premises Active Directory.	
Summary		
	Ne	xt> Cancel

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**.



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

·	NETsec GALsync - NETsec Demo - New Policy	×
New Export Policy	Y	
Environment Configuration	Data transfer mode	
Synchronization mode	Please choose a type of transfer.	
Data transfer mode	manual	
🗏 via email	Export to a file on a local drive of the server.	(j)
Encryption	🖲 via email	
E Directory	Send directory information by email.	(i)
Notification emails	⊖via network share	
Scheduler service	Store directory information to a network share.	()
🗏 General	Ovia FTP	
Summary	Upload directory information to a FTP server.	3
	Encrypt directory information.	1
		< 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.

Ċ,	NETsec GALsync - NET	sec Demo - New Policy	×
New Export Policy			
 Environment Configuration Synchronization mode 	via email		
Data transfer mode	Subject	NETsec Demo Export from On-Prem	i
🗆 via email	Send to	svc_galsync@companydemo.de	(1)
Encryption		Test (1)	
Directory			
Scheduler service			
General			
Summary			
		< Back Next >	Cancel

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

	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 	Encryption Choose the security level. Encryption is used to secure the data file which contains is the directory objects to synchronize. Image: Symmetric Keys Image: Symmetric Keys Chast a key and share this key with your partner. Chast a key and share this key with your partner. Chast Chast a public key and send this key to your partner. Chast Chast a public key and send this key to your partner. Chast Chast a public key and send this key to your partner. Chast Chast a public key and send this key to your partner. Chast Chast a public key and send this key to your partner. Chast Chast a public key and send this key to your partner. Chast Chast a public key and send this key to your partner. Chast Chast a public key and send this key to your partner. Chast Chast a public key and send this key to your partner. Chast Chast a public key and send this key to your partner. Chast Chast a public key and send this key to your partner. Chast a public key and send this key to your partner. Chast a public key and send this key to your partner. Chast a public key and send this key to your partner. Chast a public key and send this key to your partner. Chast a public key and send this key to your partner. Chast a public key and send this key to your partner. <	() () ()
	< Back Next >	Cancel

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

🛄 Save As		×
$\leftrightarrow \rightarrow \checkmark \uparrow$	《 GALsync > key files 、 で	ey files 🔎
Organize 🔻 Ne	folder	:== - ?
 Documents Pictures key files This PC 	Name Da	ate modified Type
a	~ <	>
File name:	GALsyncEncryptionKey	~
Save as type:	XML-Files (*.xml)	~
∧ Hide Folders	Sa	Ve Cancel

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

	NETsec GALsync - NETsec Demo - New Policy	×
New Export Policy		
 Environment Configuration Synchronization mode Data transfer mode via email 	Directory (1) Choose mail-enabled objects for the export.	
 Directory Notification emails Scheduler service General Summary 	Name Display Name Mail Logo Option Ex	
	< >	
	< Back Next > Cance	4

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

Ċ,	NETsec GALsync	-		×
Select organiz	ational unit			
An active direc mail objects in runtime. Note:	tory tree with all organizational units of every domain in the forest and cluded in a selected OU (and all nested OUs) will be recognized for e You don't need to tick the nested OUs.	d is lis xport	ted. A at	II
🗗 🗐 NETs	ecDemo.Local		-	
📥 🖄 🖸	C=NETsecDemo			
.	a Accounting			
	Somputers			
	i Domain Controllers			
÷	ing Engineering			
	ity Foreign Security Principals			
<u> </u>	imported Contacts			
	i Managed Service Accounts			
🗆	Microsoft Exchange Security Groups			
	Microsoft Exchange System Objects			
÷ 🖌	i NETsecDemo Users			
	i Program Data			
± 🖌	🔄 Sales			
	System			
·	🔄 lisers			<u> </u>
	Apply	δ C	ancel	

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 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.

	Add/Remo	ve RecipientType	Details X
GALsync GALsyn	Available Recipient Type Details Disabled User Linked User Peone Lise Remote Score Mailbox Remote Equipment Mailbox Remote Shared Mailbox Team Mailbox Remote Team Mailbox Remote Team Mailbox Remote Group Mailbox Schedung WanDox Guest Mail User	Add -> <- Remove	Exportable Recipient Type Details User Mailbox Linked Mailbox Shared Mailbox Legacy Mailbox Legacy Mailbox Equipment Mailbox Equipment Mailbox Mail Contact Mail Contact Mail Ser Mail-Enabled Universal Distribution Group Mail-Enabled Universal Security Group Dynamic Distribution Group Public Folder Cross-Forest Mail Contact Group Mailbox (Office 365 Group)
Public Folder Cross-Forest Mail Contact Group Mailbox (Office 365 Group) Add/Remove RecipientTypeDetails	Restore Default	Apply	✓ Ok X Cancel ⊗ Cancel

Click OK.

ф.	NETsec GALsync - NETsec Demo - New Policy	×
New Export Policy Environment Configuration Synchronization mode	Directory (1)	
 Data transfer mode via email Encryption Directory Notification emails Scheduler service General Summary 	Choose mail-enabled objects for the export.	Remove Option Exp IU + S 1101 IU + S 1101 IU + S 1101 IU + S 1101 IU + S 1101
	<	>
	< Back Next >	Cancel

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.

1	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 	Status notification	n emails (i) GALsync Summary - NETsec svc_galsync@netsecdemo.c Test (i)	Demo Export (On-Prem) om Send only on error	1
			< 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.

]	NETsec GALsync - NETsec Demo - New Policy	×
New Export Policy	,	
Environment Configuration	Scheduler service	
Synchronization mode	No schedule service Weekly Monthly	
Data transfer mode		
🗏 via email		
Encryption		
E Directory		
Notification emails		
E Scheduler service		
🗏 General		
Summary		
	< Back Next >	Cancel

Enter a policy name and optional description, then click $\ensuremath{\textbf{Next}}.$

Ф.	NETsec GALsync - NETsec Demo - New Policy	×
New Export Policy		
 Environment Configuration Synchronization mode Data transfer mode via email 	General Policy Name NETsec Demo Export (On-Prem) Description	(i) (i)
Encryption Directory Notification emails Scheduler service General	Export of user objects from NETsecDemo.local Hybrid Exchange environment's On-Prem Active Directory	< v
Summary	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.

口	NETsec GALsync - NETsec D	emo - New Policy
Summary		
 Environment Configuration Synchronization mode Data transfer mode 	Summary SError Ok	Ø Not Used
🗖 via email	Policy name	NETsec Demo Export (On-Prem)
	Synchronisation mode	Export (On-Premise)
Encryption	Data transfer mode	email
Directory	🖉 email	Logon to mailbox
Notification emails	🥝 email	Send test mail to recipient
	Encryption	Key present
Scheduler service	Directory	Objects selected
General	Notification	Logon to mailbox
- Summary	Scheduler service	Send test mail to recipient
		< Back Finish Cancel

Select the new policy from either node shown below.

Ċ	NETsec GALsync —	□ ×
FILE ACTION OPTIONS HE		_
GALsync GALsync Construction NETsec Demo Export (On-P Construction Partner Demo Exchange Online Construction Partner Delicies Import Policies ContactSync	Export Policies Environment Create Environment Setting Exchange Environments Policies Policy Name Description NETsec Demo Export (On-Prem) Export of user objects from NETsecDemo local Hybrid Exchange environment	<u>Cancel</u>
💄 NETSECDEMO\svc_galsync 🛛 🖉 x64	🐝 GALsyncService is Running 🛛 🐁 NETsecDemo\svc_galsync	

Click Run

đ	NETsec GALsync	- 🗆 ×
FILE ACTION OPTIONS HELF		
GALsync	NETsec Demo Export (On-Prem)	🙆 <u>C</u> ancel
Export Policies	Invironment	
NETsec Demo Export (On-Prer	🧟 General 🮇 Synchronisation mode 📱 Data transfer mode 🔯 Via email 🦑 Encryption 幅 Directory	Stai ⊄ ▶
Partner Demo Exchange Online	General	
Export Policies	Policy Name	i
Import Policies	NETsec Demo Export (On-Prem)	

Export completed successfully

	NETsec GALsync		>
FILE ACTION OPTIONS HELP			
NETsec Demo Export (On-Prem)			Save Scancel
🔀 Counter ▶ Run 💵 Status 🚳 Close			
Status			
✓ Operation finished			
Policy runtime 0:00:06			
Summary			
Analyzed objects: 202			
Added objects: 59			
Errors: 0			
Details			
Built tasks: 203			
Found children. 136			
	cais Running 🔍 NETsacDa	molevo galevno	
NETSECDEMOISVC_gaisync 🗠 X04 📭 GAEsyncsen	Censmunning workersecber	noisve_gaisync	

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.

¢	NETsec GALsync –	1 ×
FILE ACTION OPTIONS HELF		
GALsync	Company Demo Export	incel
Export Policies	Environments A Create Policy	
Company Demo Export	🍪 Settings 🔯 Exchange 🌐 Environments 🖉 Policie 🚺 Status 🕦 Help	
	Nall 🗸 🖉 Company De 🚽 📡 Hide: 🖉 Completed 🛆 Canceled 😣 Errors 🔞 Rek	oad
🕀 🕘 Partner Demo Exchange Online	Policy Name Start Time Operati Errors Analy Added Modifi Up+to [eleted
Export Policies	Export Policies	
🖾 🎻 Import Policies	Company Demo Export 10 Open log file	
⊡- 📮 contactSync	Export log file	
	Export all log files	

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.

C)					log20	Log20221026130502_577x01422.txt - NETsec LogViewer Details – 🗆 🗙		
는 Open 룪 Save	🛛 🍸 Set Filter 🍸 Clea	ar Filter 🤃	error)		Policy CompanyDemoExport1.xml		
Timestamp	Policy	Тур	Code	Task	Thread	Тур		
20221026_130503_296	CompanyDemoExport1.xml	ProcessData	22005	45	21	Error		
20221026_130503_296	CompanyDemoExport1.xml	ProcessData	23001	45	21	Code		
20221026_130503_312	CompanyDemoExport1.xml	ProcessData	23002	44	11	12078		
20221026_130503_312	CompanyDemoExport1.xml	ProcessData	23002	45	21	lask		
20221026_130503_312	CompanyDemoExport1.xml	ProcessData	24008	44	11	54 There is a second se		
20221026_130503_312	CompanyDemoExport1.xml	ProcessData	24008	45	21	Inread		
20221026_130503_343	CompanyDemoExport1.xml	ProcessData	24011	45	21	Source		
20221026_130503_374	CompanyDemoExport1.xml	ProcessData	24011	44	11	GALsunct library EWSManager GetEvchangeServiceEvchangeOnPremises()		
20221026_130503_374	CompanyDemoExport1.xml	ProcessData	22003	51	11	Messae		
20221026_130503_374	CompanyDemoExport1.xml	ProcessData	22005	52	11	From detting Exchange Web Services for on-premises Exchange: Resolving autodiscover unl failed. You may want to check selected		
20221026_130503_374	CompanyDemoExport1.xml	ProcessData	23001	52	11	mailaddress svc_galeync@CompanyDemo.de. Please check permissions and credentials for in the ews credentials settings, too. (ExMessage:		
20221026_130503_374	CompanyDemoExport1.xml	ProcessData	23002	52	11	The Autodiscover service couldn't be located.)		
20221026_130503_374	CompanyDemoExport1.xml	ProcessData	23040	52	14	Exmessage		
20221026_130503_374	CompanyDemoExport1.xml	Information	20004	54	11	Resolving autodiscover url failed. You may want to check selected mailaddress svc_galsync@CompanyDemo.de. Please check permissions and		
20221026_130503_374	CompanyDemoExport1.xmL	Information	19001	54	11	credentials for in the ews credentials settings, too. (ExMessage: The Autodiscover service couldn't be located.)		
20221026_130503_374	CompanyDemoExport1.xml	Information	19121	54	11	Ine Autoaiscover service coulant be locatea.		
20221026_130503_390	CompanyDemoExport1.xml	Information	19123	54	11	Exsource		
20221026_130503_421	CompanyDemoExport1.xml	Information	12090	54	11	L CACHANGEVIEDSETVICESBASE		
20221026_130503_4/18	CompanyDemoExport1.xml	Error	:2078	54	11	GALsyncLibrary.EWSManager.GetExchangeServiceExchangeOnPremises() Error getting Exchange Web Services for on-premises Exchange		
<						>		
5 results found			1					
20221020_130503_460	CompanyDemoExport1.xml	Error	12078	54 1	G/	LsyncLibrary.EWSManager.GetExchangeServiceExchangeOnPremises() 👘 Error getting Exchange Web Services for on-premises Exchange: Rei 🗠		
20221026_130503_468	CompanyDemoExport I.xml	Error	12111	54 1	I GA	LsyncLibrary.EWSManager.CheckEwsCredentialsForEnvironmentConfiguration() Please check the configuration!		
20221026_130503_468	CompanyDemoExport1.xml	Error	19044	54 1	I GA	LsyncLibrary.DataFileTransfer.sendMailDataFile() Error connecting to Exchange server.		
20221026_130503_468	CompanyDemoExport1.xml	Information	47008	54 1	I GA	LsyncLibrary.SummaryWriter.WriteSummary() GALsync Summary of Company Demo Export		
20221026 120502 A60	le	le	47001	E A 1		· · · · · · · · · · · · · · · · · · ·		
© 2022 NETsec GmbH	& Co. KG - Version 2.4.0.0					블 C:\ProgramData\NETsec GmbH & Co. KG\GALsync\log files\log20221026_130502_577x01422.txt		

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**.

Ċ			NETsec GALsync	- 🗆 ×
FILE ACTION C	OPTIONS HELP			
GALsync		🤣 Com	pany Demo Import Policies	📊 <u>S</u> ave 🛛 🐼 <u>C</u> ancel
Export Policie	s	Environm	ient 🥞 Create Policy	
w Rattor Domo	Create Policy	<u> </u>	ents 🞯 Policies 💵 Status 🔞 Help	
contactSync	ContactSync		Description	
	Status			
	Configuratio	n		
	l	1		

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

1	NETsec GALsync - Company Demo - New Policy	×
Environment Con	figuration	
 Environment Configuration Synchronization mode Data transfer mode Mode Encountion 	Environment Configuration Please choose the Environment Configuration for the new policy Company Demo	
 Encryption Directory Notification emails Scheduler service General Summary 	On-premises Exchange environment	
	Next	t> Cancel

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

Ċ,	NETsec GALsync - Company Demo - New Policy		×
New Import Policy			
Environment Configuration	Synchronization mode		
Data transfer mode	1. What do you want to do?		
	O Export directory information (GAL)	i	
Encryption	Import directory information (GAL)	(i)	
Directory			
Notification emails	2. What kind of environment do you have?		
Scheduler service	An on-premises Exchange organization or a hybrid Exchange organization.	(1)	
General	or to the on-premises part of a hybrid Exchange organization.		
Summary	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 organ	nization.	
	< Back Next >	Cancel	

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

	NETsec GALsync - Company Demo - New Policy		×
New Import Policy	,		
Environment Configuration	Data transfer mode		
Synchronization mode	Please choose a type of transfer.		
📃 Data transfer mode	Omanual		
🗏 via email	Import from a file on a local drive of the server.	()	
Encryption	🖲 via email		
Directory	Receive directory information from email.	(1)	
Notification emails	⊖via network share		
Scheduler service	Receive directory information from a network share.	(I)	
🗏 General	Ovia FTP		
Summary	Download directory information from a FTP server.	١	
	Decrypt directory information.	٢	
		< 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.

¢	NETsec GALsync - Con	npany Demo - New Policy	×
New Import Policy			
 Environment Configuration Synchronization mode Data transfer mode 	via email		
🗖 via email	Filter: Subject	NETsec Demo Export from On-Prem	1
Encryption		Test	
Cohodular agains			
Scheduler service			
Summary			
		< Back Next >	Cancel

Click Open key.

	NETsec GALsync - Company Demo - New Policy	×
New Import Polic	y	
 Environment Configuration Synchronization mode Data transfer mode via email Encryption Directory Notification emails Scheduler service General Summary 	Encryption Choose the security level. Encryption is used to secure the data file which contains all the directory objects to synchronize. Symmetric Keys It Create a key and share this key with your partner. Asymmetric Keys It Inport: Create a public key and send this key to your partner. Export: Store the received file with the public key you received from your partner. System cryptography: Use CHIPS compliant algorithms for encryption, hashing, and signing Open key Open Key: Insert file you received from your partner. Sector Key Generate Key: A file is created which you may send to your partner.	() () ()
	< Back Next >	Cancel

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

C Open		×
\leftrightarrow \rightarrow \checkmark \bigstar GALsync \rightarrow key files	✓ ♂ Search key files	Ą
Organize 🔻 New folder	III ▼ III	?
A Name	Date modified Type	
Desktop	3/22/2022 11:24 AM XML Docum	ent
Downloads *		
😫 Documents 🖈		
E Pictures 🖈 🗸 <		>
File name: GALsyncEncryptionKey	V XML-Files (*.xml) Open Cance	~

Key successfully imported. Click $\mathbf{OK},$ then \mathbf{Next}

Ċ,	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 	Encryption Choose the security level. Encryption is used to secure the data file which contains all the directory objects to synchronize. Symmetric Keys GALsync GALsync Key successful imported. o your partner. ay you received from your partner. you received from your partner. hashing, and signing Open key Generate Key: A file is created which you may send to your partner.	(î) (î) (î)
	< Back Next >	Cancel
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-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).

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 $\ensuremath{\textbf{Next}}.$

¢	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 	Directory Choose Choose Properties Image: Choose Image: Choose <th>)</th>)
	< Back Next > Cano	el

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 - C	ompany Demo - New Policy		×
New Import Policy				
 Environment Configuration Synchronization mode Data transfer mode via email Encryption Directory Notification emails Scheduler service General Summary 	Status notification	n emails (1) GALsync Summary - NETsec I administrator@companydemo. Test (1)	Demo Import 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.

]	NETsec GALsync - Company Demo - New Policy	×
New Import Policy	,	
Environment Configuration	Scheduler service	
Synchronization mode	No schedule service Weekly Monthly	
🗏 Data transfer mode		
🗏 via email		
Encryption		
E Directory		
Notification emails		
Scheduler service		
🗏 General		
Summary		
	< Back Next >	Cancel

Add a policy name and optional description, then click $\ensuremath{\textbf{Next}}.$

1	NETsec GALsync - Company Demo - New Policy	×
New Import Policy		
 Environment Configuration Synchronization mode 	General Policy Name	1
 Data transfer mode via email 	NETsec Demo Import Description	i
 Encryption Directory 	Import of users from the netsecdemo.com hybrid environment into the companydemo.de on-premises exchange GAL as contacts	^
 Notification emails Scheduler service 		~
General		
Summary	Environment Configuration Company 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.

7	NETsec GALsync - Company	Demo - New Policy
Summary		
 Environment Configuration Synchronization mode Data transfer mode 	Summary SError Ok	⊘ Not Used
🗖 via omail	Policy name	NETsec Demo Import
U via emain	Synchronisation mode	Import (On-Premise)
Encryption	Data transfer mode	email
Directory	🥝 email	Logon to mailbox
Notification empile	Encryption	Key present
Nourication emais	Oirectory	Import OU selected
Scheduler service	Votification	Logon to mailbox
General	Notification	Send test mail to recipient
	Scheduler service	
Summary		
		< Back Finish Cancel

Select the policy from either node shown below.

Ċ.	NETsec GALsy	nc	- 🗆 ×
FILE ACTION OPTIONS HELF	NETsec GALsy Metric Galaxy Metric Create Environ Settly Signature Settly Signature Policy Name Company Demo Import Policies - NETsec Demo Import	Inment Create Policy Ironments Create Policies I Status Policies Status Help Description Import of users from the netsecdemo.com Hybrid enviro	- C X
SCOMPANYDEMO\svc_galsync 🛛 🖉 x64	GALsyncService is Running	🗞 CompanyDemo\svc_galsync	

GALsync 8.5 Quick Start Guide

Click Run.

Ċ	NETsec GALsync	– 🗆 ×
FILE ACTION OPTIONS HEL	P	
GALsync	NETsec Demo Import	Orancel
Export Policies	Invironment I and Clone I	
🖻 💣 Import Policies	🕼 General 👹 Synchronisation mode 🖉 Data transfer mode 📓 Via email 🥜 Encryption 👫 Directory	r 🎯 Stai 🔍 🕨
Partner Demo	General	
⊞- 👜 contactSync	Policy Name	(i)
	NETsec Demo Import	

59 objects were added.

Ċ.	NETsec GALsy	nc – 🗆 🗙
FILE ACTION OPTIONS HEL	P	
NETsec Demo Import		📊 Save 🛛 🛞 Cancel
▶ Run 间 Status 🔞 Close		
Status		
✓ Operation finished		
Policy runtime 0:00:10		
Summary		
Analyzed objects: 59		
Added objects: 59		
Modified objects: 0		
Deleted objects: 0		
Errors: 0		
Details		
Policy runs: 1		
Built tasks: 60		
Read objects: 59		
Found existing objects: 0		
Load details for existing objects: 0		
Outside import OU: 0		
Up-to-date objects: 0		
Searching for objects: 0		
SCOMPANYDEMO\svc_galsync 🛛 🖉 x64	🏶 GALsyncService is Running	CompanyDemo\svc_galsync

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.

Ċ	NETsec GALsync	– 🗆 ×			
FILE ACTION OPTIONS HELF					
GALsync	NETsec Demo Import	🙆 <u>C</u> ancel			
Company Demo Company Demo Prices	Environments Create Policy				
NETsec Demo Import	Image: Security Security Security Status (Completed Accanceled Security Status (Completed Accanceled Security Se	🚳 Reload			
- ContactSync	Policy Name Start Time Operati Errors Analy Added Modifi Up-	to Deleted			
	NETsec Demo Import 10/27/2000 10.00 Open log file Export log file Export all log files	0			

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.

Ľ,					log	log202210)27110826_2	18x08432.txt - NETsec LogViewer Details	- 🗆	×	×
는 Open 🖶 Save	e 🛛 🍸 Set Filter 🍞 C	Clear Filter	error			Timestamp				^	
Timestamp 20221027_110826_875	Policy NETsecDemoImport.xml	Typ System	Code 1/106	Task 818	Thread 35	Policy NETsecDemoImport.xml					<u>r</u> ^
20221027_110826_875 20221027_110826_875	NETsecDemoImport.xml NETsecDemoImport.xml	System System	11017	818 818	35	Typ Error					ti iti
20221027_110826_875 20221027_110826_875 20221027_110826_890	NETsecDemoImport.xml NETsecDemoImport.xml	System System System	11025	818	35	19213 Task					E
20221027_110826_890 20221027_110826_890	NETsecDemoImport.xml NETsecDemoImport.xml	Information Information	11088 11090	818 818	35	818 Thread					E
20221027_110827_000 20221027_110827_015	NETsecDemoImport.xml NETsecDemoImport.xml	System System	11029 11035	818 818	35 35	35 Source GAI syncl ibrary DataFileTransfer DecryptDa	ta()				E
20221027_110827_015 20221027_110827_015	NETsecDemoImport.xml NETsecDemoImport.xml	System System	11036 16018	818 818	35	Message Cannot decrypt symmetric data.					er ic
20221027_110827_015 20221027_110827_015 20221027_110827_015	NETsecDemoImport.xml NETsecDemoImport.xml	Information	16030	818 818	35	Exmessage Padding is invalid and cannot be removed.					55
20221027_110877_015 20221027_110827_031	NETsecDemoImport.xml NETsecDemoImport.xml	Information Information	19066 19133	818 818	35 35	System.Core					F
20221027_10827_031 20221027_110827_046	NETsecDemolmport.xml NETsecDemolmport.xml	Information Error	19134 19213	818 818	35 35	GALsyncLibrary.DataFileTransfer.DecryptDa	ata()	Cannot decrypt symmetric data.		~	
<)							>
20221027_110827_046	NETsecDemoImport.xml	Error	19213	818 3 818 3	15 (GALsyncLibrary.DataFileTransfer.DecryptData()	Cannot decryp	t symmetric data.	Padding is invalid a	nd cann	iot be
20221027_110827_765 20221027_110827_859	NETsecDemoImport.xml NETsecDemoImport.xml	Information Summary	47008 47001	818 3 818 3	15 (SALsyncLibrary.SummaryWriter.WriteSummary SALsyncLibrary.Logger.Close()	() GALsync Summ operation:Cano	 nary of NETsec Demo Import :eled analysed:0 add:0 modify:0 uptodate:0 delete:0 errors:2	1		
<		0	· !						20221027 110826 21	10.00 42	>

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.



🏟 Settings 🔯 Exchange 🌐 Environments 🖾 Policies 🚺 Status 🙆 Help S All 4 \mathbf{N} Hide: 📀 Completed 🛆 Canceled 😣 Errors 🙆 Reload + | ÷ Start Time Errors Policy Name Operati... Analy... Added Modifi... Up-to-... Deleted **Export Policies** 📀 Export Compa 14 Open log file Export log file Export all log files

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

Please send an email to <u>support@netsec.de</u> 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