

Migration Toolkit 4.0

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Migration Toolkit

From GroupWise to Exchange and Office 365 From eDirectory to Active Directory

Version 4.0

Overview

The Migration Toolkit automates the process of mail system migrations, removing the difficulties and tedium in creating users and moving mail and system data from GroupWise to Exchange.

The Migration Toolkit not only migrates users from GroupWise to Exchange, but does so in steps, allowing for a smooth setup of the Active Directory system. The steps available are Active Directory user, to mail user, to active mailbox, and also a merge for eDirectory users with Active Directory. This graduated approach provides options for either a measured setup or rapid deployment.

The Migration Toolkit functions from exported CSV files which the toolkit creates. Creation of the CSV file is the sole reason the Toolkit connects to the GroupWise system. Logging into eDirectory, the toolkit grabs all user objects and exports them to the CSV file. After the CSV file has been created, the toolkit only needs to have an active connection to Active Directory to migrate users into Exchange.

We have found that each migration is unique in some significant way. The Migration Toolkit is very flexible and allows significant customizing of the migration process.

Think of the Migration Toolkit as allowing you to setup a jig of how you want the data to be moved from one system to another. Once you have it setup for one user the rest will follow the same pattern.

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Sales and Technical Support

Technical Support

If you have a technical support question, please consult the GWAVA Technical Support section of our website at www.gwava.com or support.gwava.com.

Sales

To contact a GWAVA sales team member, please e-mail info@gwava.com

or call Tel: 866-GO-GWAVA (866-464-9282) in North America or +1 514 639 4850.

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Limitations of the Trial License

The trial license has these limitations:
migrating 10 message per folder
migrating 10 contacts per address book
migrating 1 proxy rights
migrating 5 users and/or resources
migrating 5 distribution lists

You will also not be allowed to create forwarding rules for your GroupWise users.

Without any license you will not be able to load users at all.

System Requirements

Supported Mail Systems

GroupWise 7.0.3+, 8.x, 2012, 2014, 2014R2

Exchange 2013, 2016

Office 365

Note: Support for Office 365 requires an impersonation account, or an administrator account with built-in impersonation rights. Most licenses of Office 365 include impersonation with the administrator account, though some may not. Ensure that impersonation rights are held by the admin, or an impersonation account can be created. The migration will not function without impersonation.

System Requirements

See the Installation chapter for details

• Hardware

- Windows 7 SP1, or Windows 10 64-bit
- 8+ GB of RAM
- 50+ GB of available disk space

• Software Prerequisites

- MTK must be installed to the C: drive
- GroupWise client (Client version must match server version)
- .CSV editor. OpenOffice or LibreOffice work great, Excel needs to be coerced into saving .CSV files properly.
- Java 8 (64-bit required for 64-bit migration, 32-bit for the 32-bit version of the tool)
- Java Runtime Environment 1.8+
- Microsoft .NET 4.6.1 or higher
- Windows Management Framework 3.0 or higher

• If Creating Users in On-Premise Active Directory

- Remote Server Administration Tool (RSAT)
 - o Specific Windows features enabled after installing RSAT
 - Active Directory Module for Windows PowerShell
 - Active Directory Administrative Center
 - AD DS Snap-Ins and Command-line Tools

• If Creating Users and Licensing in Office 365

- Microsoft Online Services Sign-In Assistant for IT Professionals
- Windows Azure AD Module for Windows PowerShell

Migration Workstation Recommendations

We have found that in migrating to O365, setting up two (2) workstations for the migration each doing four (4) users at a time will be near but under the O365 throttling limit.

System Preparation Overview

Both the GroupWise and Exchange systems will need some preparation before the migration will be successful. This is described in detail on the System Preparation page.

GroupWise System Preparation Overview

For the migration to run smoothly, the GroupWise system must be clean and in good condition with all links and data correct. To ensure that the system is ready for migration, it is essential to run GWCheck before beginning the migration. While running the GWCheck, it is important that the following options are checked as shown below:

Items not checked as shown are not required and not important for the migration. Running GWCheck before the migration will help ensure that no GroupWise errors are encountered during the migration.

You'll need to create a Trusted Application Key, enable SOAP and configure LDAP on the directory.

Exchange System Preparation Overview

A global administrator and a user with Application Impersonation rights will need to be available for the data to be migrated successfully.

Autodiscover and Basic Authentication will need to be enabled.

A throttling policy will need to be set to allow faster data flow and to not limit the size of attachments.

An SMTP relay will be needed for migrating calendar items and tasks.

System Preparation

Configure Directory and Email Systems

We will be connecting two dissimilar systems and to do that we need to connect where things are coming from to the places they will go.

If the directory and email systems are not properly configured the migration will not succeed. There are many steps and several pieces information that need to be recorded from the directory and email systems for entry into the Migration Toolkit.

Create a document to organize this data.

Configure eDirectory/LDAP and GroupWise

These items will be essential in the configuration of the MTK. Have these ready before launching the software

1. If using eDirectory, Make sure the LDAP server on GroupWise is configured, and can be accessed.

Note down the following information to be used with the MTK:

- LDAP IP Address
- LDAP Port (default is 398)
- User Name and Password to access LDAP (i.e. admin). Must be an FDN (look at properties of the admin user in LDAP, or LDAP Browser). For example:
cn=John Doe, ou=users,o=domain
- Base DN of the server that will search for users. This will be the container level, or higher, where all of the users will exist. (Right click the container and click on properties). For example: dc=users, dc=com.
- Tree Name: Note the name of your tree at the top level. This will be needed for licensing. (If you do not have a tree name just make one up for the license.)

2. Be sure SOAP is enabled on GroupWise Post Office Agent.

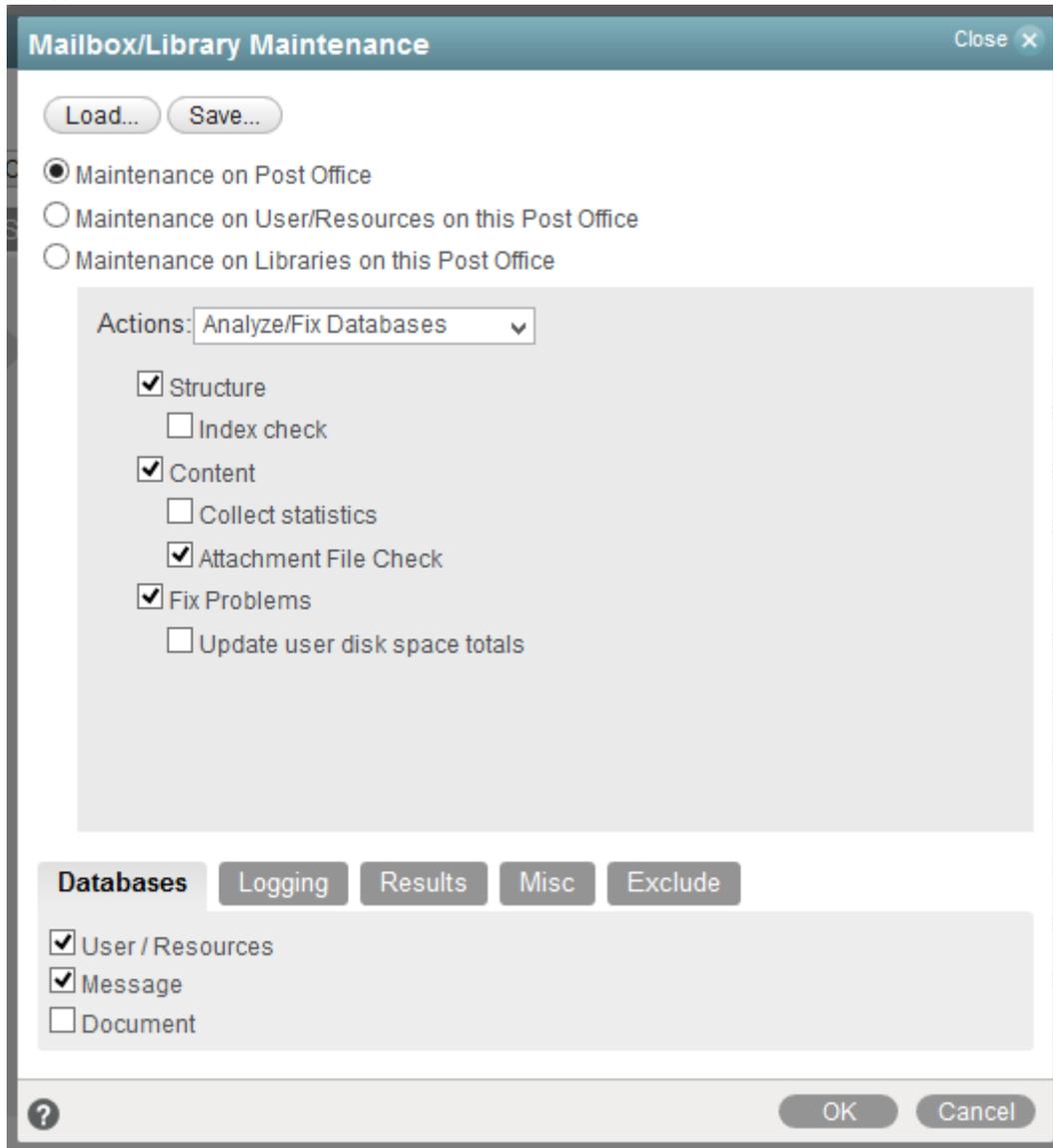
Write down the following for GroupWise:

- SOAP IP address of primary post office.
- SOAP port for primary post office (default is 7191)
- Client Port for Primary post office (default is 1677)

3. Create a Trusted Application Key to use for the MTK. Copy the name of the key and the key to a file that can easily be accessed. This will be required for the license and the program. This is case sensitive.

- Key Name
- Key

4. Run GWCheck on all post offices in the system. Be sure to run the stand alone utility, not the automated GWCheck. Run it with Content/Analyze/Fix to clean any issues with mailboxes, or email messages. In larger systems, this may take significant time. This is a very important step as corrupt data will not be able to be migrated. Even with this step there is no guarantee that all data will be able to be migrated, but the cleaner the data the better.



GWCheck complete

Configure Exchange/O365 and Active Directory

1. Create a Global Administrator Account in Exchange or Office 365. (This is used to gain access to Exchange/Office 365)

- Administrator Account Name
- Password

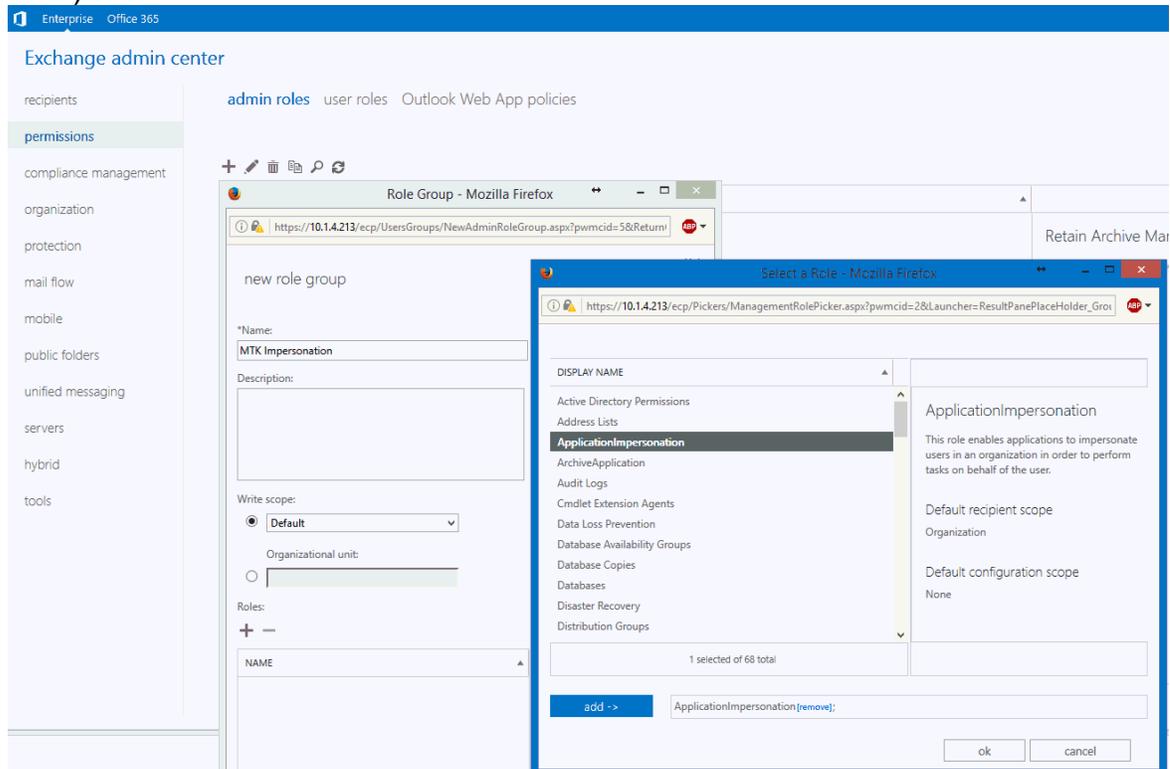
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2. Create an Impersonation Account E-mail in Exchange or Office 365. (This is used to log into the mailboxes and access their messages.)

- Impersonation Account Name
- Password

3. Create ApplicationImpersonation Role and add the Impersonation user to it.

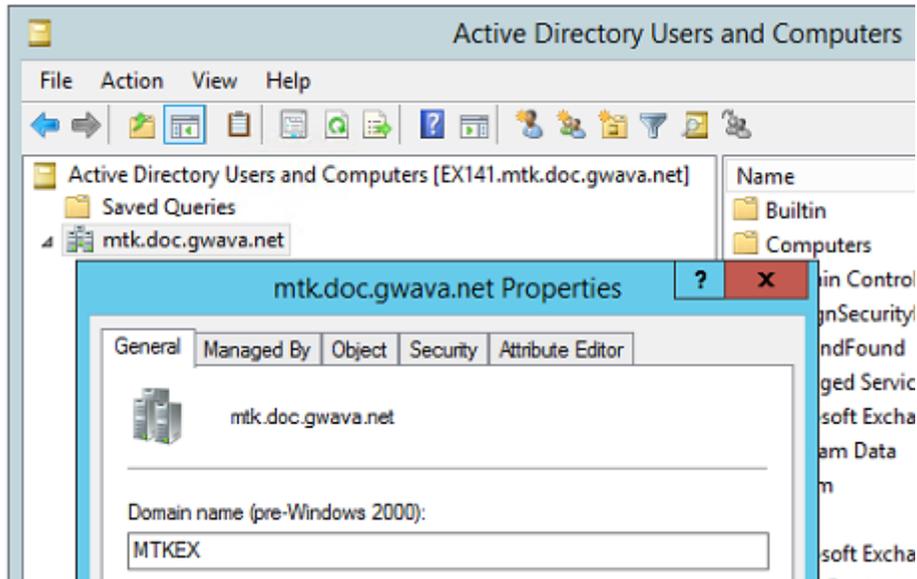
- ApplicationImpersonation rights enabled (EAC: Permissions/Admin Roles/New Role)



- Impersonation Account added as Member

4. Make sure you can access, as an administrator, the Active Directory. Note down the following information:

- IP Address of Active Directory
- Active Directory Domain name used for logon. (This is found under AD Users and Computers, right-click on the domain to view Properties, under General: **Domain name (pre-Windows 2000)**).



- Administrator user name
- Administrator password
- Default Context
- Mailbox DB (This is found by enabling Advanced Features (View | Advanced Features) finding the administrator account, and going to properties. Then click on Edit Attributes. Look for the FDN and it will show the Mailbox DB in the same line.)

5. Make sure you can access the Exchange/Office 365 Administration Center. Note down the following information:

- IP Address of Exchange or Office 365 and the Host-name
- Domain Name

6. Set throttling policy to unlimited. This ensures that Microsoft Exchange will not halt the migration process because too many items are coming into the system.

- Open Microsoft Exchange Management Shell.

Type these commands to create a policy called *GWAVAUnlimited*:

```
New-ThrottlingPolicy GWAVAUnlimited
Set-ThrottlingPolicy GWAVAUnlimited -RCAMaxConcurrency
Unlimited -EWSMaxConcurrency Unlimited -EWSMaxSubscriptions
Unlimited -CPAMaxConcurrency Unlimited -EwsCutoffBalance
Unlimited -EWSMaxBurst Unlimited -EwsRechargeRate Unlimited
Set-Mailbox [Retain impersonation account] -ThrottlingPolicy
GWAVAUnlimited
Set-ThrottlingPolicy GWAVAUnlimited -ThrottlingPolicyScope
Organization
```

(Organization level will affect all mailboxes associated with the impersonation account).

View the throttling policy by typing:

```
Get-ThrottlingPolicy -Identity GWAVAUnlimited | Format-List
```

7. Set Throttling Policy on IIS/Exchange Size Limits: By default, Exchange will refuse the messages over a certain size. The size limit needs to be increased.

- Go into IIS Manager, select Default Web Site. Under Management, select Configuration Editor.
- Under system.WebServer, expand that, then security, then authentication. Select requestFiltering
- Under requestLimits change maxAllowedContentLength to a large number. Add a few 0s, this will be in bytes.
- Change Timeout: In IIS Manager, select Default Web Site then click on Limits on the right side.
- Change the Connection time-out to a larger number. Add a few more 0s.

8. Create an SMTP Relay: This is used for calendar items and tasks. Without it, calendar items and tasks may not be migrated, nor processed. This can be done on any server that the MTK can access.

- Launch Server Manager. Click Add Roles and Features
- Click Next until you get to Features, and select SMTP Server. Install the service.
- Configure the SMTP Service
 - Launch IIS Manager 6.0
 - Expand and go to Properties of the SMTP Virtual Server
 - Enable logging
 - In Access Tab, click on Connection then Add. Add in the MTK IP address.
 - Click Relay and add the MTK IP Address
 - In Messages Tab, uncheck all of the boxes.
 - In Delivery Tab, click Advanced. Enter in the FDN of the Exchange server.
 - Enter in smarthost, and click the box, "Attempt direct delivery before sending to smart host."
- Disable Firewall or add a rule to allow the SMTP connection.
 - Launch Windows Firewall
 - Right click on Inbound rule and select New Rule
 - Select Port
 - Type in 25 – Allow the Connection – Uncheck Public – Name the rule
 - Restart SMTP service.

9. Enable Basic Authentication on all CAS servers, using one of the following methods

- In Exchange Admin Center:
 - Servers | Virtual Directories | EWS**
 - Servers | Virtual Directories | Autodiscover**
- In IIS Manager:
 - IIS Manager | Server | Sites | Default Web Site | EWS | Authentication**
 - IIS Manager | Server | Sites | Default Web Site | Autodiscover | Authentication**
- Using PowerShell:
 - EWS:

```
Get-WebServicesVirtualDirectory | ft  
server,basicauthentication
```

```
Set-WebServicesVirtualDirectory -Identity "EWS (Default
Web Site)" -BasicAuthentication $true
```

Autodiscover:

```
Get-AutoDiscoverVirtualDirectory | ft
server,basicauthentication
```

```
Set-AutoDiscoverVirtualDirectory -Identity 'autodiscover
(Default Web Site)' -BasicAuthentication $true
```

- Basic Authentication enabled

10. Enable Autodiscover (need to contact Microsoft for Office 365). Also be sure that firewalls or proxies are not going to block autodiscover. If a user has multiple domains for their emails but only one for their Active Directory they will need to update their DNS SRV file to support autodiscover.

- Autodiscover enabled

11. Check Autodiscover by running the connectivity tester providing by Microsoft:

<http://support.gwava.com/kb/?View=entry&EntryID=2378> or

<https://testconnectivity.microsoft.com/>

- Autodiscover active

12. Default EWS URL

Exchange:

- Using PowerShell:

Open the Exchange Management Shell (EMS)

Run the command:

```
Get-WebServicesVirtualDirectory | Select name, *url*
| fl
```

- Using Outlook:

Have Outlook in the system tray

Press Ctrl and right-click on Outlook

Select "Test E-mail Auto Configuration" from the menu

Enter an email address on the Exchange server

Click Test

EWS URL is the "Availability Service URL"

O365:

Browse to the Microsoft test connectivity tool

(<https://testconnectivity.microsoft.com>)

Under the Office365 tab select Outlook Connectivity test

Once the test is complete Expand all and search for "EwsUrl" which should result in something like "https://outlook.office365.com/EWS/Exchange.asmx"

Tips

When running the Email Migration, if the Toolkit states you don't have JAVA the toolkit will download it. However, the toolkit will only download the 32-bit version instead of the

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64-bit version. Be sure to go and download the 64-bit version manually, if you are on a 64-bit OS.

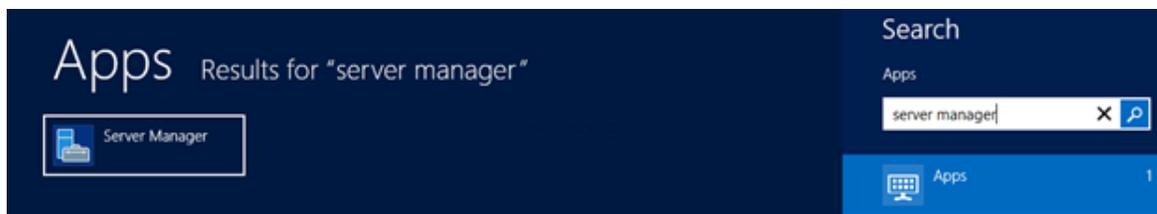
If you try to launch Email Migration and it does nothing, it means that you don't have JAVA 64-bit installed. Download the JAVA 64-bit version manually.

If a user is not attached to an eDirectory object, the Toolkit will not migrate the user.

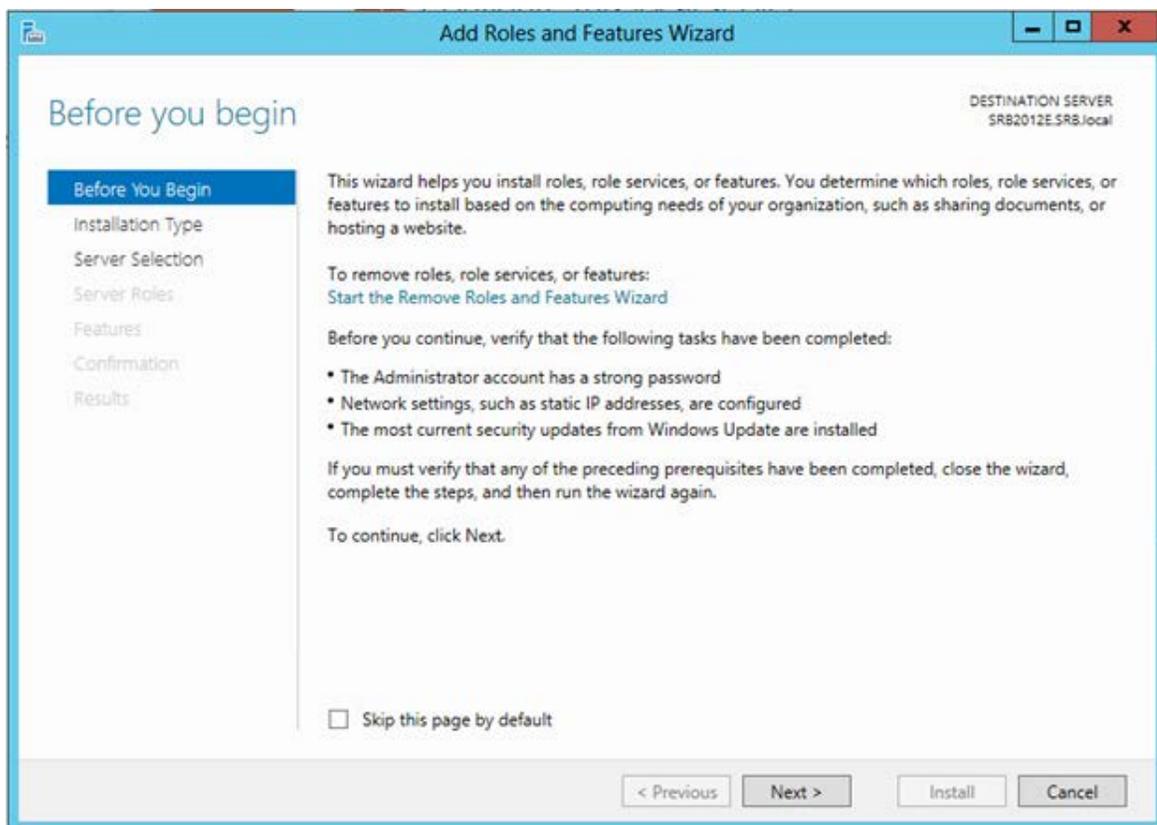
SMTP Configuration

Install the SMTP Service for an SMTP relay:

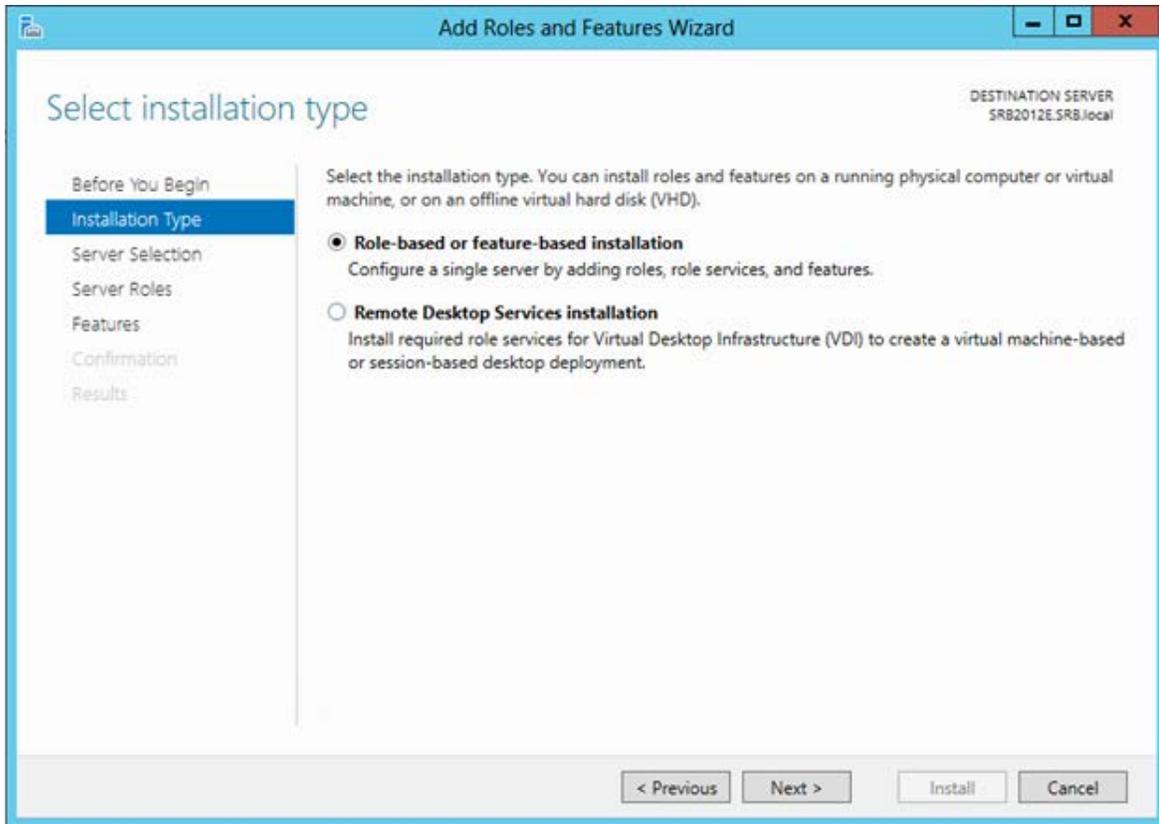
Launch the Server Manager. From the Search charm, type in Server Manager to find it.



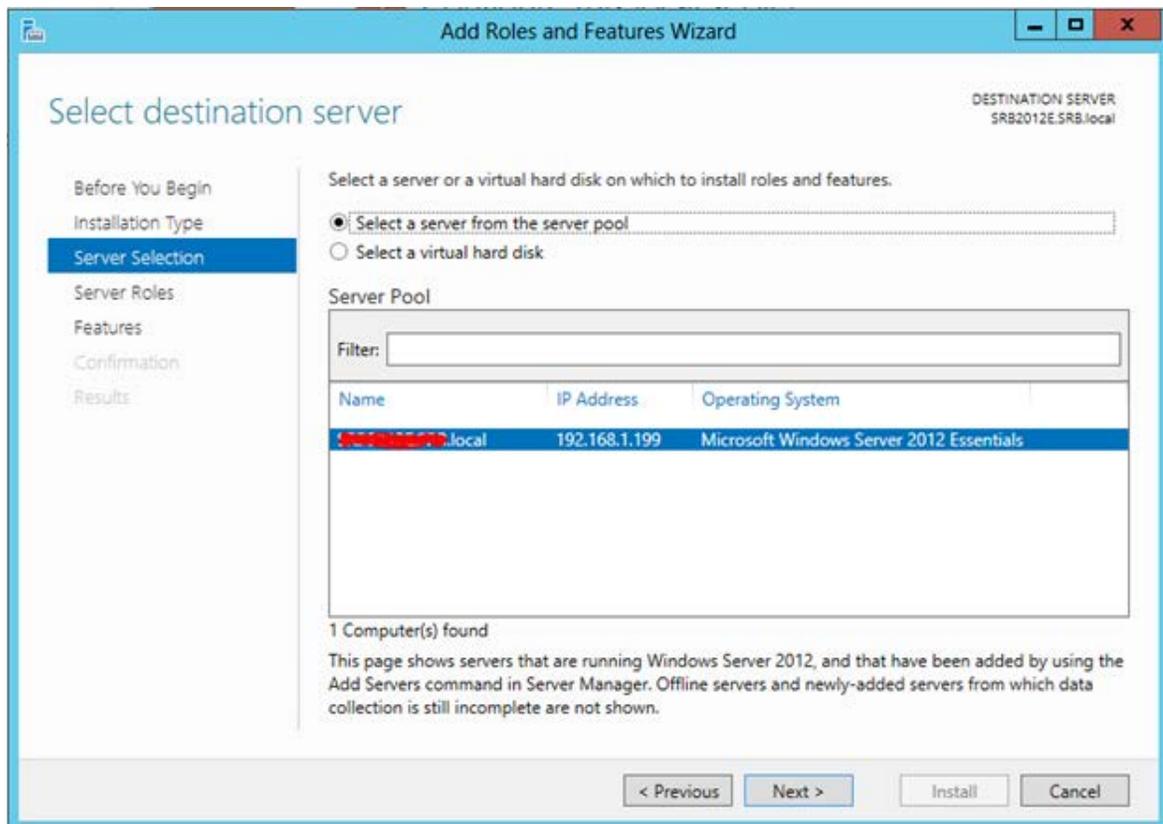
From the Dashboard, Add Roles and Features. The Add Roles and Features Wizard will begin. Click Next on the first screen.



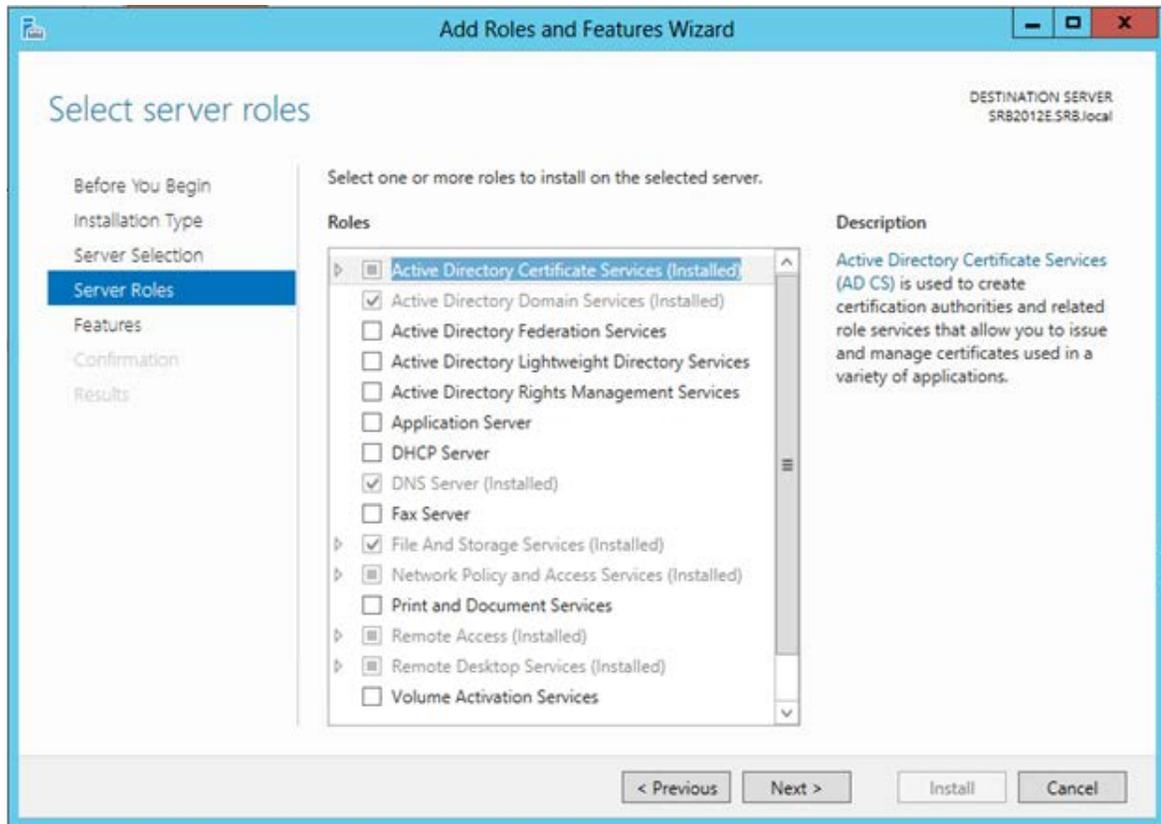
Select Role-based or feature-based installation.



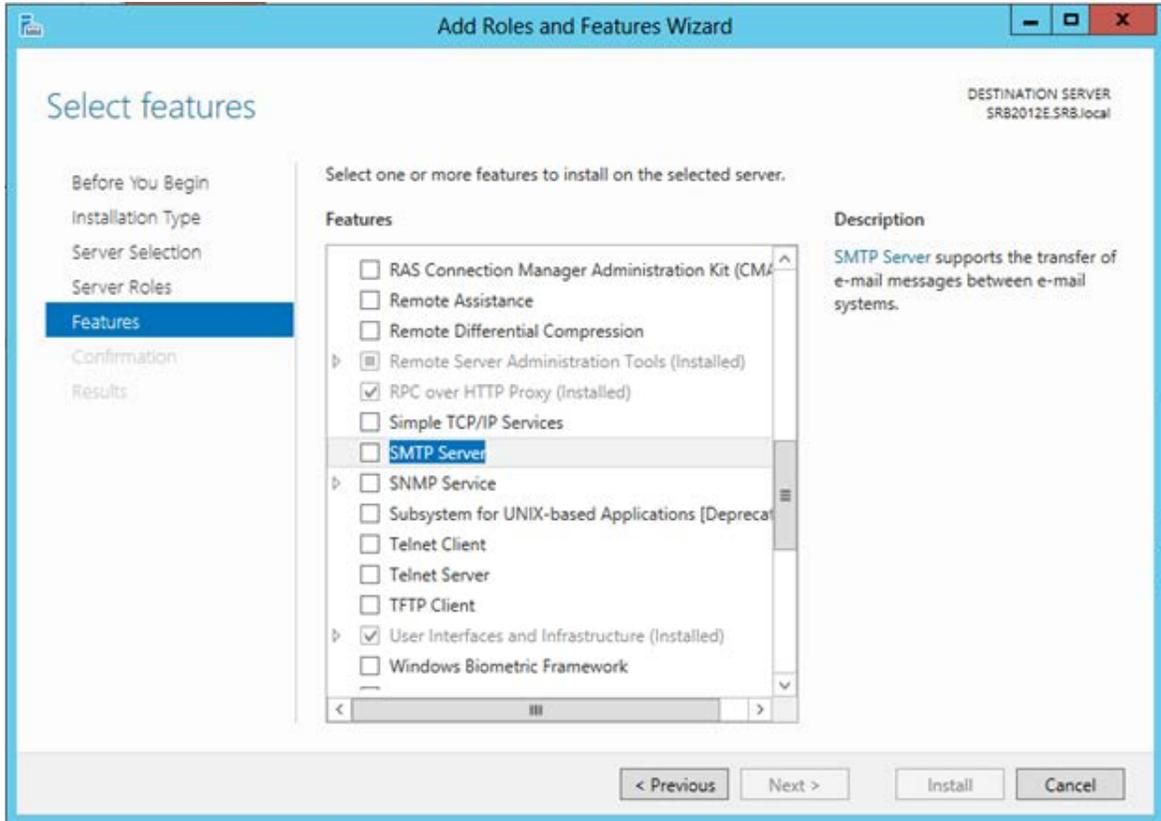
Select the Essentials Server (which should be highlighted by default).



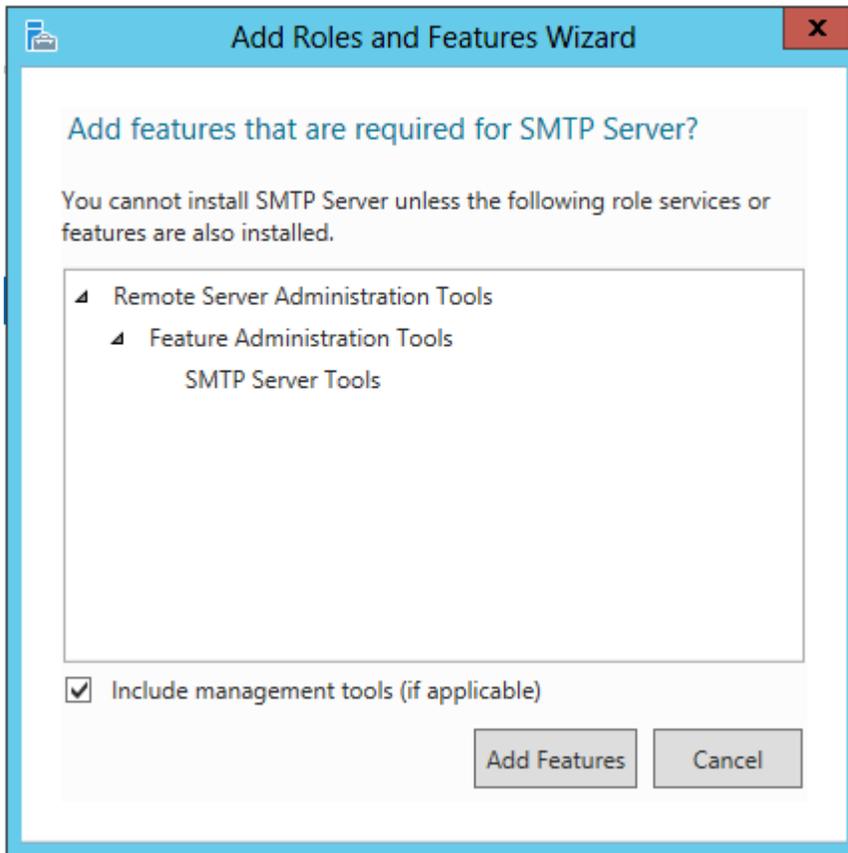
Click Next to bypass the Roles selections.



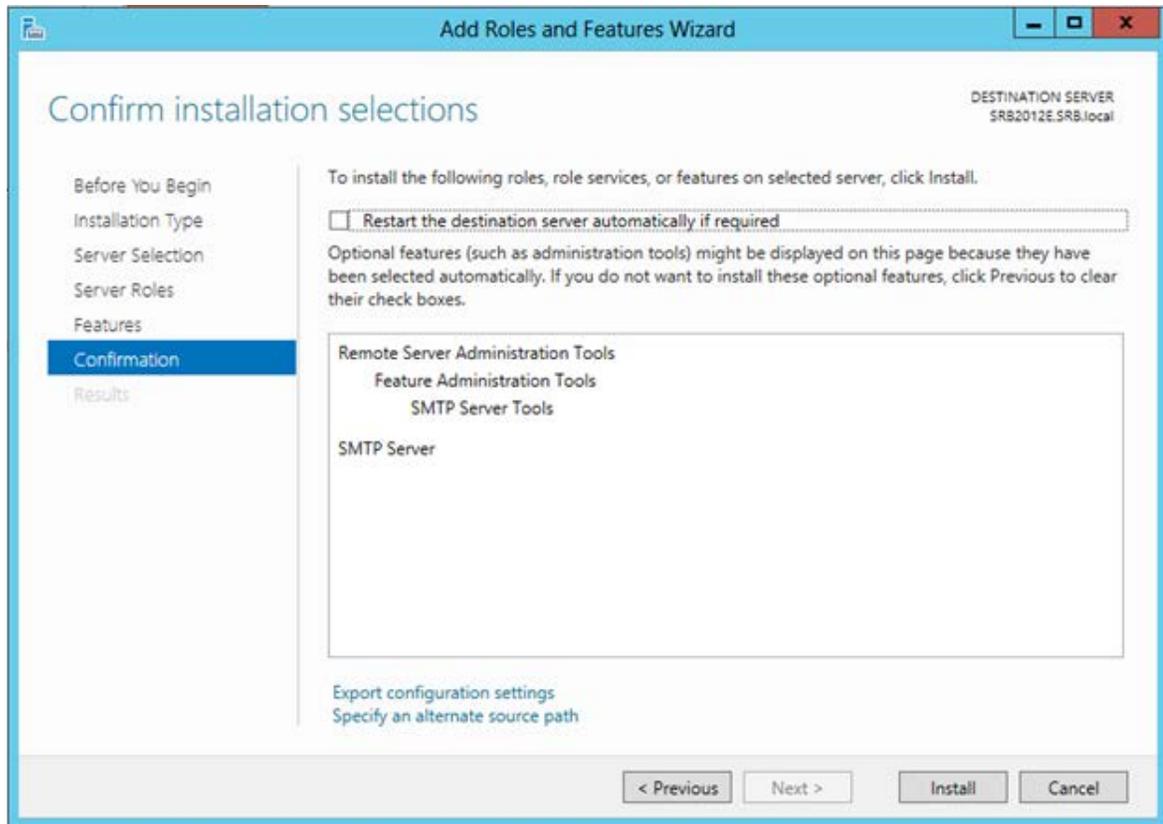
Scroll down the list and tick the SMTP Server feature.



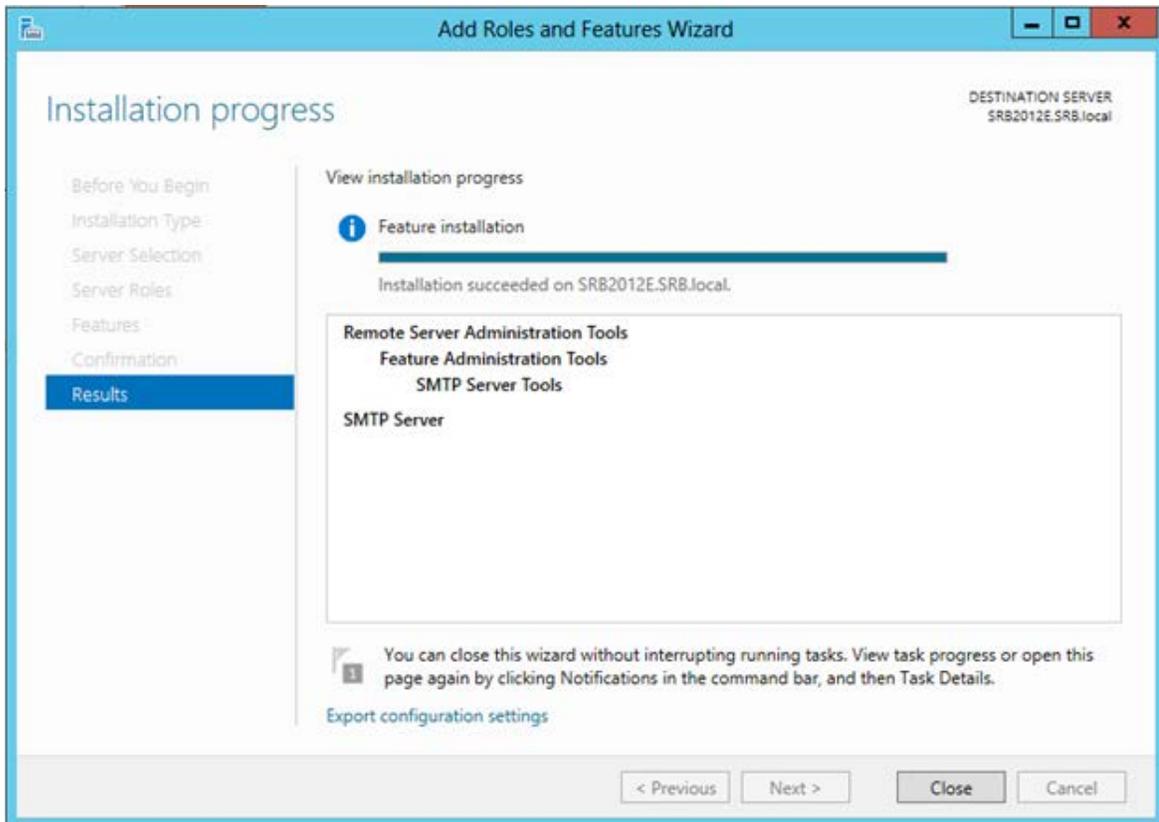
A new window will pop up to inform you that some other services will also be installed. Click Add Features to confirm and continue. Click Next to continue past the features selection screen.



Click Install to complete the Installation.



Click Close when the installation has completed.

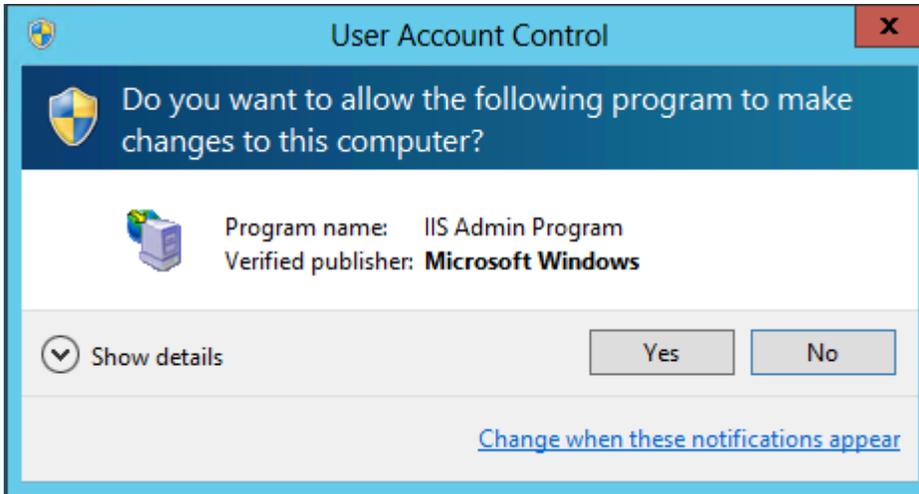


Configure the SMTP Service

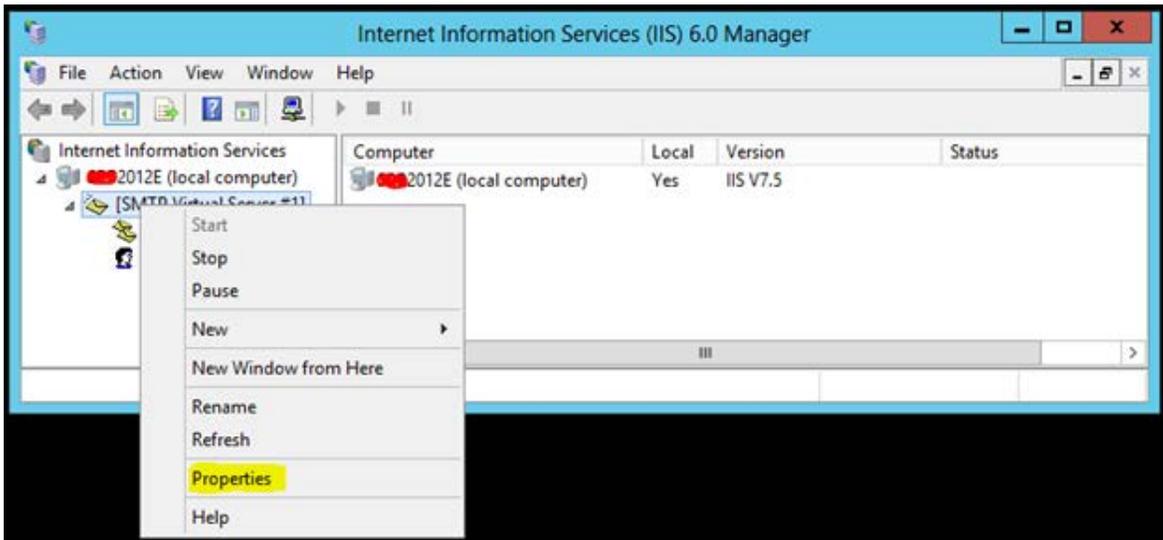
From the Search charm, type IIS. Hover your mouse over one of the selections, and run the Internet Information Services (IIS) 6.0 Manager.



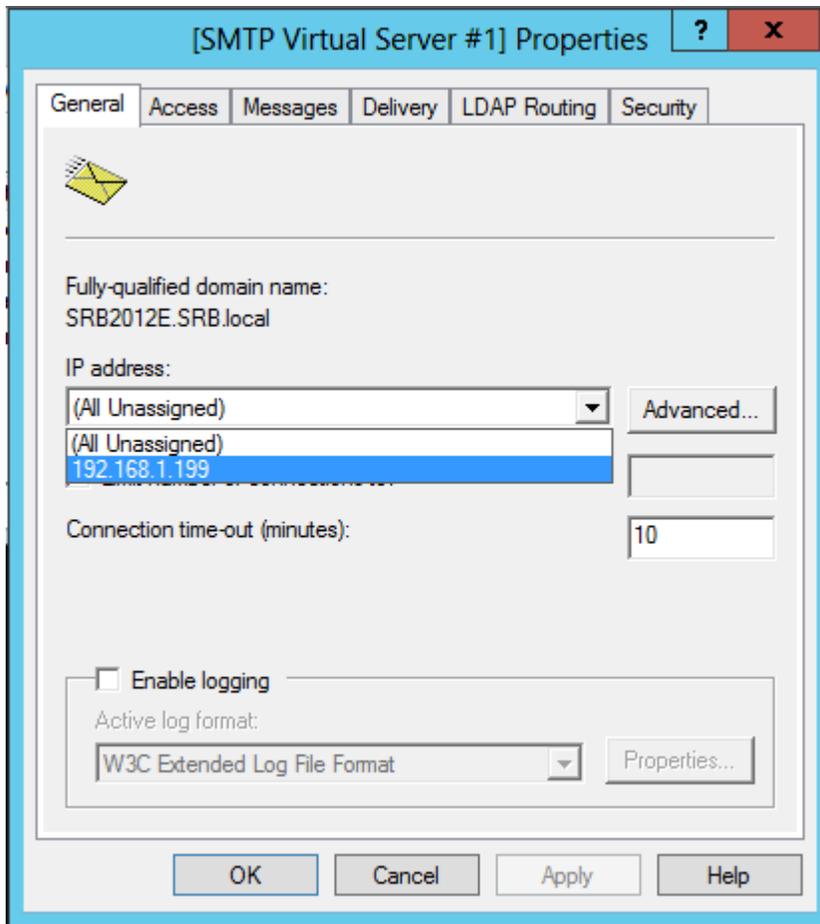
Click Yes to the UAC Prompt.



Expand to SMTP Virtual Server #1, right click and select Properties.



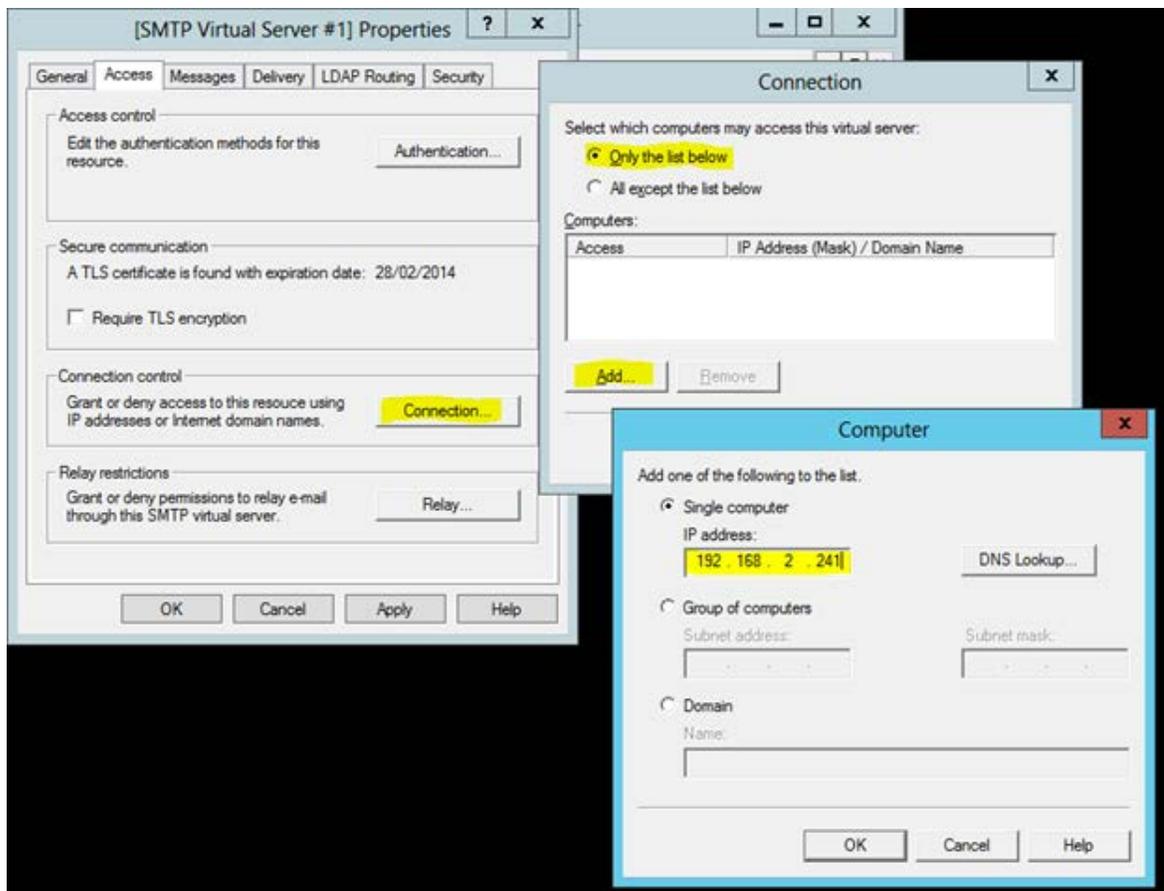
General Tab: Set the IP Address to the server's IP address.



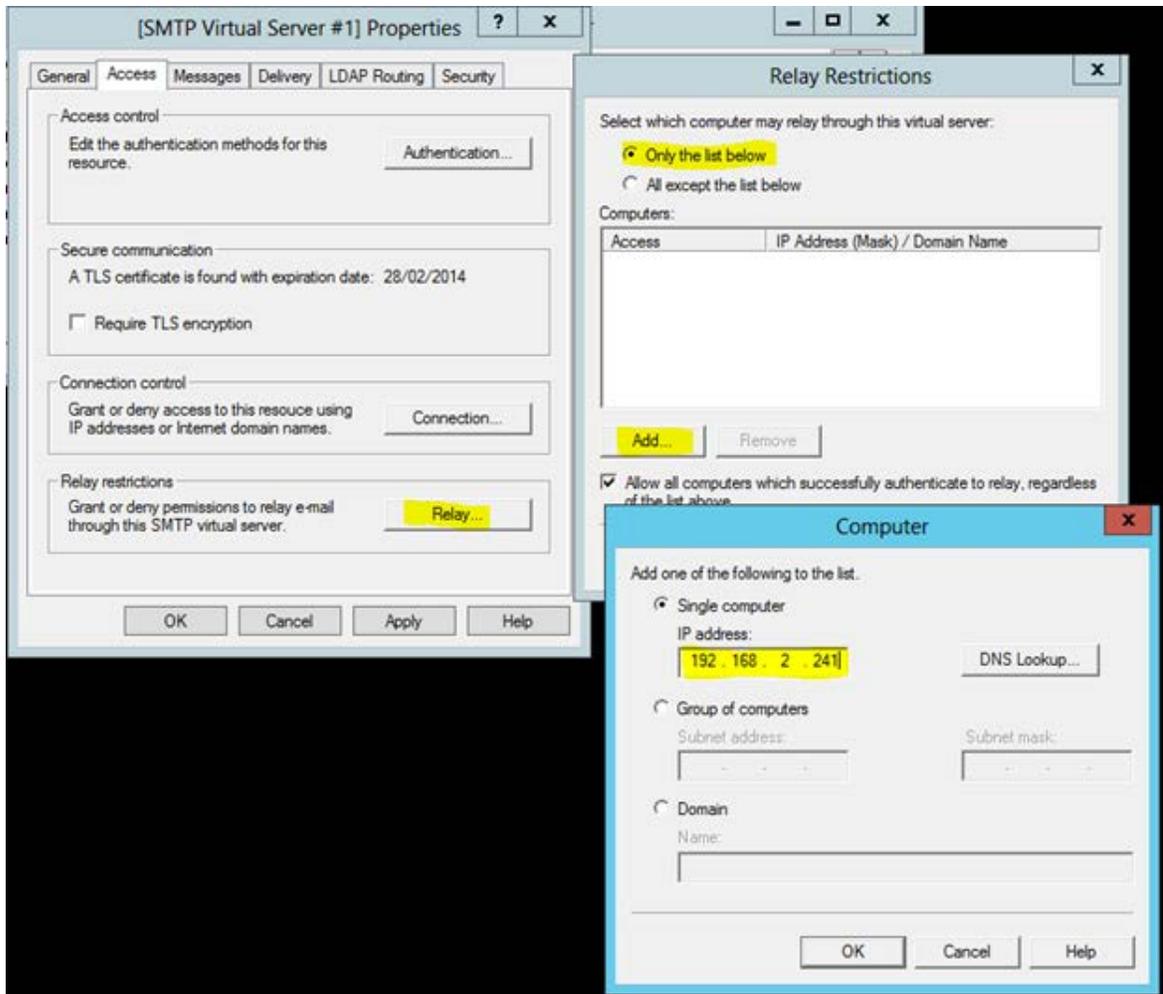
Note: You can also enable logging is required.

Access Tab: Set the IP for the internal devices in the connection button.

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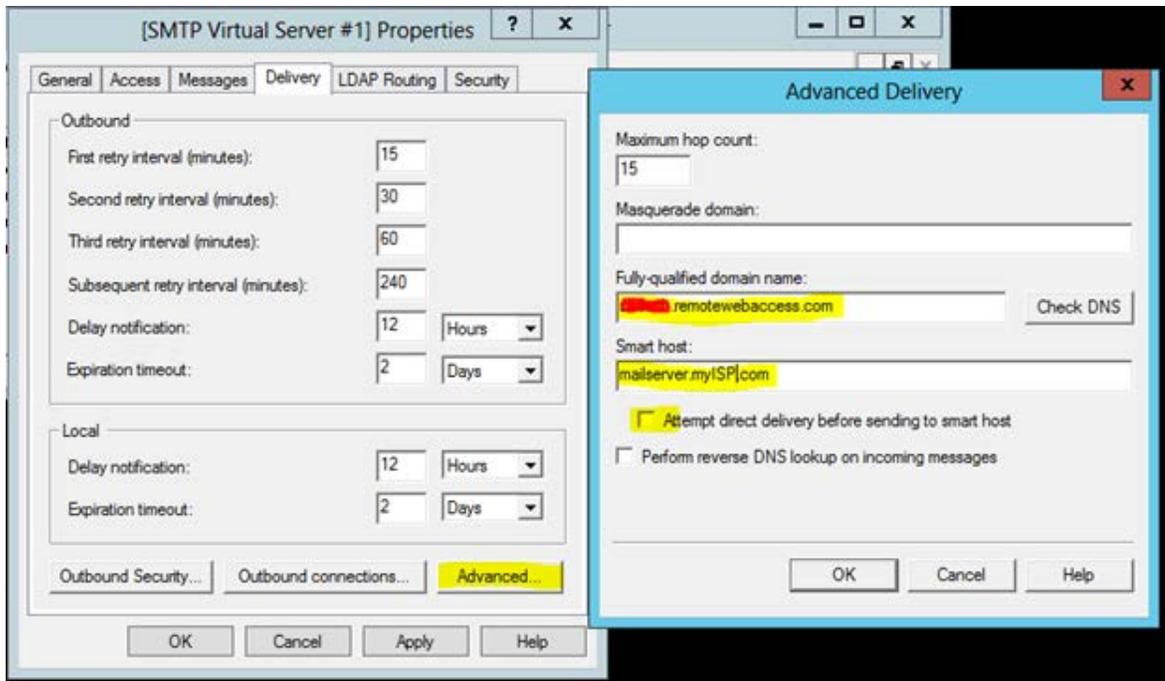


Add the same IP to the Relay list.



Delivery Tab: Set an external domain – you can use the free customised domain from Microsoft, and you can also optionally add a Smart host, if required. Tick the Attempt direct delivery box, if you want the server to attempt to deliver the email directly first before trying the Smart host.

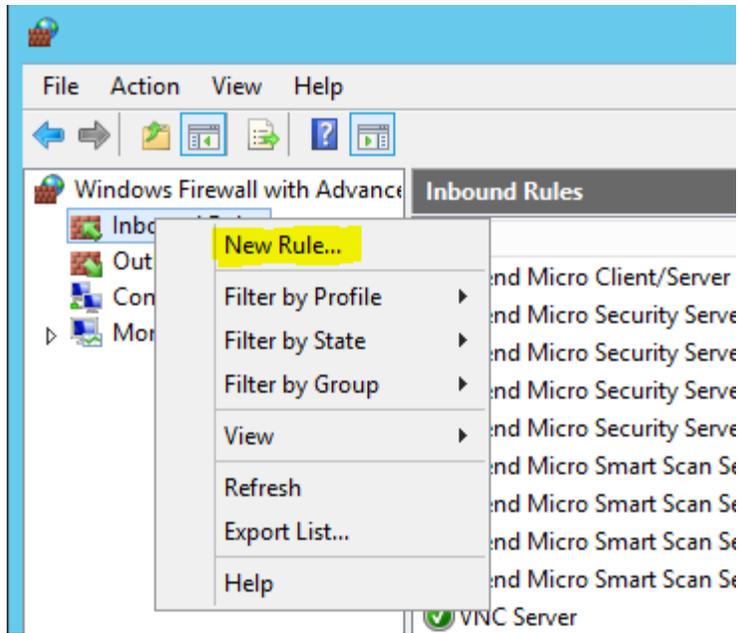
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From the Search charm, type Firewall to locate and run the Windows Firewall with Advanced Security console.



Add a new Inbound Rule. (Right Click on Inbound Rule, and select New Rule)



Select Port.

What type of rule would you like to create?

Program
Rule that controls connections for a program.

Port
Rule that controls connections for a TCP or UDP port.

Predefined:

Rule that controls connections for a Windows experience.

Custom
Custom rule.

Type in 25 as the local port.

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Does this rule apply to TCP or UDP?

TCP

UDP

Does this rule apply to all local ports or specific local ports?

All local ports

Specific local ports:

Example: 80, 443, 5000-5010

Click Next (Allow the Connection).

What action should be taken when a connection matches the specified conditions?

Allow the connection
This includes connections that are protected with IPsec as well as those are not.

Allow the connection if it is secure
This includes only connections that have been authenticated by using IPsec. Connections will be secured using the settings in IPsec properties and rules in the Connection Security Rule node.

Block the connection

Uncheck Public. (Prevents external access to the server)

When does this rule apply?

Domain
Applies when a computer is connected to its corporate domain.

Private
Applies when a computer is connected to a private network location, such as a home or work place.

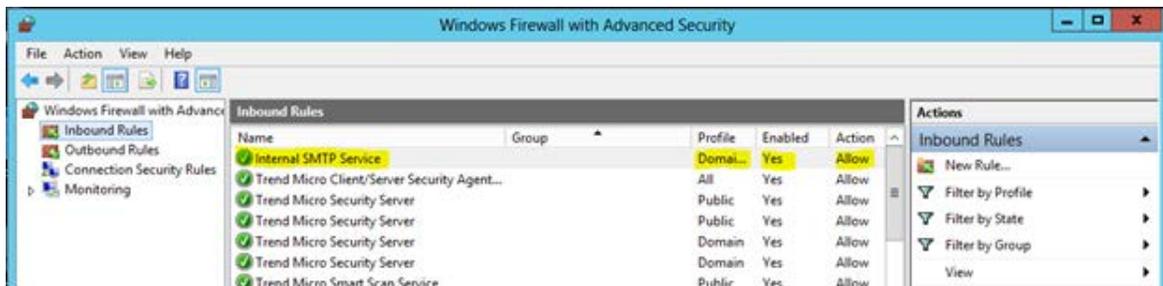
Public
Applies when a computer is connected to a public network location.

Give the rule a name, and click Finish to create the rule.

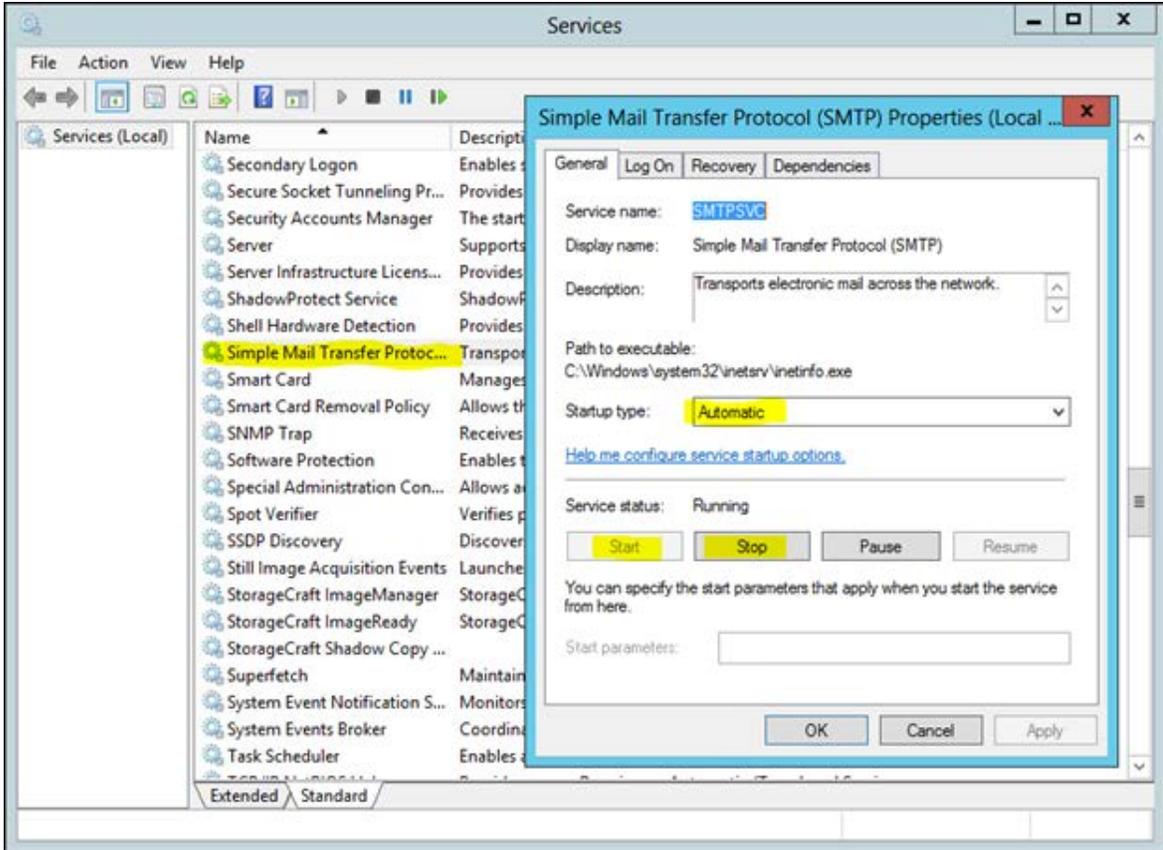
Name:

Description (optional):

You should now see a new rule enabled in the firewall management console.



Restart the SMTP Service and set the service for Automatic Start. Open up the Services Management Console. Double Click on the Simple Mail Transfer Protocol service. Stop and then Start the service. Set the Startup type to Automatic.

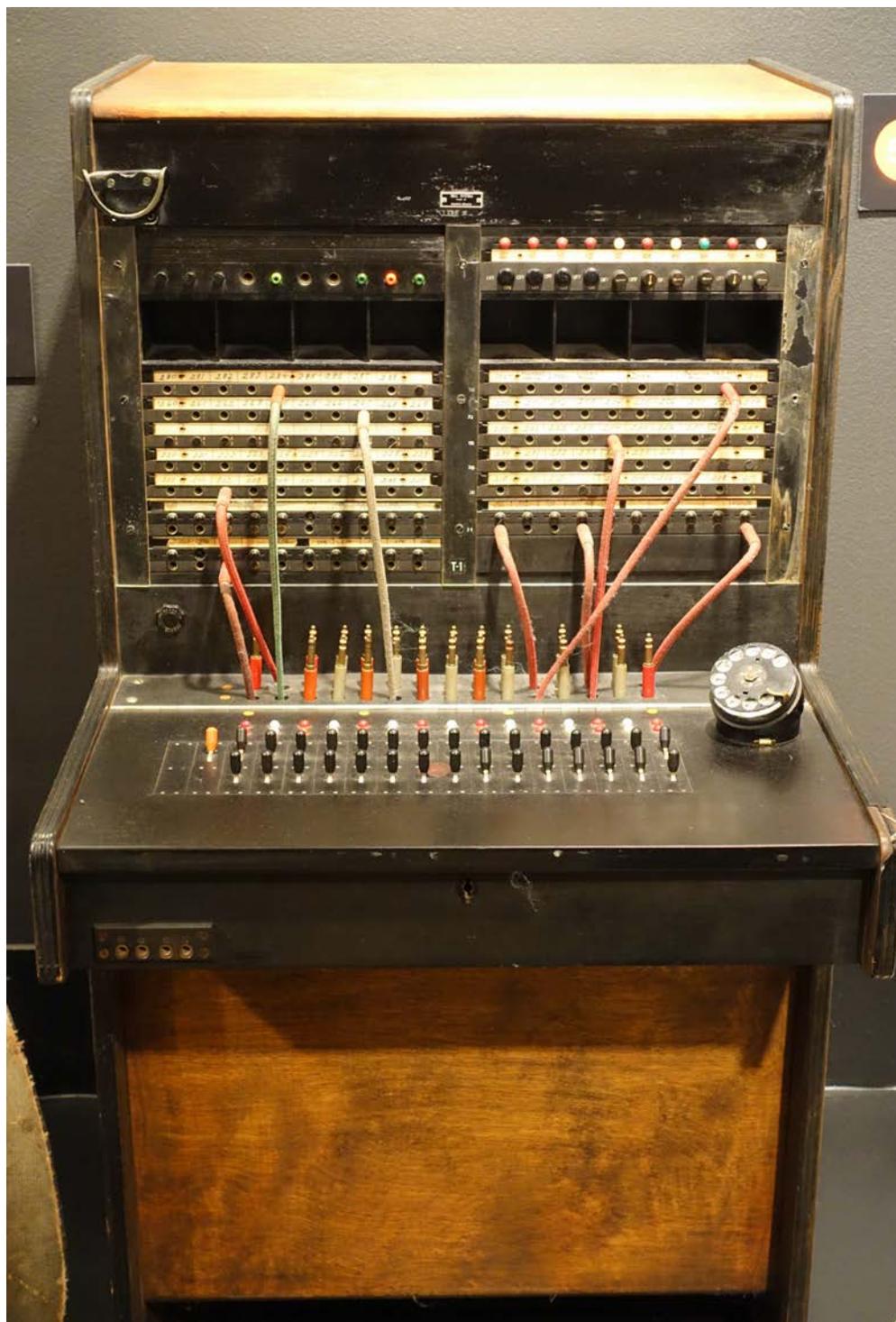


Now put the IP address of the SMTP relay in the Email Migration configuration under Microsoft.

CSV Files

A note on CSV files.

The Migration ToolKit is just that a bunch of tools that let you connect two similar but different email systems together. Something like the old manual telephone switchboards of the early days of telephony.



[https://upload.wikimedia.org/wikipedia/commons/8/89/Telephone_switchboard,_c._1949,_Western_Electric_-_Museum_of_Science_and_Industry_\(Chicago\)_-_DSC06823.JPG](https://upload.wikimedia.org/wikipedia/commons/8/89/Telephone_switchboard,_c._1949,_Western_Electric_-_Museum_of_Science_and_Industry_(Chicago)_-_DSC06823.JPG)

The CSV file contains the data points you need to connect one system to the other. In other words lets you run the patch cords from the old system to the new.

Once the connections are set the data will flow. It is just that getting the connections placed first are the most challenging parts.

CSV data headers

dn	GW/eDir Distinguished Name
organization	GW/eDir Organization
organizationUnits	GW/eDir Organizational Units
cn	GW/eDir Common Name
domain	GW/eDir Domain
postOffice	GW/eDir Post Office
firstName	GW/eDir First Name
lastName	GW/eDir Last Name
displayName	GW/eDir Display Name
uuid	AD/EX Universal Unique Identifier
phones	GW/eDir Phone Numbers
email	GW/eDir Email
department	GW/eDir Department
destinationEmail	AD/EX Destination Email
upnLogon	AD/EX User Principal Name Logon
samAccountNameLogon	AD/EX User Logon Name (pre-Windows 2000)
gwUserID	GW/eDir GroupWise User ID
delegateRuleId	AD/EX Delegate Rule ID
destinationContext	AD/EX Destination Context
destinationDN	AD/EX Destination Distinguished Name
mailboxDB	AD/EX Mailbox Database, specify if not default
nicknames	GW/eDir Nicknames
office365License	O365 License
disabledPlans	O365 Disabled Plans
usageLocation	O365 Usage Location, two character country code
password	AD/EX/O365 Password
destinationGUID	AD/EX Destination Global Unique Identifier, created by AD
language	AD/EX Language
faxNumber	GW/eDir FAX Number

ngwExternalNetId	GW/eDir External Entity
type	GW/eDir Type, User or Resource
resourceOwner	GW/eDir Resource Owner

Having a good CSV editor is important. LibreOffice is good as it will edit CSV files directly.

We have had many cases where companies change domains or email address policies that they will do at the same time as they migrate email systems. This makes things more complex but is completely doable.

For example, you might have user zk@gwava.com in GroupWise who has been here since the beginning, but as part of the migration you need to enforce an email addressing policy to match current standards: Zefram.Komtrain@microfocus.com.

ProTip: Altering a few destination emails manually in the CSV file is not a big deal but if all of the users need changing then you need to do something else. You can copy the first name and last name fields to a new spreadsheet. Create a domain column and enter the new domain as fill down. Create a formula in the next column where you combine them.

For example, if column A contains First Name, column B contains Last Name and column C contains the domain name, you can use the spreadsheet function Concatenate to combine them into a single field.

```
=CONCATENATE(A1;".";B1;"@";C1).
```

Once the destination email is how you want it, copy the column and paste the values and not the formula.

Preparing the Migration Workstation

The Migration Toolkit needs to connect to the GroupWise system and the Exchange/O365 system. You can set up one or more workstations to run the migration on.

Before beginning any migration you must prepare the migration workstation.

Prerequisite Software

On a Windows 7 SP1 make sure you have installed ALL the following prerequisite software and must be installed to the C: drive:

- [Microsoft .NET 4.6.1](#) or higher
- [Windows Management Framework 3.0](#) or higher

On a Windows 10 Enterprise 64-bit workstation make sure you have installed ALL the following prerequisite software and must be installed to the C: drive:

- [Microsoft .NET 4.6.2](#) or higher (install from Windows Features, required for WMF 5.1)
- [Windows Management Framework 5.1](#) or higher (install from Windows Features)

User Migrator and Email Migrator

- GroupWise client (Client version must match server version)
- A program to edit .CSV files (such as OpenOffice or LibreOffice as Excel does not save to CSV easily)
- [Java 8](#) (64-bit required for 64-bit migration, 32-bit for the 32-bit version of the tool)

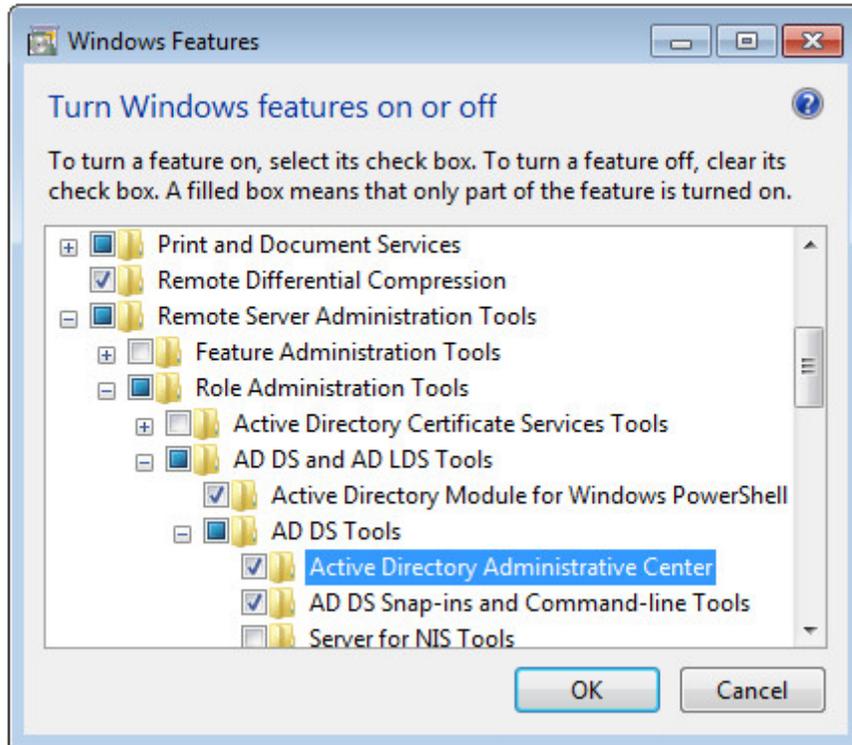
If creating users in On-Premise Active Directory/Exchange, install:

- [Remote Server Administration Tool](#)

The Windows Features required on the workstation are enabled through the Control Panel. Without the Windows features enabled, the Toolkit will fail to function.

Control Panel | Programs and Features | Turn Windows Features On or Off

- Active Directory Module for Windows PowerShell
- Active Directory Administrative Center
- AD DS Snap-Ins and Command-line Tools



If creating users in Office365, install:

- [Microsoft Online Services Sign-In Assistant for IT Professionals](#)
- [Windows Azure AD Module for Windows PowerShell](#)

GroupWise to PST Migrator

On a Windows 7 SP1 or Windows 10 64-bit workstation make sure you have installed ALL the following prerequisite software and must be installed to the C: drive:

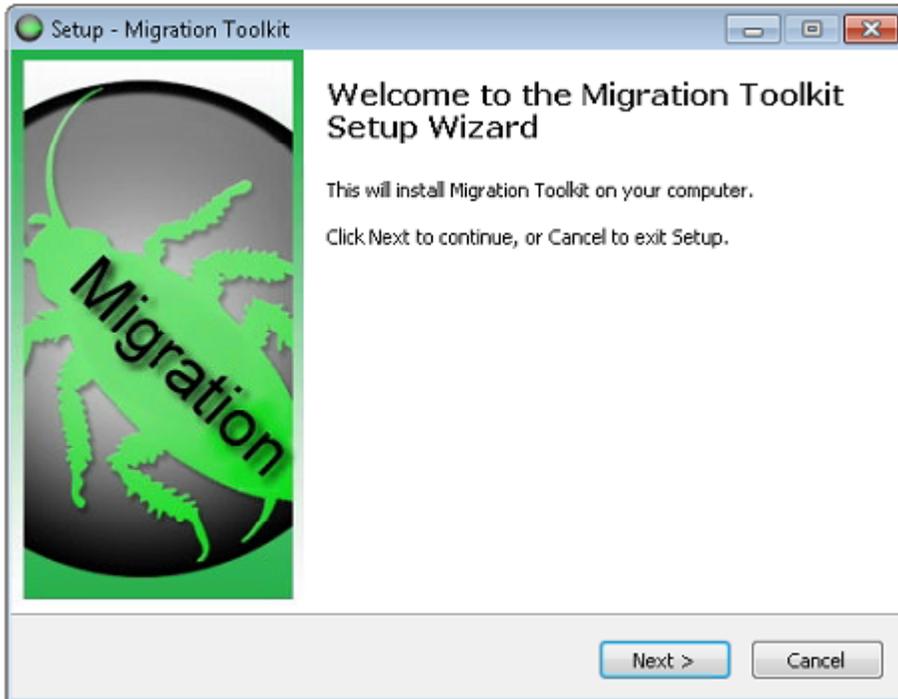
- [Microsoft .NET 4.6.1](#) or higher (installed by default in Win10 64-bit)
- [Java Runtime Environment 1.8](#) or higher
- GroupWise Client 7, 8, 2012 or 2014
- Outlook 2010, 2013, or 2016 (32-bit)

Migration Toolkit Installation

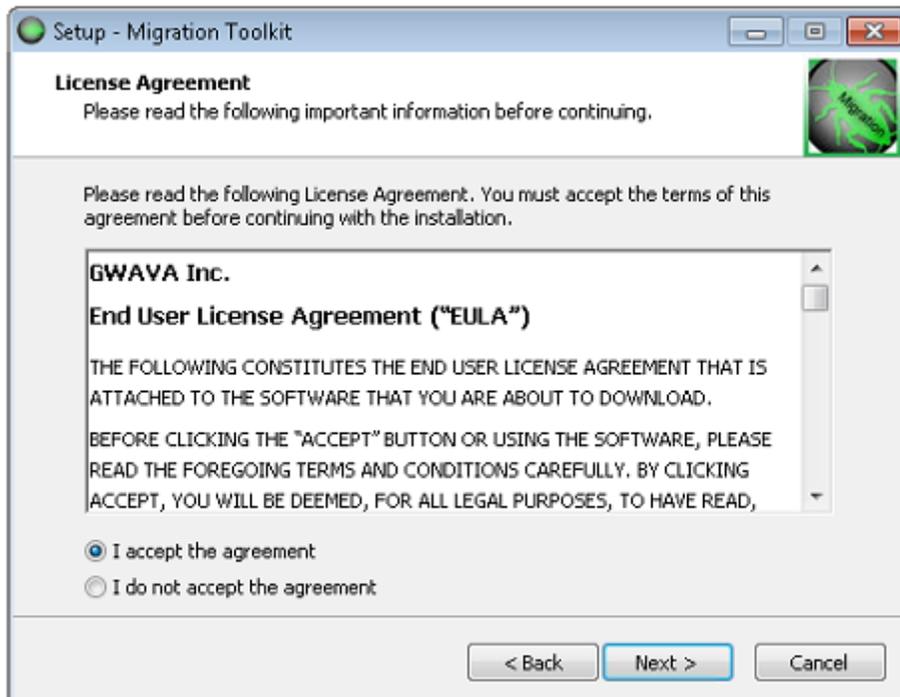
Once the requirements have been installed and configured, the system is ready for installation. The installation of the Migration Toolkit is very simple; run the Migration Toolkit Setup and follow the prompts.

The setup wizard provides clear instructions on what is going to be installed. Select 'Next' to continue.

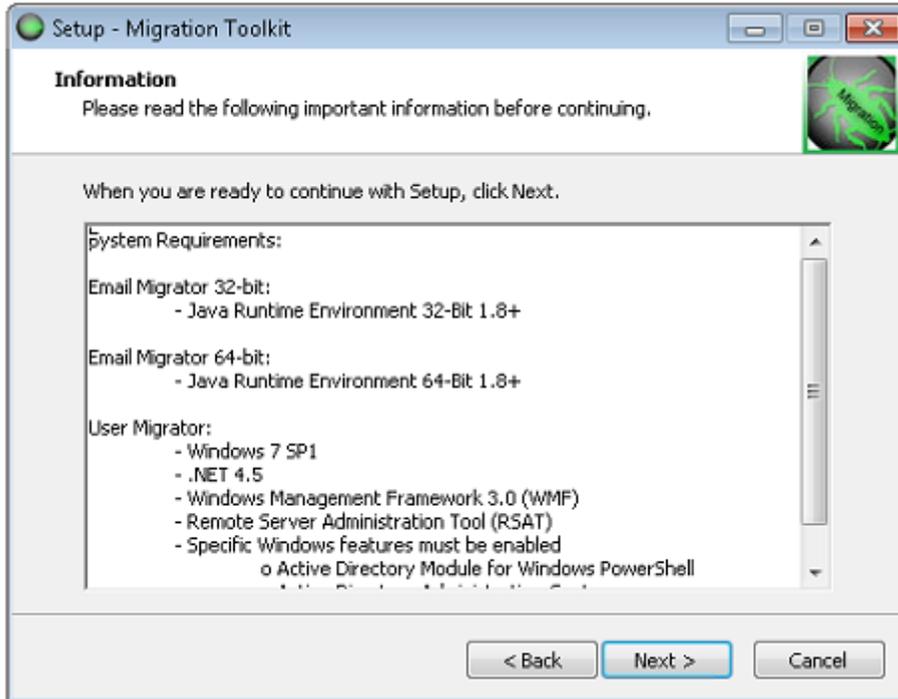
Migration Toolkit 4.0



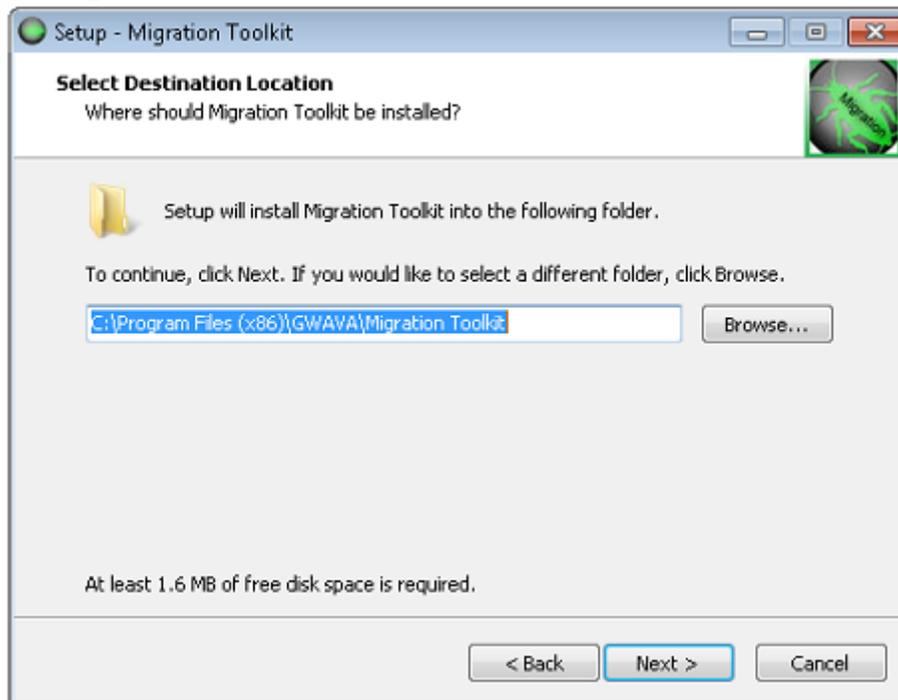
Read and accept the terms of the License Agreement then select 'Next' to continue.



The System Requirements is simply a reminder for purposes of the installation.

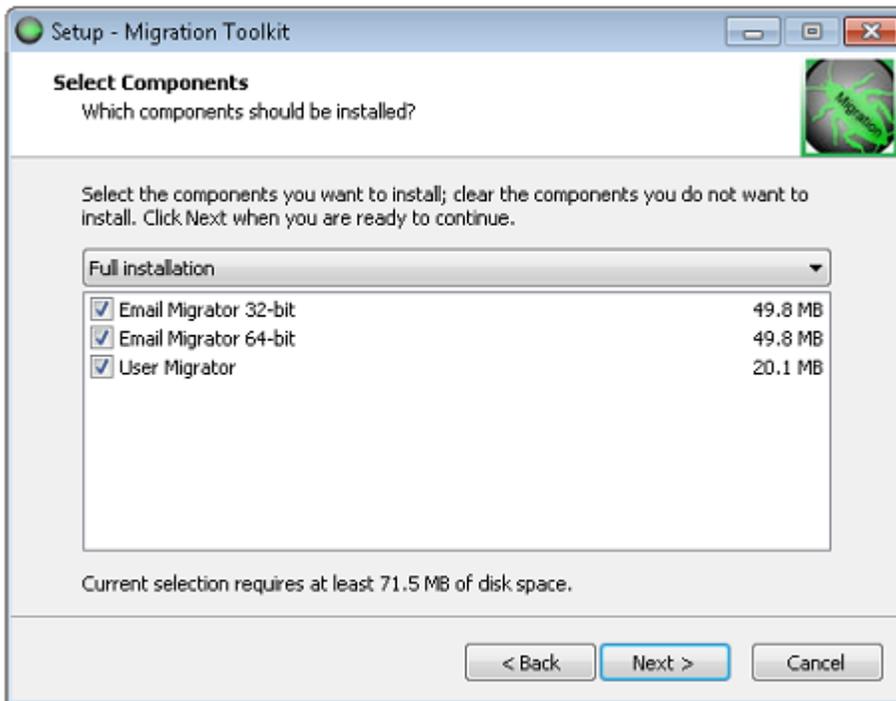


The destination folder is default and all other information gathered is displayed. If any of the data is incorrect, select 'Back' and correct the information. The program needs to be installed to the C: drive. To begin the installation, select 'Next'.

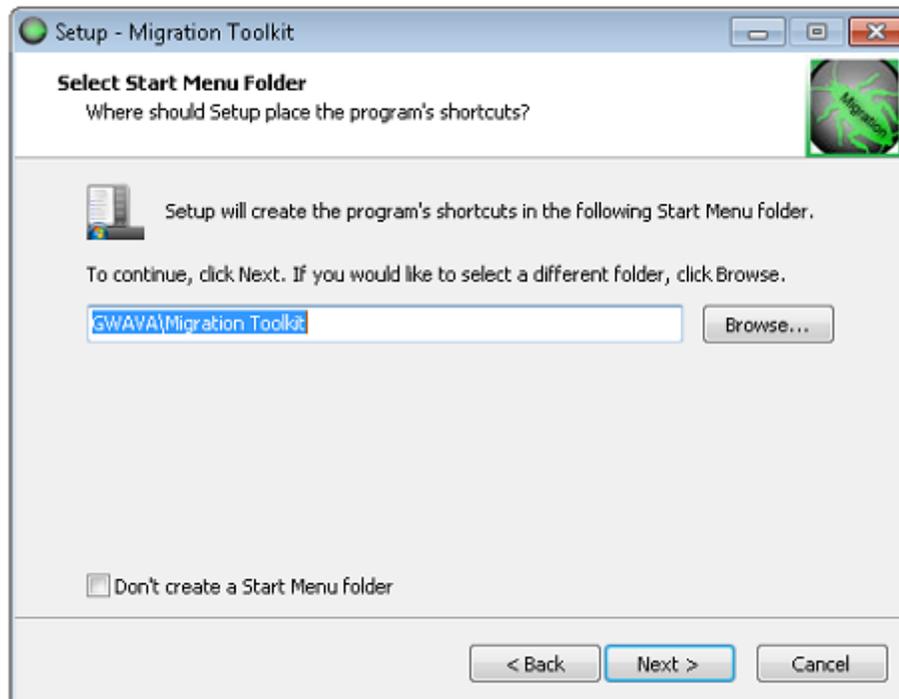


Migration Toolkit 4.0

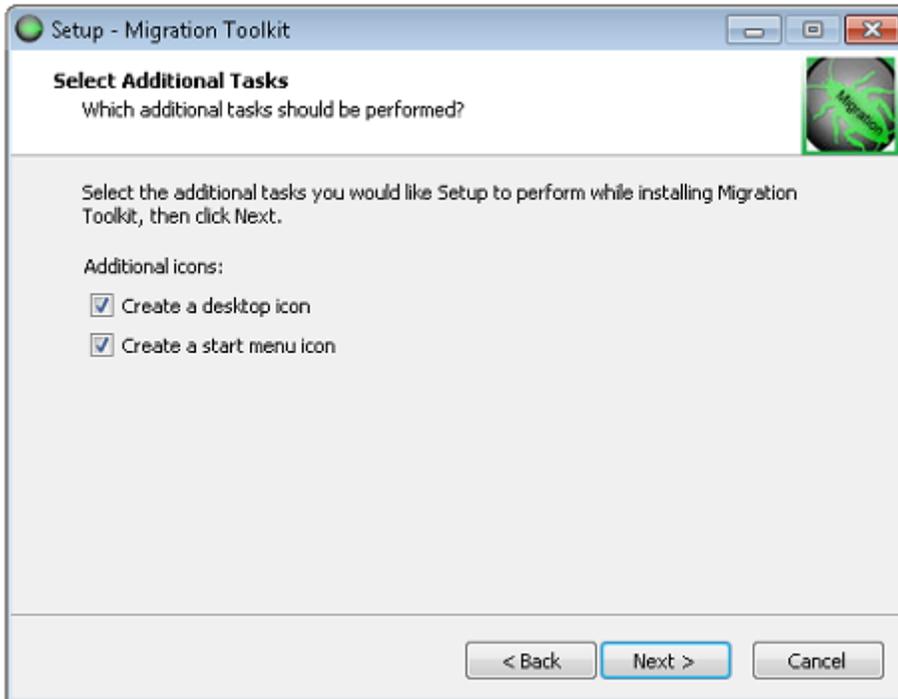
Select the desired components to install. The installation can be performed for a full, custom, or minimal installation. Select the desired components to install and select 'Next'.



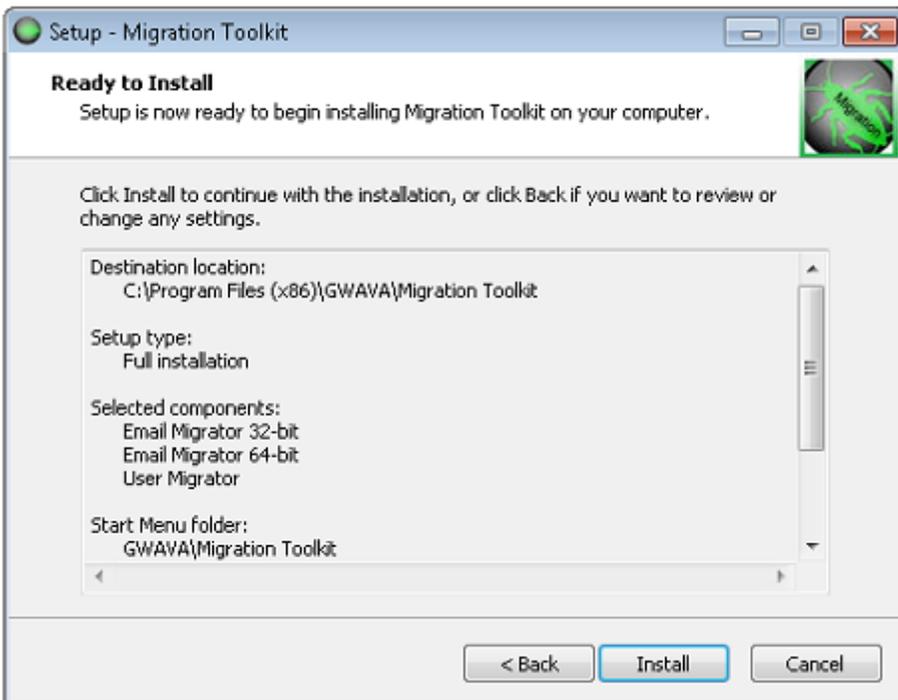
Choose whether to create a start menu folder, and what it should be named. When finished, select 'Next' to continue.



Select whether to include Desktop and Start menu icons, then select 'Next' to continue.



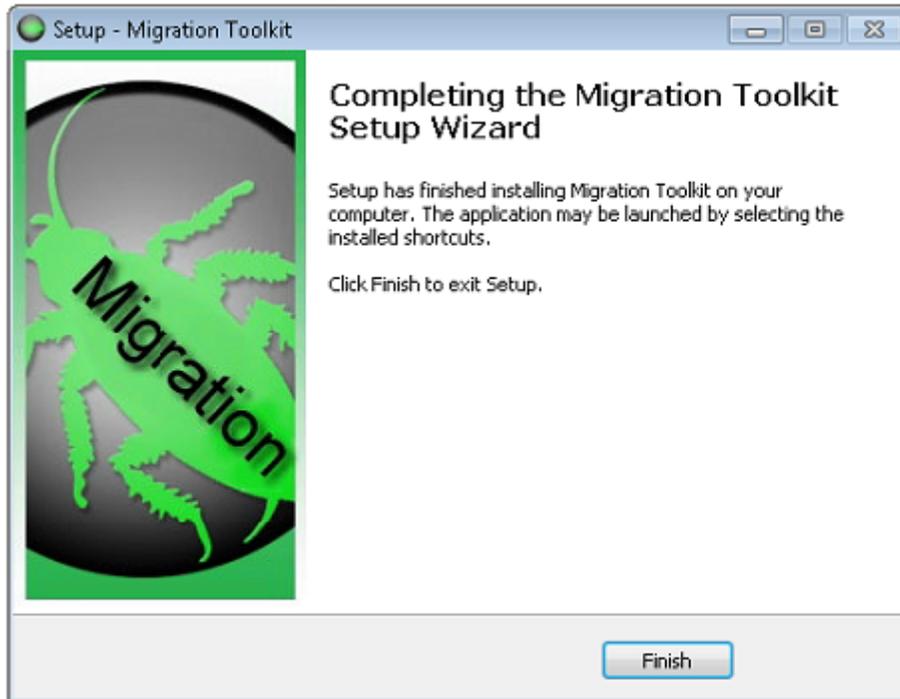
The summary of the installation configuration is displayed. Review and make sure that all information provided is as desired, then initiate the install by selecting the 'Install' button.



Migration Toolkit 4.0

Once initiated, the program will be installed.

On completion, the installation utility reports on the installation. Select 'Finish' to exit the installation program.



To start the Toolkit, select either the start menu or the shortcut icons on the desktop. Make sure to select the desired tool for the toolkit.

Register License

The migration tool kit will not function until a valid license is applied. You may contact [sales](#) to acquire a license key.

Once you receive the email with the license validation key go to licenses.gwava.com and choose: *RETAIN GW to Exchange, Personal Archive to PST and eDirectory to Active Directory Migration Tools*

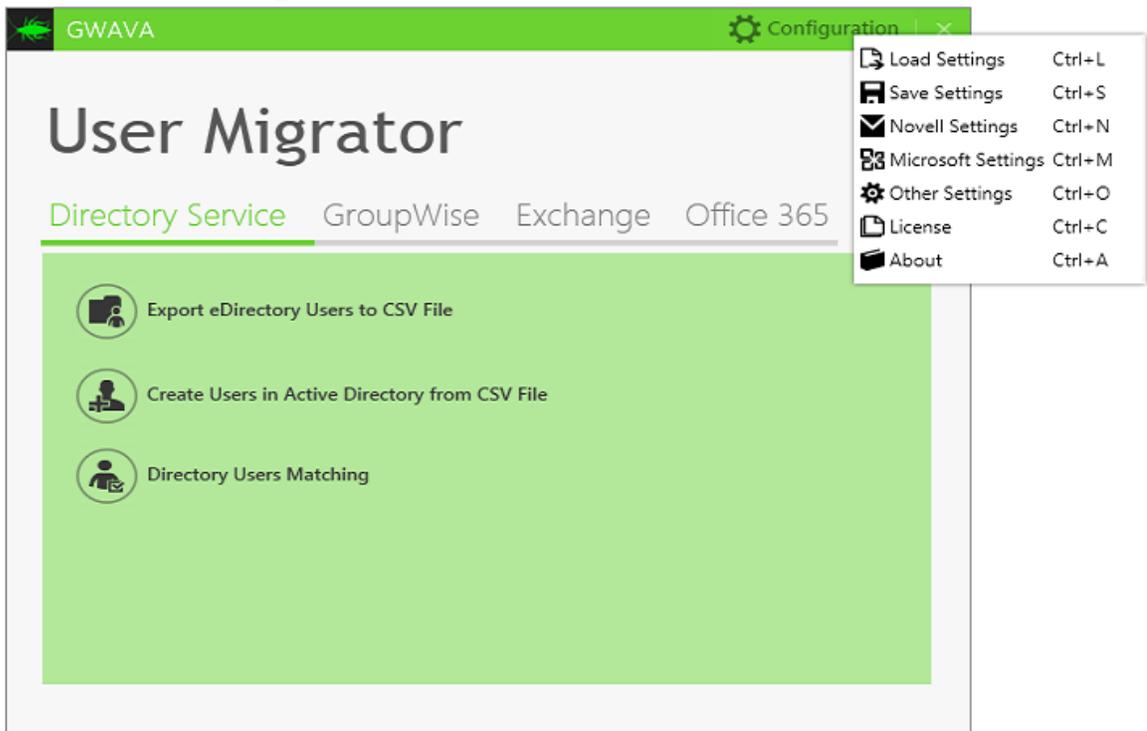
Enter your credentials, the [GroupWise Trusted Application Key](#) and Tree Name created in GroupWise System Preparation step 3. Be sure the TAK is exactly the same before hitting next. This will be locked into the license, and will need to be changed by licensing if it is incorrect.

Download the license .PEM file and then import into the User Migrator tool.

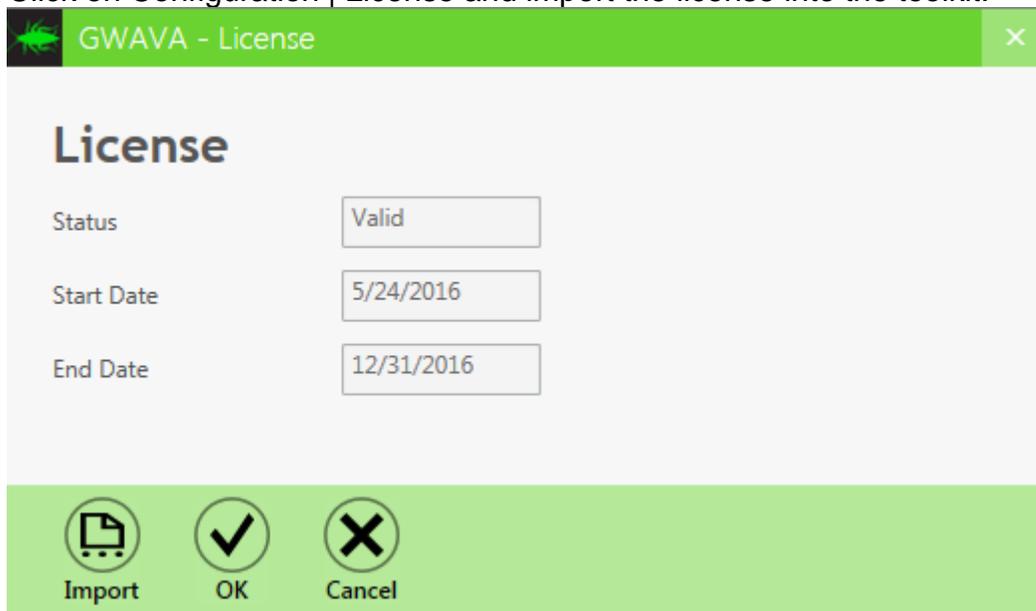
Install License

The first thing to do is install the license into the User Migrator Tool.

Launch the User Migrator Tool



Click on Configuration | License and import the license into the toolkit.



Logging

Logs are created by the different components.
They are found in **%APPDATA%\~**

User Migrator Logs

User migrator logs are found in the **~\RetainMigrationTool\User Migrator\logs** folder
user_migrator.log (log text file)

Email Migrator Logs

Email migrator logs are found in **~\RetainMigrationTool>Email Migrator\logs** folder
There will be three logs for each user email that migration was attempted on. Each email address will get its own set of log files:

gwava@gwava.com (log file)

gwava@gwava.com_Report (text file)

Migration summary (.csv file)

SOAP Trace Logs

The SOAP trace log contains a detailed log of the transactions the toolkit is making between GroupWise and Exchange/O365.

The SOAP trace logs are found in **~\Local\Temp\soap#.log**

User Migrator

Migration Toolkit Configuration

MTK Configuration

The Migration Toolkit connects two dissimilar systems to set up a pathway between them to transfer data. Proper configuration is vital for migration success. Before the User Migrator can be used it must be configured so it is able to access both the Novell side and the Microsoft side of the system.

Configure Edirectory, GroupWise and Microsoft Settings

Prerequisites

The eDirectory/LDAP, GroupWise, and Exchange/O365 configuration information from the [System Preparation](#) step above.

Click on the Configuration settings gear to access the configuration menu.



Configure the Novell Settings

Configuring the Novell setting will allow the MTK to download the User data into the CSV files that MTK will use to migrate the data.

Configuration | Novell Settings

eDirectory tab

Enter in LDAP IP, Port, User Name (FDN) and password, SSL (if required), and Base DN.

The screenshot shows the 'Novell Settings' dialog box with the 'eDirectory' tab selected. The fields are as follows:

- LDAP IP: 10.1.6.12
- LDAP Port: 389 (example: e.g. 389)
- LDAP Username: cn=admin,ou=users (example: e.g. cn=admin, ou=users)
- LDAP Password: [Masked]
- SSL:
- Base DN: o=GWAVA (example: e.g. ou=users, o=organization)

A 'TEST' button is located below the Base DN field. The bottom of the dialog features a green bar with four icons: Save, Load from File, Save to File, and Cancel.

Test to verify. (Base DN is not part of this test, only user and password)

GroupWise tab

Enter the SOAP IP, Ports (user and pass not required due to TAPP), SSL if required, Trusted App Key and name. The TAK name and key **must** be the same as used in the license and is case-sensitive.

The image shows a 'Novell Settings' dialog box with a green header and a close button. It has two tabs: 'eDirectory' and 'GroupWise', with 'GroupWise' selected. The form contains the following fields and controls:

SOAP IP address	10.1.6.12
SOAP Port	7191
Client Port	1677
Username	Test1
Password	••••••••
SSL	<input type="checkbox"/>
Trusted App Name	MTK
Trusted App Key	25B850810EAC0000BA42C8056BB11F

Below the fields is a 'TEST' button. At the bottom of the dialog is a green bar with four icons and labels: 'Save' (floppy disk), 'Load from File' (document with arrow), 'Save to File' (document with arrow), and 'Cancel' (back arrow).

Test to verify.

Once the connection tests successfully, save the configuration to a file. Press Save to save the configuration to this session.

Configuration | Microsoft Settings

Active Directory tab

Enter the Server IP, domain, admin user and password, default context.

The screenshot shows the 'Microsoft Settings' window with three tabs: 'Active Directory', 'Exchange', and 'Office 365'. The 'Active Directory' tab is selected. The form contains the following fields and values:

Server	EX141.mtk.doc.gwava.net e.g. mydomain.com
Active Directory domain	mtk.doc.gwava.net e.g. mydomain
Username	Administrator e.g. Administrator
Password	•••••
Default Context	DC=mtk,DC=doc,DC=gwava,DC=net e.g. CN=users, DC=mydomain, DC=com

Below the fields is a 'TEST' button. A green message 'Connection success' is displayed below the button. At the bottom of the window is a green bar with four icons: 'Save', 'Load from File', 'Save to File', and 'Cancel'.

Test the connection.

Exchange tab

If using On-Premise Exchange, fill out this tab.

Enter in ServerHostName, Exchange domain (this is the logon domain name), admin user and password, and mailbox db name.

The screenshot shows the 'Microsoft Settings' window with the 'Exchange' tab selected. The window has a green header bar with a back arrow icon and a close button. Below the header, there are three tabs: 'Active Directory', 'Exchange' (highlighted in green), and 'Office 365'. The 'Exchange' tab contains the following fields and controls:

- Server:** A text input field containing 'EX141.mtk.doc.gwava.net'. Below it is a hint: 'e.g. exchange-server.mydomain.com'.
- Domain name to use for addresses:** A dropdown menu showing 'Exchange domain name'.
- Exchange domain name:** A text input field containing 'MTKEX'. Below it is a hint: 'e.g. mydomain.com'.
- Username:** A text input field containing 'Administrator@mtk.doc.gwava.net'. Below it is a hint: 'e.g. Administrator@mydomain.com'.
- Password:** A text input field with five black dots representing a masked password.
- Mailbox Database:** A text input field containing 'Mailbox Database 1256678473'.
- TEST:** A rectangular button with the text 'TEST' inside.

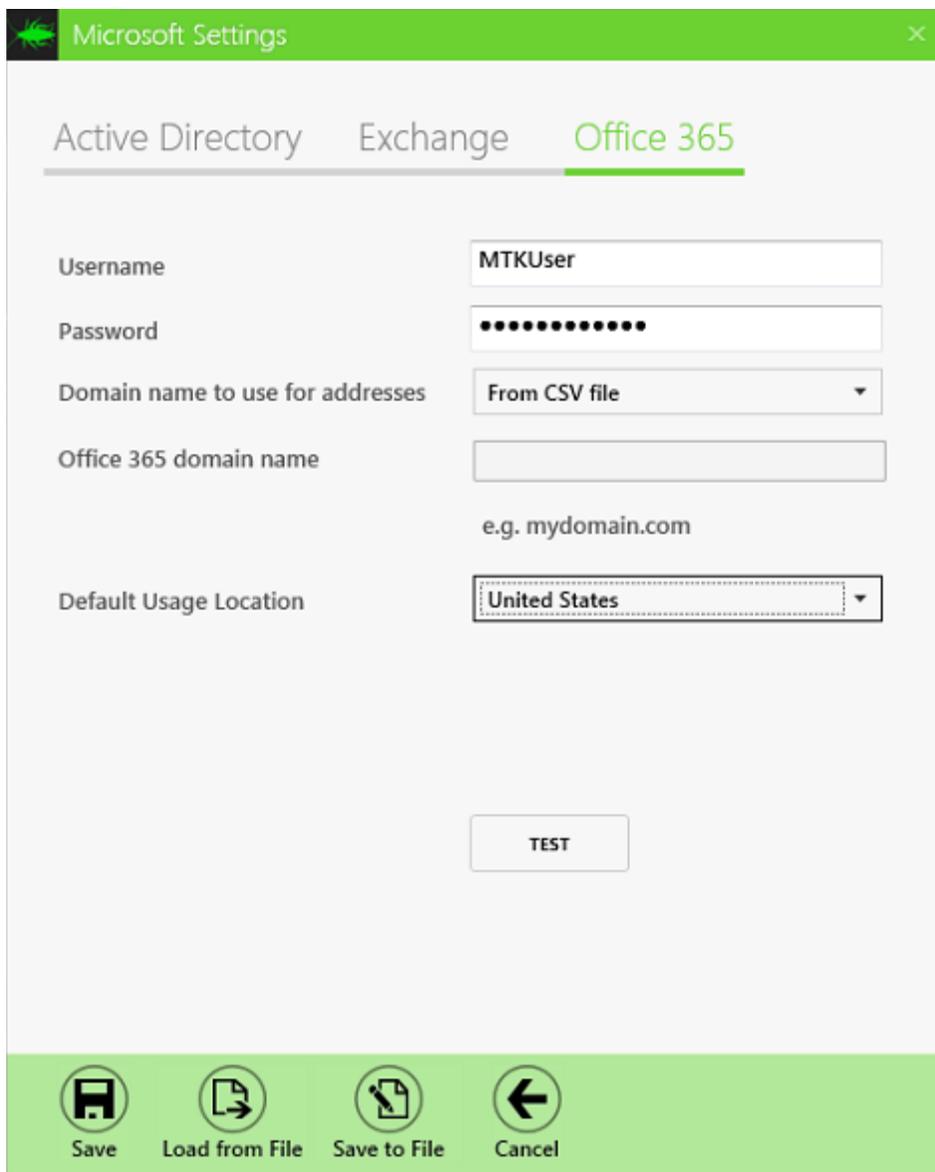
At the bottom of the window, there is a green bar with four icons and their corresponding labels: 'Save' (floppy disk icon), 'Load from File' (document with arrow icon), 'Save to File' (document with arrow icon), and 'Cancel' (back arrow icon). A green message 'Connection success' is displayed above the bottom bar.

Test.

Office 365 tab

If using Office 365, fill out this tab.

Enter in administrator user and password, domain, and default location.



The screenshot shows a window titled "Microsoft Settings" with a green header. It has three tabs: "Active Directory", "Exchange", and "Office 365", with "Office 365" selected. The form contains the following fields:

- Username:** A text box containing "MTKUser".
- Password:** A text box with masked characters (dots).
- Domain name to use for addresses:** A dropdown menu with "From CSV file" selected.
- Office 365 domain name:** An empty text box with the example "e.g. mydomain.com" below it.
- Default Usage Location:** A dropdown menu with "United States" selected.

Below the fields is a "TEST" button. At the bottom of the window is a green bar with four icons and labels: "Save" (floppy disk), "Load from File" (document with arrow), "Save to File" (document with arrow), and "Cancel" (back arrow).

Test.

Once the connection tests successfully, save the configuration to a file. Press Save to save the configuration to this session.

Click **Configuration | Save Settings**. This will save both Novell and Microsoft Settings.

The next time you run the program you can load the configuration from the file for use during that session.

User Migration

This is the first step to doing everything, even if you just want to migrate email only. The toolkit needs to know where the users are before it can do anything. It does that by downloading user data into the .CSV files.

The Migration of users from eDirectory to Active Directory is limited to users found in eDirectory. External GroupWise users with no entry in eDirectory cannot be migrated.

This is a toolkit, every migration is different because the variables in going from one system to another are too complex to be certain each time. You will have to experiment to find the settings that make the migration do what your organization needs. So if you value your job, do not start by migrating the CEO, start with a few regular users until you get the results that meet your organization's needs, then do the executives.

Before you can do anything else you need to export the user data from eDirectory and GroupWise. Even if you have already created the users in Exchange this data is needed for the MTK to know where to migrate the mail and other items.

Directory Service

If you have eDirectory installed, you must export the eDirectory users, before the GroupWise users.

Export eDirectory Users

Export eDirectory users, if they do not exist in GroupWise.
There are users in eDirectory that are not in GroupWise and they will need to be exported so they can be created in Active Directory.

Directory Service | Export eDirectory Users to CSV file

Click on the *Export eDirectory Users to CSV File* icon to open the tool.

Press the Load Users button to have this tool download the eDirectory User list.

GWAVA - Migration Toolkit

Export eDirectory Users

Distinguished Name	Email	Status
cn=admin,o=GWAVA	admin@gw2012.support.gwava.com	
cn=Test1,ou=Users,o=GWAVA	Test1@gw2012.support.gwava.com	
cn=Test2,ou=Users,o=GWAVA	Test2@gw2012.support.gwava.com	
cn=Test3,ou=Users,o=GWAVA	Test3@gw2012.support.gwava.com	
cn=Test4,ou=Users,o=GWAVA	Test4@gw2012.support.gwava.com	
cn=1try,ou=PSAC,o=GWAVA	1try@psac-afpc.com	
cn=2try,ou=PSAC,o=GWAVA	2try@psac-afpc.com	
cn=AbouDIM,ou=PSAC,o=GWAVA	AbouDIM@psac-afpc.com	
cn=Action,ou=PSAC,o=GWAVA	Action@psac-afpc.com	
cn=AddarioL,ou=PSAC,o=GWAVA	AddarioL@psac-afpc.com	
cn=adminPAM,ou=PSAC,o=GWAVA	adminPAM@psac-afpc.com	

```

DEBUG - LDAP entry cn=user,ou=Users,o=GWAVA doesn't have attribute title
DEBUG - LDAP entry cn=user,ou=Users,o=GWAVA doesn't have attribute workforceID
DEBUG - LDAP entry cn=user,ou=Users,o=GWAVA doesn't have attribute company
DEBUG - LDAP entry cn=user,ou=Users,o=GWAVA doesn't have attribute assistant
DEBUG - LDAP entry cn=user,ou=Users,o=GWAVA doesn't have attribute description
DEBUG - LDAP entry cn=user,ou=Users,o=GWAVA doesn't have attribute spouse
DEBUG - LDAP entry cn=user,ou=Users,o=GWAVA doesn't have attribute children
DEBUG - LDAP entry cn=user,ou=Users,o=GWAVA doesn't have attribute manager
DEBUG - Fetched 586 users from E Directory
DEBUG - Fetch resources form EDirectory
INFO - Connecting to eDirectory server with host: 10.1.6.12 port 389
INFO - Using account: cn=admin,O=GWAVA
INFO - Connected to eDirectory
DEBUG - Fetched 20 resources from E Directory
INFO - fetched 606 migrate users: 00:00:00.0140014 sec
    
```

LOAD USERS EXPORT ALL CANCEL

Press the Export All button to save the data to a CSV file. Give it a name that included eDirectory, eDir, or some other way to know that this is the eDirectory data.

Verify that all users that are to be migrated are in this file. You may need to add users from GroupWise using the *Export GroupWise Users to CSV File* tool under the GroupWise tab.

#	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	
1	dn	organizational	organizational	cn	domain	postOffice	firstName	lastName	displayName	uid	phones	email	department	destination	copyLogon	sameAccount	gwUserID	delegate	destination	destination	mailboxDir	nickName	office365	disabled	us
2	admin.GWAVA		admin		PMGWMA	PMPO						BF2DC00-0F32-000C	admin@gw2012.support.gwava.com	admin@gw2012.support.gwava.com											
3	Test1.Users.GWAVA		Test1		PMGWMA	PMPO	User		1	User 1	6B721A80-0E46-0000	Test1@gw2012.support.gwava.com	Test1@gw2012.support.gwava.com												
4	Test2.Users.GWAVA		Test2		PMGWMA	PMPO	User		2	User 2	7AF16300-0E46-0000	Test2@gw2012.support.gwava.com	Test2@gw2012.support.gwava.com												
5	Test3.Users.GWAVA		Test3		PMGWMA	PMPO	User		3	User 3	BF956080-0E46-0000	Test3@gw2012.support.gwava.com	Test3@gw2012.support.gwava.com												
6	Test4.Users.GWAVA		Test4		PMGWMA	PMPO	User		4	User 4	570D9800-0E46-0000	Test4@gw2012.support.gwava.com	Test4@gw2012.support.gwava.com												
7	user.Users.GWAVA		user		PMGWMA	PMPO	user	n	user	n	F4872180-0217-0000	usern@gw2012.support.gwava.com	usern@gw2012.support.gwava.com												

GroupWise

If you have users in GroupWise that do not exist in eDirectory or are using GroupWise 2014 or later, which does not require eDirectory, you will need to export these users.



GroupWise | Export GroupWise users to CSV File

Click on the *Export GroupWise users to CSV File* icon to open the tool.

Press the Load Users button to have this tool download the GroupWise User list.

GWAVA - Migration Toolkit

Export GroupWise Users

Distinguished Name	Email	Status
admin.GWAVA	admin@gw2012.support.gwava.com	
Test1.Users.GWAVA	Test1@gw2012.support.gwava.com	
Test2.Users.GWAVA	Test2@gw2012.support.gwava.com	
Test3.Users.GWAVA	Test3@gw2012.support.gwava.com	
Test4.Users.GWAVA	Test4@gw2012.support.gwava.com	
user.Users.GWAVA	usern@gw2012.support.gwava.com	

```

INFO - Connecting to GW Soap address http://10.1.6.12:7191/soap with username: Test1, tAppName: MTK, tAppKey: 25B850810EAC0000BA42C80568B11F9425B850820EAC0000
INFO - Connected to GW Soap address http://10.1.6.12:7191/soap with username: Test1, tAppName: MTK, tAppKey: 25B850810EAC0000BA42C80568B11F9425B850820EAC00005
DEBUG - Created cursor -1223862282
DEBUG - Destroyed cursor -1223862282
INFO - fetched 6 users from SOAP: 00:00:00.7710000 sec
DEBUG - Created cursor -1223862281
DEBUG - Destroyed cursor -1223862281
INFO - fetched 0 users from SOAP: 00:00:00.7290000 sec
INFO - fetching nicknames from SOAP
INFO - logout user Test1
INFO - Connecting to GW8+ Soap address http://10.1.6.12:7191/soap with username: Test1, tAppName: MTK, tAppKey: 25B850810EAC0000BA42C80568B11F9425B850820EAC00
INFO - Connected to GW8+ Soap address http://10.1.6.12:7191/soap with username: Test1, tAppName: MTK, tAppKey: 25B850810EAC0000BA42C80568B11F9425B850820EAC00X
INFO - logout user Test1
INFO - fetched 0 nicknames
INFO - fetched 6 groupwise users and resources: 00:00:00 sec

```

LOAD USERS EXPORT ALL CANCEL

Press the Export All button to save the data to a CSV file. Give it a name that included GroupWise, GW, or some other way to know that this is the GroupWise data and save it in the same location as the eDirectory step above.

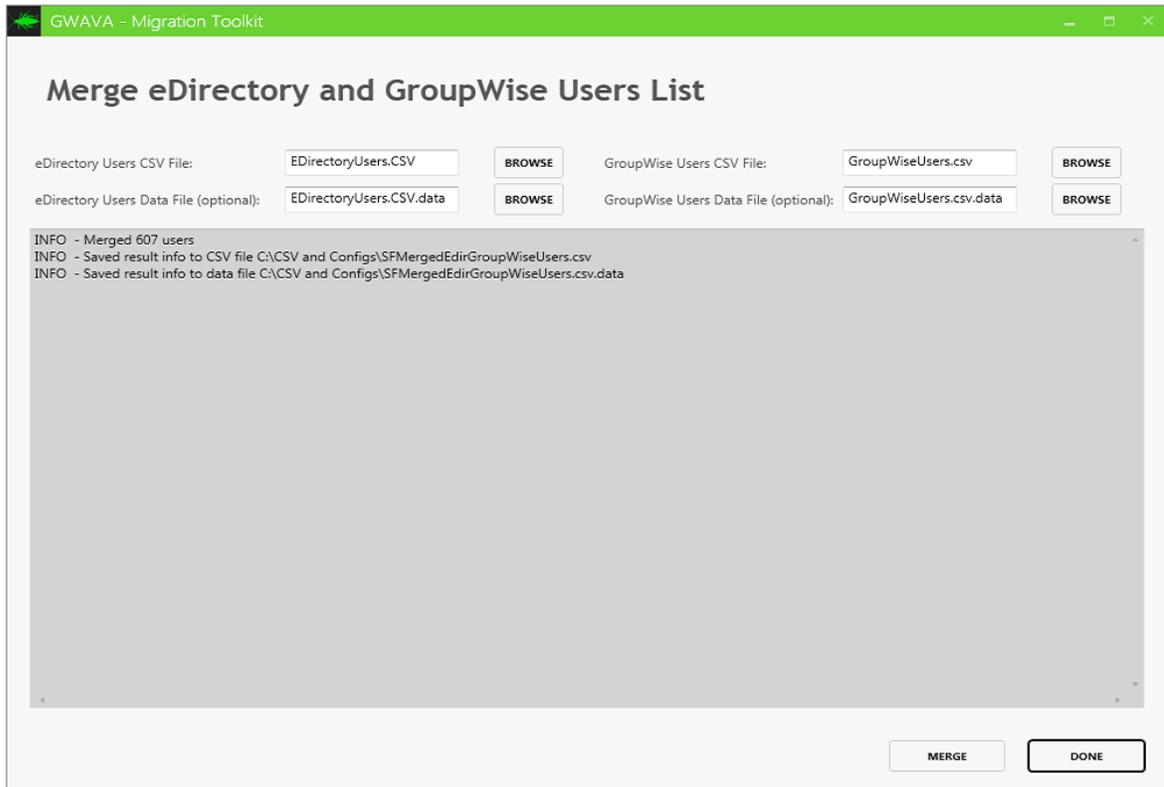
Verify that all users that are to be migrated are in this file. You may need to add users from GroupWise using the *Export GroupWise Users to CSV File* tool under the GroupWise tab.

Merge eDirectory and GroupWise Users

If you have both eDirectory and GroupWise users they will need to be merged into a single CSV file. These will be all the users that will be created in Active Directory and Exchange

GroupWise | Merge eDirectory and GroupWise Users

Click on the *Merge eDirectory and GroupWise Users* icon to open the tool.



Browse to the CSV files for eDirectory and GroupWise.
Click on Merge to merge the two files together. Save the resulting file with a name that includes "merged" so you know this step is complete.
Verify that all of the users are in this file that needs to be migrated.

Migrating Users

Now that the toolkit knows what users exist in eDirectory and GroupWise, the users can be created in Active Directory and Exchange, or Azure and Office365.

Prerequisites:

- Novell Configuration Settings
- Microsoft Configuration Settings
- Exported eDirectory, or Merged eDirectory and GroupWise user CSV file

Create Users in Active Directory

Make a working copy of the CSV file.
Verify that the eDirectory and GroupWise users.csv file contains the correct e-mail addresses, and GUIDs that will be migrated.

The following columns must be filled in:

cn	Mandatory, User's Common Name in
----	----------------------------------

	eDirectory or GroupWise
firstName	Mandatory, User's First Name
lastName	Mandatory, User's Last Name
displayName	Mandatory, User's Display Name
destinationEmail	Recommended, Destination email, set as UserPrincipleName in AD
type	Mandatory, This should be type User, not resource*

*Resources will be migrated in a later step, so remove them from this working copy of the CSV file.

Directory Service | Create Users in Active Directory from CSV File

Click on the *Create Users in Active Directory from CSV File* icon to open the tool.

Create Users in Active Directory

SELECT ALL SELECT NONE BROWSE CSV FILE MergedEdirGroupWiseUsers.csv BROWSE CSV.DATA FILE MergedEdirGroupWiseUsers.csv.data

Name	Context	Logon name	Status	Message
admin	cn=Users,dc=finalfrontier,dc=com	admin	NotStarted	
User 1	cn=Users,dc=finalfrontier,dc=com	Test1	NotStarted	
User 2	cn=Users,dc=finalfrontier,dc=com	Test2	NotStarted	
User 3	cn=Users,dc=finalfrontier,dc=com	Test3	NotStarted	
User 4	cn=Users,dc=finalfrontier,dc=com	Test4	NotStarted	
1try	cn=Users,dc=finalfrontier,dc=com	1try	NotStarted	
2try	cn=Users,dc=finalfrontier,dc=com	2try	NotStarted	
Mariam Abou-Dib	cn=Users,dc=finalfrontier,dc=com	AbouDiM	NotStarted	
Action	cn=Users,dc=finalfrontier,dc=com	Action	NotStarted	
Lisa Addario	cn=Users,dc=finalfrontier,dc=com	AddarioL	NotStarted	

Selected: 1 Total: 607

EXPORT DATA START CANCEL

Browse to the eDirectory, or Merged eDirectory and GroupWise user CSV file (The csv.data file will be filled in automatically.)

Migration Toolkit 4.0

Select one, some, or all users. If this is your first attempt at creating users, it is recommended to choose a single user to migrate to test if the results are what you anticipate. You can select a single user by clicking on the user's name. Press **Start** to begin the creation process.

Directory Services | Directory Users Matching

If you have a partially migrated system, use the Directory Users Matching tool first to match the names that are already created in Active Directory.

Click on the *Directory Users Matching* icon to open the tool.



Browse to the exported eDirectory CSV file, or merged GW eDirectory and users CSV file.

Press *Start Merging* to merge previously migrated users into the CSV file.

Press *Done* when complete.

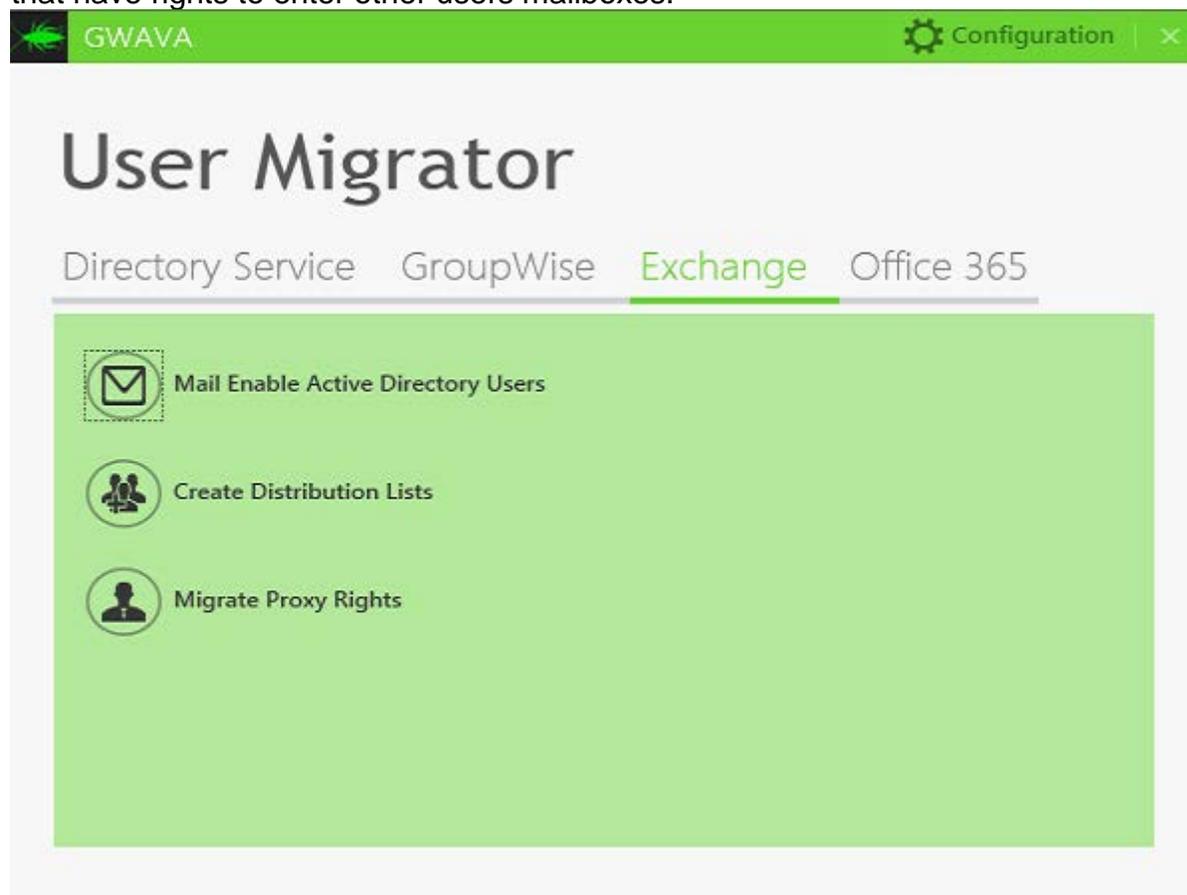
The next step is depends on whether you are using On-Premise Exchange or Office365.

If you are using On-Premise Exchange, you need to mail enable the users you migrated into Active Directory.

If you are using Office365, you need to create the users and license them.

On-Premise Exchange

To complete the user migration process you will need mail enable the AD users so they have Exchange mailboxes, create distribution lists and migrate proxy rights for users that have rights to enter other users mailboxes.



Prerequisites:

- Microsoft .NET 4.6.1 or higher
- Windows Management Framework 3.0 or higher
- Remote Server Administration Tool (RSAT)
- Novell Configuration Settings
- Microsoft Configuration Settings
- Exported eDirectory, or Merged eDirectory and GroupWise user CSV file

Mail Enable Active Directory Users

Make a working copy of the CSV file.

Verify that the eDirectory and GroupWise users.csv file contains the correct e-mail addresses, and GUIDs that will be migrated.

The following columns must be filled in:

cn	Mandatory, User's Common Name in eDirectory or GroupWise
destinationEmail	Mandatory, User's Destination Exchange

	email address in, set in ExternalEmailAddress in AD
destinationDN	Recommended, User's Destination Distinguished Name
mailboxDB	Recommended, User's mailbox database in Exchange. If not specified, Exchange will place in default location
nicknames	Optional, Nicknames/aliases/proxies of the user*
destinationGUID	Recommended, User's Object GUID in AD
type	Mandatory, This should be type User, not resource**

* This is the nicknames/aliases/proxy addresses of a user. The nickname values are separated with pipe character (|). For example: username|useralias|userproxy. Only username should be entered in CSV file (without @domain).

** Resources will be migrated in a later step, so remove them from this working copy of the CSV file.

Exchange | Mail Enable Active Directory Users

Mail Enable Active Directory Users

SELECT ALL SELECT NONE BROWSE FILE MergedEdirGroupWiseUsers.csv

Name	Email	Database	Status	Message
admin	admin@finalfrontier.com	1433937436	NotStarted	
User 1	Test1@finalfrontier.com	Mailbox Data	NotStarted	
User 2	Test2@finalfrontier.com	Mailbox Data	NotStarted	
User 3	Test3@finalfrontier.com	Mailbox Data	NotStarted	
User 4	Test4@finalfrontier.com	Mailbox Data	NotStarted	
1try	1try@psac-afpc.com	1433937436	NotStarted	
2try	2try@psac-afpc.com	1433937436	NotStarted	
Mariam Abou-Di	AbouDIM@psac-afpc.com	1433937436	NotStarted	
Action	Action@psac-afpc.com	1433937436	NotStarted	
Lisa Addario	AddarioL@psac-afpc.com	1433937436	NotStarted	

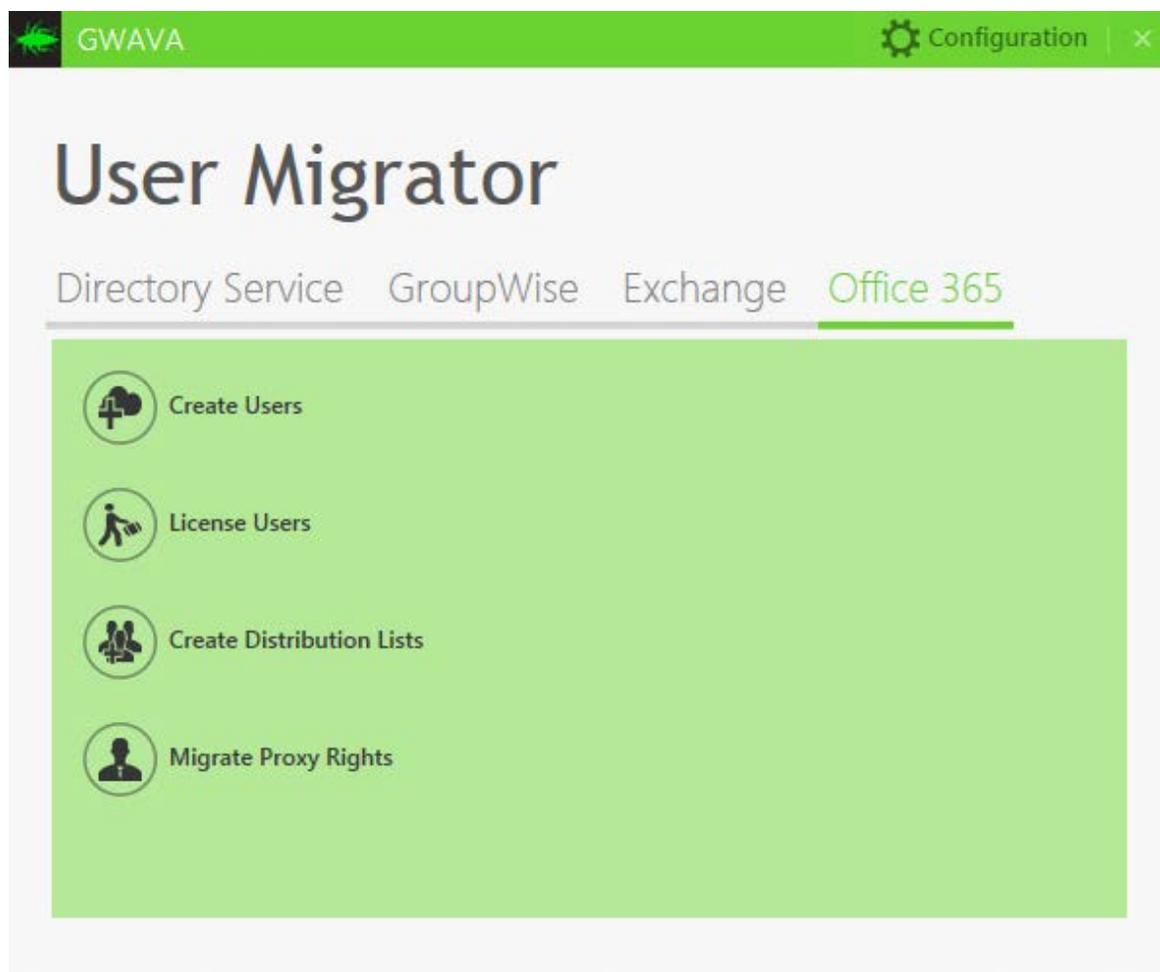
Selected: 1 Total: 607

START CANCEL

Browse to the eDirectory, or Merged eDirectory and GroupWise user CSV file (The csv.data file will be filled in automatically.)

Select one, some, or all users. If this is your first attempt at creating users, it is recommended to choose a single user to migrate to test if the results are what you anticipate. You can select a single user by clicking on the user's name. Press Start to begin the creation process. (If users are already Mail Enabled, the tool may throw a warning).

Office 365



Prerequisites:

- Microsoft .NET 4.6.1 or higher
- Windows Management Framework 3.0 or higher
- Microsoft Online Services Sign-In Assistant for IT Professionals
- Windows Azure AD Module for Windows PowerShell
- Novell Configuration Settings
- Microsoft Configuration Settings
- Exported eDirectory, or Merged eDirectory and GroupWise user CSV file

Create Users

Make a working copy of the CSV file.

Verify that the eDirectory and GroupWise users.csv file contains the correct e-mail addresses, and GUIDs that will be migrated.

The following columns must be filled in:

cn	Mandatory, User's Common Name in eDirectory or GroupWise
displayName	Mandatory, User's Display Name
destinationEmail	Recommended, User's Destination email in O365
usageLocation	Mandatory, Two character country code (e.g. US, FR)
type	Mandatory, This should be type User, not resource*

*Resources will be migrated in a later step, so remove them from this working copy of the CSV file.

Create Office 365 Users

SELECT ALL SELECT NONE **BROWSE CSV FILE** MergedEdirGroupWiseUsers.csv BROWSE CSV.DATA FILE MergedEdirGroupWiseUsers.csv.data

Name	Email	Usage Location	Status	Message
admin	admin@finalfrontier.com		NotStarted	
User 1	Test1@finalfrontier.com		NotStarted	
User 2	Test2@finalfrontier.com		NotStarted	
User 3	Test3@finalfrontier.com		NotStarted	
User 4	Test4@finalfrontier.com		NotStarted	
1try	1try@psac-afpc.com		NotStarted	
2try	2try@psac-afpc.com		NotStarted	
Mariam Abou-Dib	AbouDIM@psac-afpc.com		NotStarted	
Action	Action@psac-afpc.com		NotStarted	
Lisa Addario	AddarioL@psac-afpc.com		NotStarted	

INFO - Skipped duplicated user: user

EXPORT DATA **START** CANCEL

Browse to the eDirectory, or Merged eDirectory and GroupWise user CSV file (The csv.data file will be filled in automatically.)
 Select one, some, or all users. If this is your first attempt at creating users, it is recommended to choose a single user to migrate to test if the results are what you anticipate. You can select a single user by clicking on the user's name.
 Press Start to begin the creation process.

Office365 | License Users

You will need to enter the license for each user in the CSV file under the *office365License* column.

Make a working copy of the CSV file.

Verify that the eDirectory and GroupWise users.csv file contains the correct e-mail addresses, and GUIDs that will be migrated.

The following columns must be filled in:

cn	Mandatory, User's Common Name in eDirectory or GroupWise
office365License	Mandatory, User's plan/license in O365
type	Mandatory, This should be type User, not resource*

Migration Toolkit 4.0

*Resources will be migrated in a later step, so remove them from this working copy of the CSV file.

If you are unsure of what licenses are available to your users, press the License Information button to see what licenses O365 shows as available.

The screenshot shows a window titled "OFFICE 365 LICENSES". Inside, there is a table with the following data:

Plan Name	Code	Active Units	Warning Units	Consumed Units	Available Units
Office 365 (Plan E3)	beginfinite:ENTERPRISEPACK	1	0	1	0
Office 365 (Plan K1)	beginfinite:DESKLESSPACK	5	0	5	0
Office 365 Exchange Online Only	beginfinite:EXCHANGESTANDARD	1	0	1	0

Below the table is a "GET LICENSES" button.

Once the license is entered for each user in the CSV you may continue.

The screenshot shows a window titled "License Users Office 365". It features a table with columns: Name, Email, Usage Location, License, Status, and Message. The table contains several rows of user data, all with a "NotStarted" status and a message indicating they do not have an "office365License" in the CSV file.

Below the table is a console window with the following error messages:

```

INFO - Connecting to Office 365 PowerShell ...
INFO - Connected to Office 365 PowerShell.
ERROR - The process cannot access the file 'C:\CSV and Configs\SFMergedEdirGroupWiseUsers.csv' because it is being used by another process.
ERROR - at System.IO._Error.WinIOError(Int32 errorCode, String maybeFullPath)
at System.IO.FileStream.Init(String path, FileMode mode, FileAccess access, Int32 rights, Boolean useRights, FileShare share, Int32 bufferSize, FileOptions options, SECURITY_ATTRIBUTES securityAttributes, Boolean allowAutoClose)
at System.IO.FileStream..ctor(String path, FileMode mode, FileAccess access, FileShare share, Int32 bufferSize, FileOptions options, String msgPath, Boolean bFromProxy, Boolean allowAutoClose)
at System.IO.StreamReader..ctor(String path, Encoding encoding, Boolean detectEncodingFromByteOrderMarks, Int32 bufferSize, Boolean checkHost)
at System.IO.StreamReader..ctor(String path, Encoding encoding, Boolean detectEncodingFromByteOrderMarks)
at LINQtoCSV.CsvContext.<ReadData>d__0.MoveNext()
at Gwava.Common.Tools.CSVHelper.ReadFile[T](String filepath, Char separator) in c:\CIWorkspaces\MigrationToolkit-2.1.6\UserMigrator\Tools\Tools\CSVHelper.cs:line 61
ERROR - The process cannot access the file 'C:\CSV and Configs\SFMergedEdirGroupWiseUsers.csv' because it is being used by another process.
ERROR - at Gwava.Common.Tools.CSVHelper.ReadFile[T](String filepath, Char separator) in c:\CIWorkspaces\MigrationToolkit-2.1.6\UserMigrator\Tools\Tools\CSVHelper.cs:line 61
at UserProvisioningInterface.InCloudController.LoadExchangeUsersFromFile(String fileName) in c:\CIWorkspaces\MigrationToolkit-2.1.6\UserMigrator\UserProvisioningInterface
  
```

At the bottom of the window are "START" and "CANCEL" buttons.

Browse to the eDirectory, or Merged eDirectory and GroupWise user CSV file (The csv.data file will be filled in automatically.)

Select one, some, or all users. If this is your first attempt at creating users, it is recommended to choose a single user to migrate to test if the results are what you anticipate. You can select a single user by clicking on the user's name. Press Start to begin the creation process.

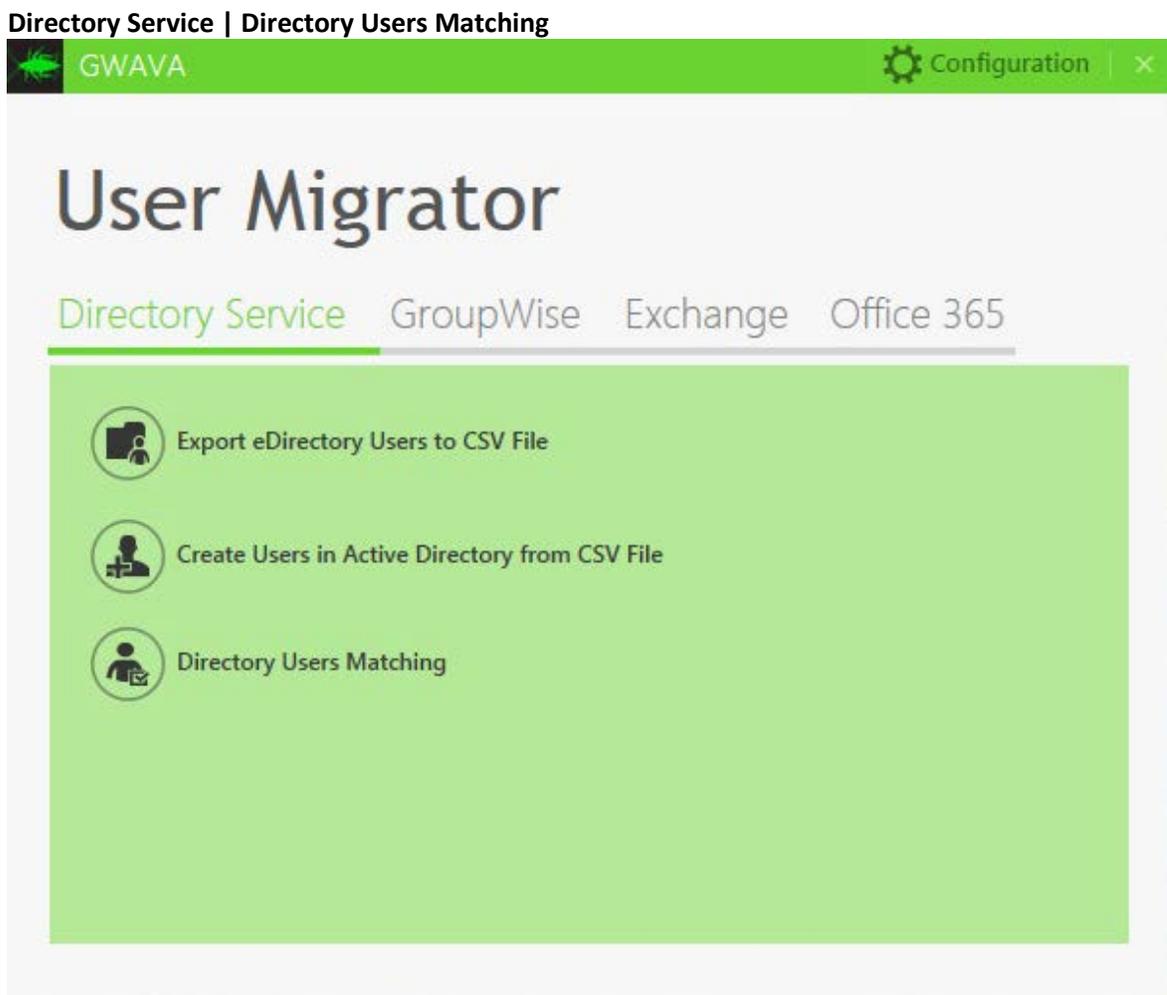
User Matching

Once users have been migrated to the new system they need to be matched between the directories. Matching users between systems adds the Active Directory and Exchange/O365 data to the user CSV file. This is needed to migrate distribution lists, forwarding rules, and resources. These tools need the details of the source and destination so they can function properly.

Prerequisites:

- Novell Configuration Settings
- Microsoft Configuration Settings
- Exported eDirectory, or Merged eDirectory and GroupWise user CSV file
- Users in Active Directory/Azure and Mail Enabled

Directory Users Matching



Click on *Directory Users Matching* to open the tool.



Browse to the eDirectory, or Merged eDirectory and GroupWise user CSV file.
Press *Start Merging* to begin the process.
Save the resulting file and press Done.

Migrate Distribution Lists

The Toolkit can migrate distribution lists from GroupWise to Exchange/O365. You will need to match the users between directories and export the existing distribution lists before migrating the distribution lists to the new system.

Prerequisites:

- Novell Configuration Settings
- Microsoft Configuration Settings
- Exported eDirectory, or Merged eDirectory and GroupWise user CSV file
- Users in Active Directory/Azure and Mail Enabled
- Owner(s) of Distribution Lists Migrated to Active Directory/Azure and Mail Enabled
- Exported Match Users CSV file

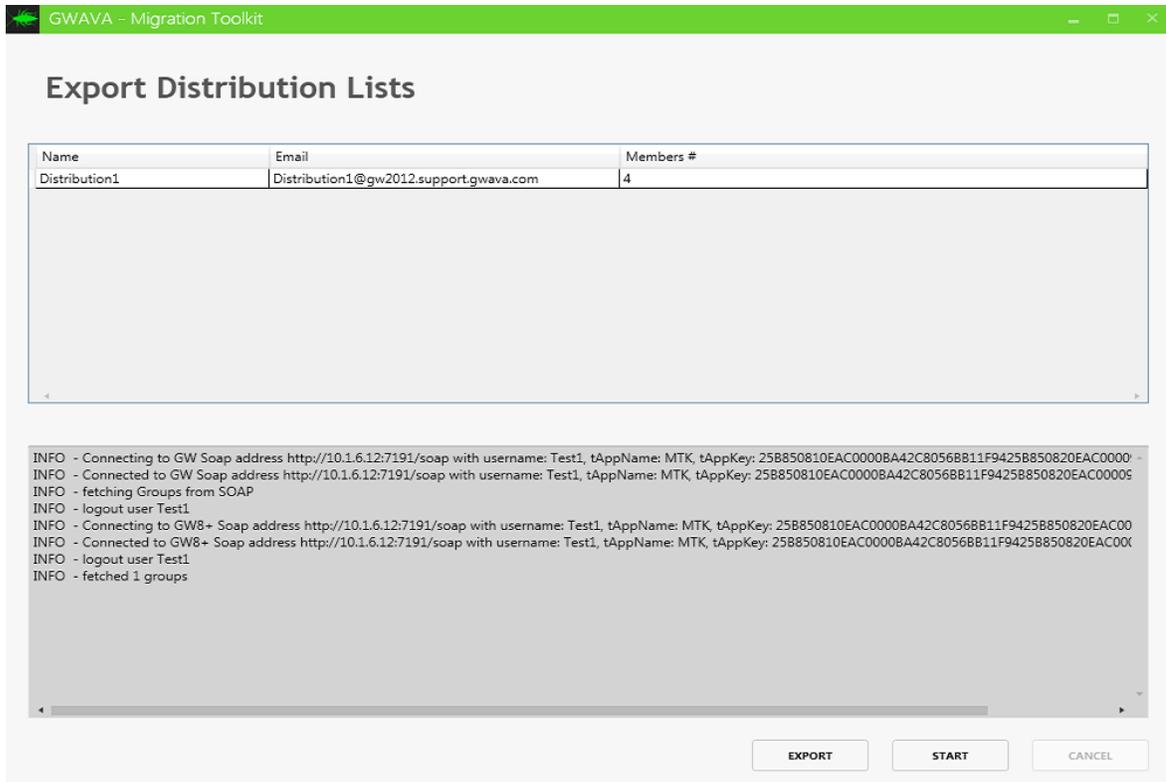
Export GroupWise Distribution Lists

GroupWise | Export Distribution Lists



Click on *Export Distribution Lists* to open the tool.

Migration Toolkit 4.0



Press Start and the tool will find the existing distribution lists in GroupWise. Choose one, some, or all of the distribution lists and press Export to save them to a file.

Create Distribution Lists

Go to the Exchange or Office365 tab, depending on your system.

Exchange/Office 365 | Create Distribution Lists

Click on the *Create Distribution Lists* icon to open the tool.

GWAVA - Migration Toolkit

Create Distribution Lists

SELECT ALL SELECT NONE LOAD DISTRIBUTION LISTS SFGW-DistributionLists.csv LOAD USERS DATA SFMatchingMerged.csv

Name	Email	Members #	Status	Status Message
Distribution1	Distribution1@gw2012.support.gwava.com	4	NotStarted	This distribution list has no member.

WARN - Distribution List: Distribution1. User not found: Test1@gw2012.support.gwava.com
WARN - Distribution List: Distribution1. User not found: Test2@gw2012.support.gwava.com
WARN - Distribution List: Distribution1. User not found: Test3@gw2012.support.gwava.com
WARN - Distribution List: Distribution1. User not found: Test4@gw2012.support.gwava.com

START CANCEL

Click on the *Load Distribution Lists* button and browse to the distribution list CSV file.

The *Load Users Data* button will now be enabled. Press it and browse to the Directory Users Matching CSV file.

Click Start to migrate the Distribution Lists/Groups.

Migrate Proxy Rights

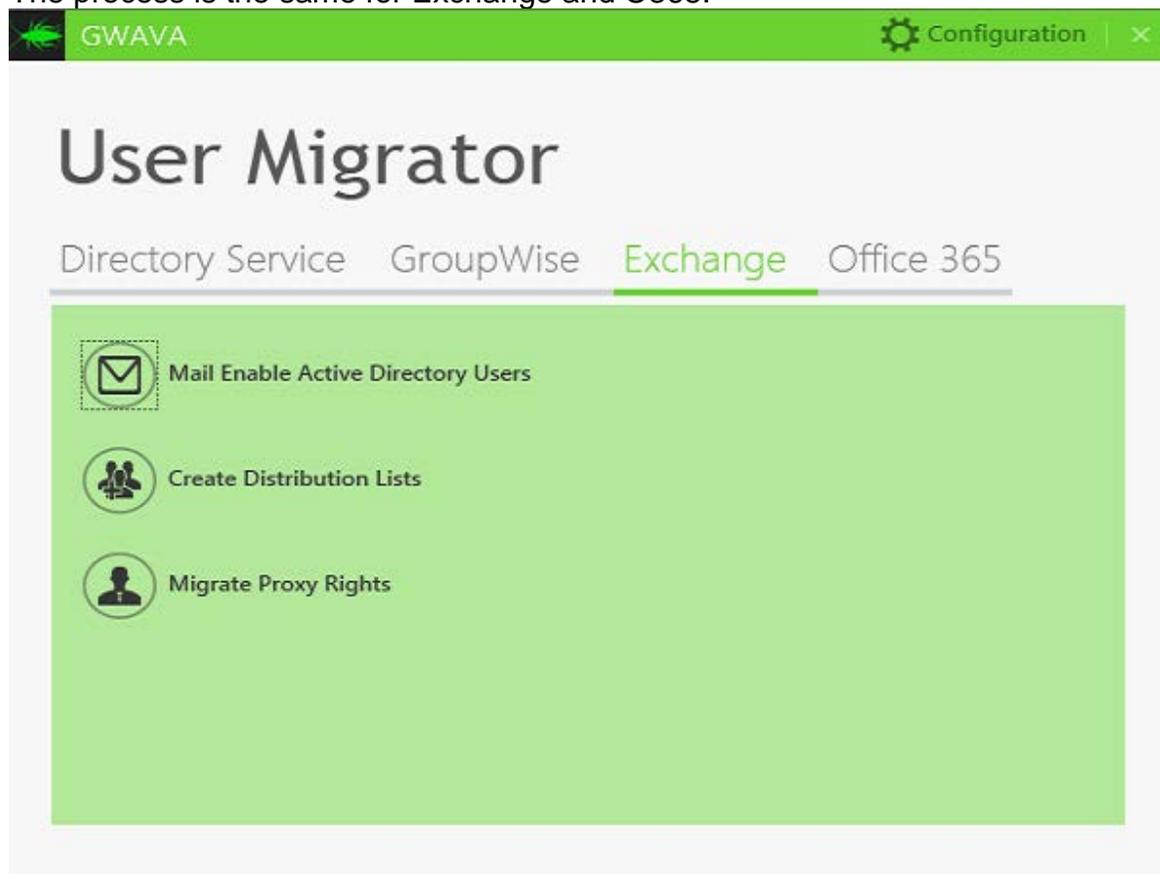
This tool allows you to migrate proxy rights in GroupWise to delegate rights in Exchange/O365 so users that have the ability to open another user's mailbox.

Prerequisites:

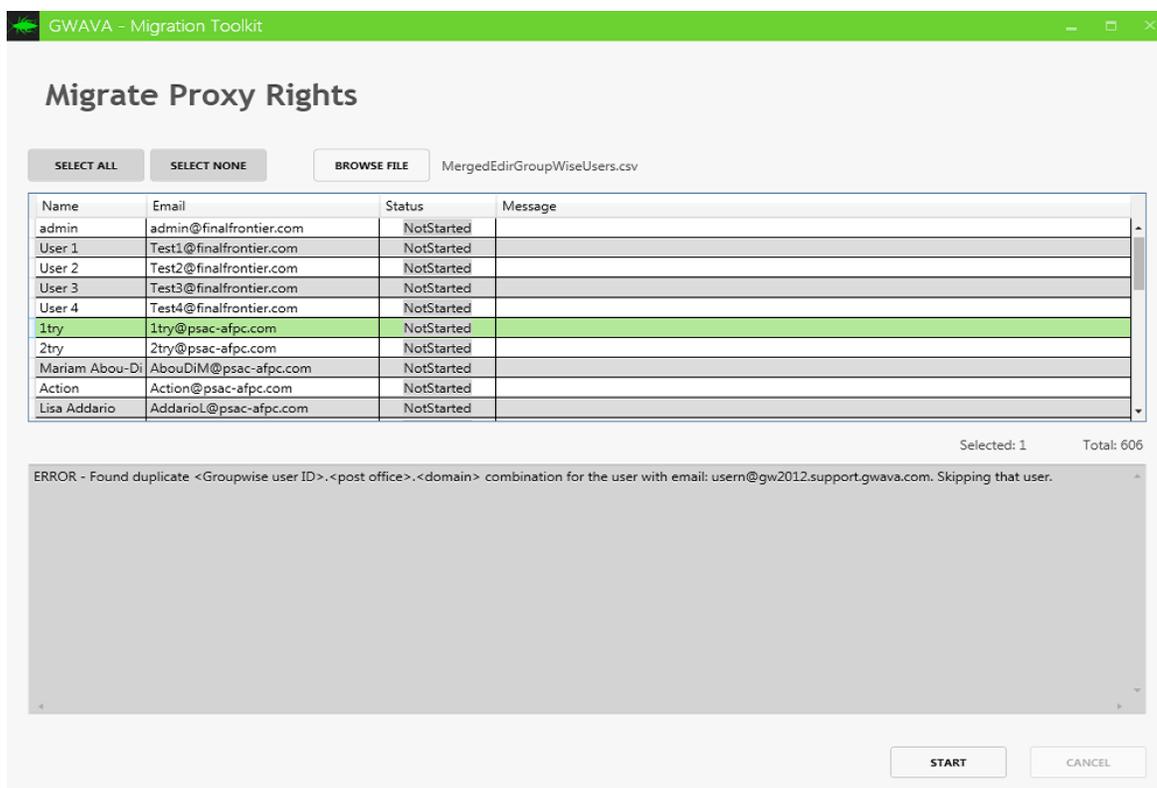
- Novell Configuration Settings
- Microsoft Configuration Settings
- Exported eDirectory, or Merged eDirectory and GroupWise user CSV file
- Users in Active Directory/Azure and Mail Enabled

Migrating Proxy Rights

The process is the same for Exchange and O365.



Click on *Migrate Proxy Rights* to open the tool.



1. Browse to the eDirectory, or Merged eDirectory and GroupWise user CSV file.
2. Select one, some, or all users. If this is your first attempt at creating users, it is recommended to choose a single user to migrate to test if the results are what you anticipate. You can select a single user by clicking on the user's name.
3. Press Start to begin the creation process.

Exchange/Office 365 Migrate Proxy Rights

1. Import eDirectory and GroupWise users.csv
2. Click Start

Using Proxy Rights

Details on GroupWise proxy versus Exchange permission rights

GroupWise Full Access proxy rights do not have an exact equivalent to the Exchange permission system, therefore proxy users will be granted permission to the user's Exchange mailbox on a folder by folder basis.

The GroupWise access rights to Exchange folder permission is mapping is made as below:

GroupWise Access Rights	Exchange folder(s)
Mail/phone	Inbox, Draft, SentItems, JunkEmail, Outbox, DeletedItems, and any other user created

	folder
Appointments	Calendar
Reminder notes	Notes
Tasks	Tasks

Additionally, "Folder visible" permission to the Exchange user's root folder will be granted to the proxy user.

The mapping from proxy Permissions in GroupWise to Permission levels in Exchange is:

Permission in GroupWise Permission level in Exchange

Read	Reviewer
Write	Contributor
Read and Write	Publishing Editor

Grant Permission to View/Edit folders to Another User

All folder permissions are viewable/editable via Outlook web app or the desktop Outlook client.

In the Outlook web app:

1. Right click on a folder
2. Click *Permissions...*
3. Select user(s) to grant permission to access to the source user's folders

Adding Proxy User's folders to the Outlook Sidebar

In a proxy user account, in order to have access to the user's folders who have given them access:

1. Right click on root folder then click *Add shared folder...*
2. Type the user's email address
3. Click *Add*, then you'll see all accessible folders added to the left side panel

Opening Another Mailbox

To allow a user to open another user's mailbox from Outlook/OWA, full access rights must be granted:

1. In GroupWise, **all possible** rights **must** be granted to the proxy account
2. Run the migration.
3. In Exchange/O365, **Full Access** rights **must** be granted to that same user account

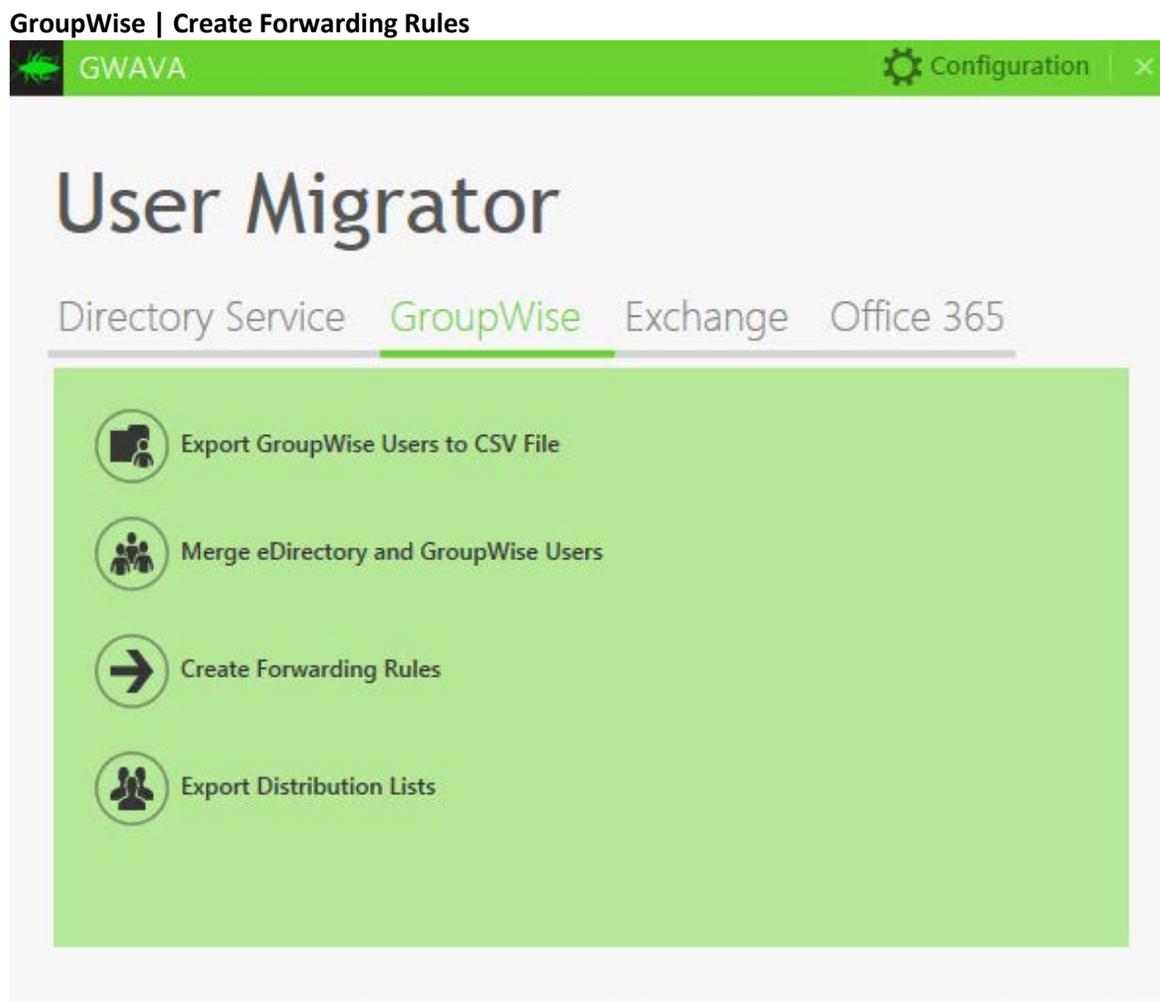
Create Forwarding Rules

This tool allows you to create forwarding rules in GroupWise that will automatically forward new mail to the new email system.

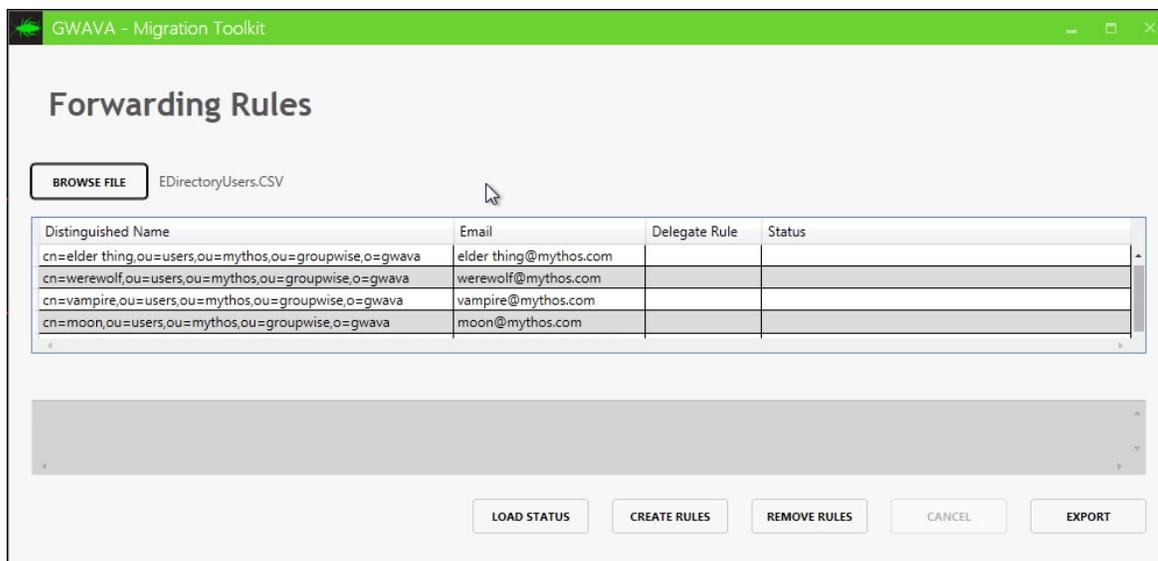
Prerequisites:

- Novell Configuration Settings
- Microsoft Configuration Settings
- Exported eDirectory, or Merged eDirectory and GroupWise user CSV file
- Users in Active Directory/Azure and Mail Enabled
- Exported Match Users CSV file

Create the Forwarding Rules



Click on *Create Forwarding Rules* to open the tool.



Browse to the eDirectory, or Merged eDirectory and GroupWise user CSV file.

Press *Load Status* to begin the process.

Check the existing rules that they are what you expect.

Select one, some, or all rules. If this is your first attempt at migrating rules, it is recommended to choose a single rule to migrate to test if the results are what you anticipate. You can select a single rules by clicking on the rule's name.

Press *Create Rules* to have the tool create the rules in Exchange/O365.

Migrate Resources

Resources are things like conference rooms, projectors, or other item or place that can be scheduled for use. In GroupWise resources have owners that control access, where in Exchange resources have delegates.

Prerequisites:

- Novell Configuration Settings
- Microsoft Configuration Settings
- Exported eDirectory, or Merged eDirectory and GroupWise user CSV file
- Users in Active Directory/Azure and Mail Enabled
- Exported Match Users CSV file

Migrate Resources

Once the Match Users CSV file has been created, you will want to copy and paste the header, owner, and resource rows to their own CSV file to make this much simpler.

Make a working copy of the CSV file.

Verify that the eDirectory and GroupWise users.csv file contains the correct e-mail addresses, and GUIDs of the resource owners and resources that will be migrated.

The following columns must be filled in:

cn	Mandatory, Resource or Owner's Common Name in eDirectory or GroupWise
destinationGUID	Mandatory, Owner's GUID
resourceOwner	Mandatory, DestinationGUID from Owner
type	Mandatory, This should be type Resource

You will need to copy the destinationGUID (column AA) of the owner to the resourceOwner (column AF) for the resource.

Now you may use the Exchange | Mail Enable Active Directory Users tool to migrate the resources and connect them to their owners.

EMail Migrator

EMail Migrator Configuration

Before you can use the EMail Migrator you need to configure the tool and your system. The Email Migrator uses EWS to migrate email items and SMTP to migrate Calendar and Task items, you should have those configured in the System Preparation step.

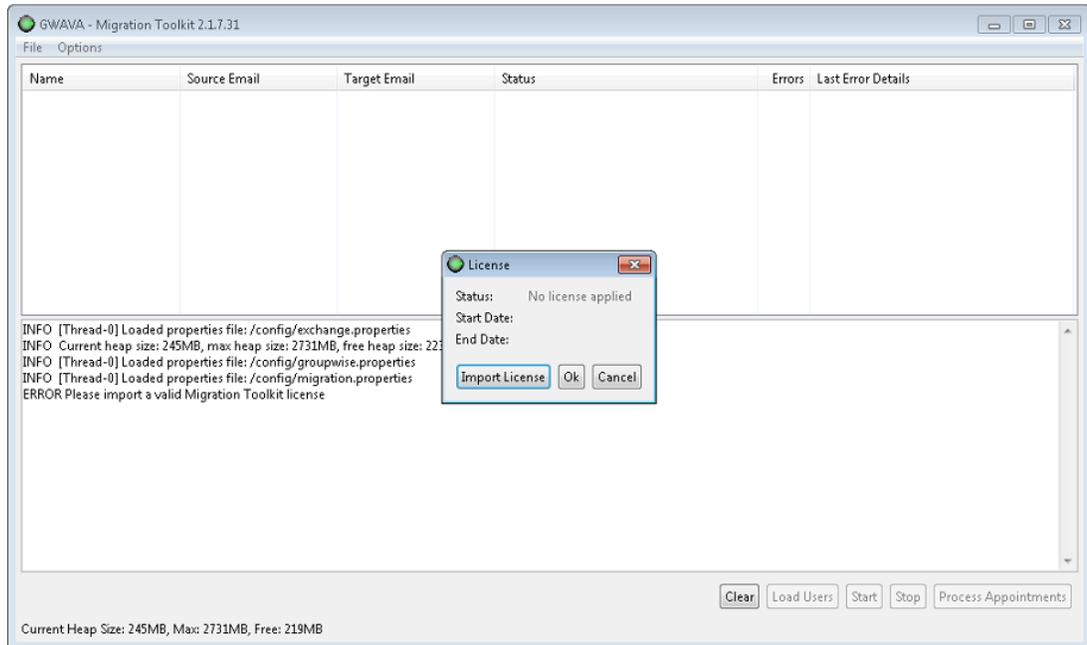
Prerequisites

- Exported eDirectory, or Merged eDirectory and GroupWise user CSV file
- Users and Owners migrated to Active Directory and Exchange/O365
- Users Mail Enabled and Licensed
- Basic Authentication enabled on all CAS servers
- Impersonation Account created
- Throttling Policy set
- IIS limits set
- SMTP relay setup and configured

Note: You will need to set up an SMTP relay to do migration in order to avoid SMTP host errors.

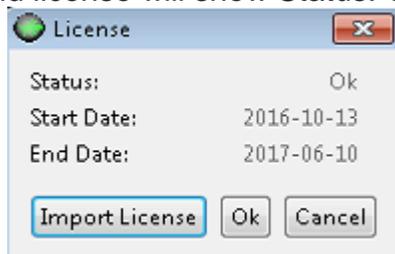
License EMail Migrator

The EMail Migrator will not function until a License is imported. When you open the EMail Migrator for the first time it will pop-up a license dialog box. Otherwise, you can enter the license under
File | License

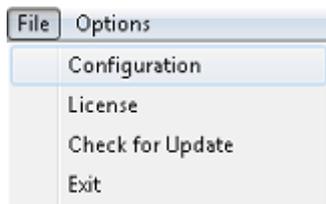


Press **Import License** and browse to the license PEM file.

A valid license will show Status: Ok with start and end dates filled in.



File Menu

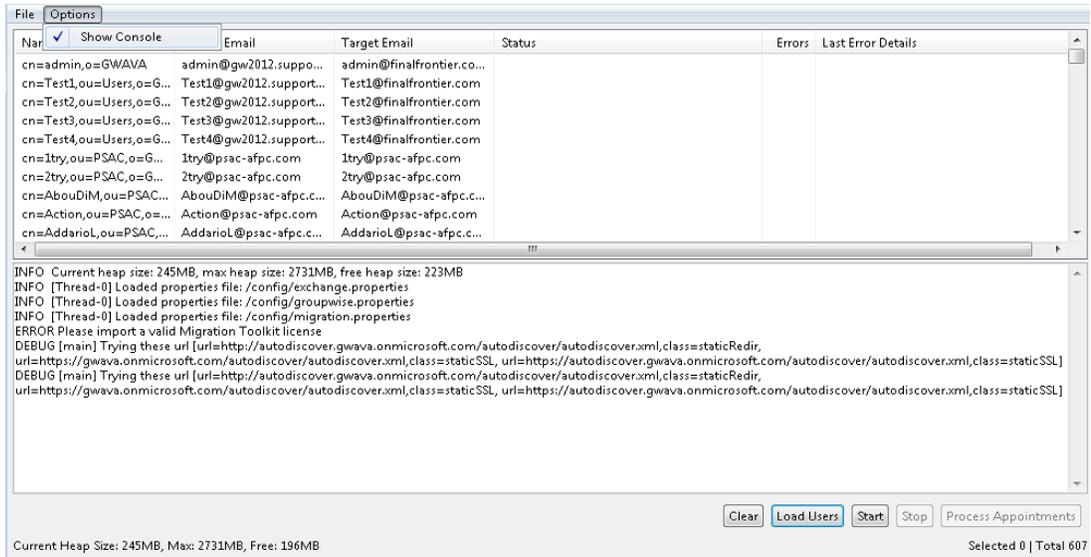


From the File menu you can access Configuration settings, License settings, Check for Updates, and Exit the Program.

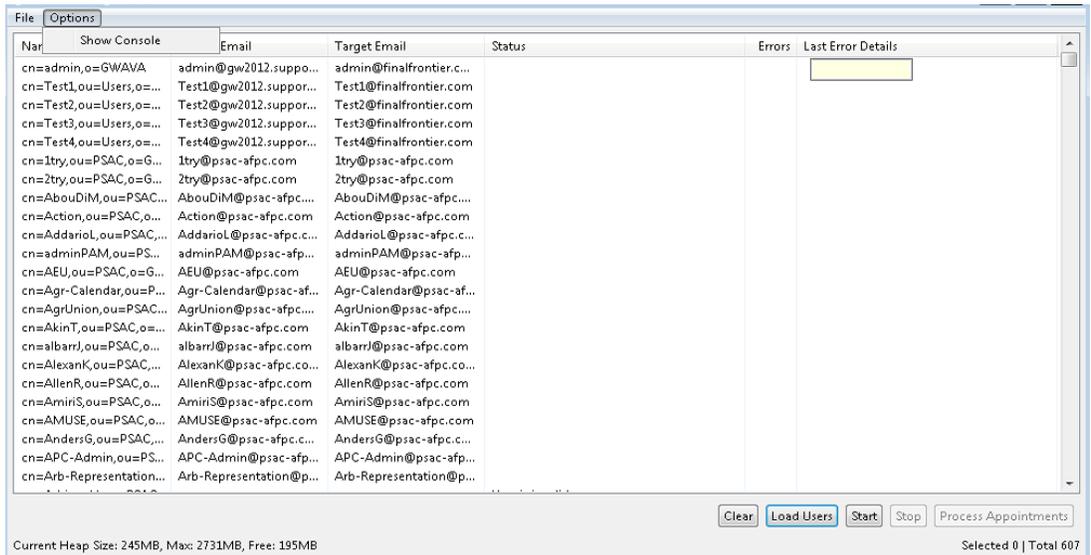
Options Menu

The Options menu allows you to show or hide the console, the lower part of the display that presents system messages.

Migration Toolkit 4.0



Console hidden



E-Mail Migration

To migrate email, the E-Mail Migrator uses EWS to transfer the data. For best performance, the user CSV file created during User Migration should be split into 200 user segments. This allows you to also run the migration on multiple workstations.

Prerequisites

- Exported eDirectory, or Merged eDirectory and GroupWise user CSV file, split into 200 user segments.
- Users migrated to Exchange/O365
- EWS configured

Configure E-mail Migration

The Email Migrator needs to be configured so it knows the source and destination for the items.

There are two modes for the migrator mail items and calendar items.

General settings

Under **Configuration | General**, set Migration Items to **Mail**

The screenshot shows the 'Configuration' dialog box with the 'General' tab selected. The 'Migration Items' dropdown is set to 'Mail'. The 'Source Server' dropdown is set to 'GroupWise' and the 'Target Server' dropdown is set to 'Exchange'. The '# of Concurrent Migration' is set to '2'. The 'Duplicates' dropdown is set to 'No Action'. The 'Default Sender' field is empty. The 'Auto Email Address Translation' checkbox is unchecked. The 'Time Zone' dropdown is set to '-07:00 Mountain Time (US & Canada)'. The 'User List' field contains the path 'C:\CSV and Configs\SFMergedEdirGroupWiseUsers.csv' and has a 'Browse' button next to it. The 'Path To Logs' field contains the path 'C:\Users\administrator.FINALFRONTIER\AppData\Roamir' and has a 'Browse' button next to it. At the bottom of the dialog are buttons for 'Save', 'Save to File', 'Load from File', and 'Cancel'.

Set "Source Server" to GroupWise

Set "Target Server" to Exchange or Office365

Set "# of Concurrent Migrations" to 5 (Max). To run more than five migrations in parallel, it is recommended to setup additional migration workstations.

Set Duplicates to No Action, Replace slows the migration down, and Skip currently doesn't work.

Leave "Default Sender" blank. To change where all messages are sent from, supply an email address.

Auto Email Address Translation: Change address to current address in Exchange.

Time Zone: Changes time zone (not currently functional)

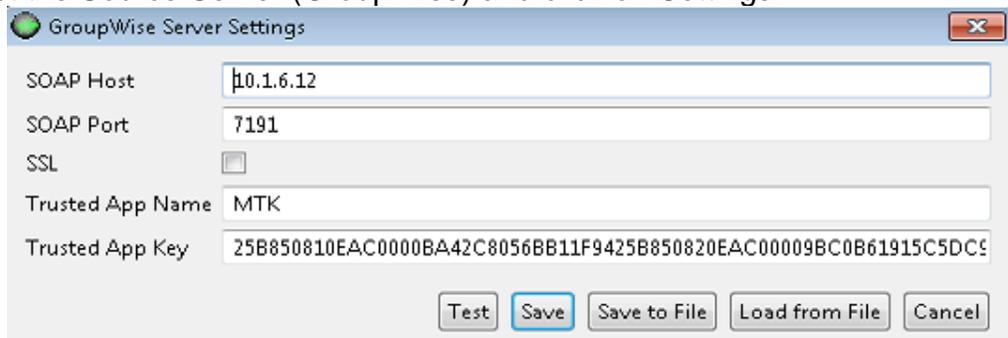
User List: Import eDirectory and GroupWise user.csv

Save to File to save for the next session.

Press Save to close the window for this session.

GroupWise Settings

Select the Source Server (GroupWise) and click on Settings.



Enter the data:

SOAP Host IP Address or Hostname

SOAP Port (7191 is the default)

Enable SSL, if needed

Trusted Application Name (Case Sensitive)

Trusted Application Key (Case Sensitive)

Click Test, to test the connection.

Save the setting to a file with the Save to File button and save the settings.

Exchange Settings

Select the Destination Server (Exchange) and click on Settings.

Enter the data:

- AD Domain Controller Hostname or IP Address
- AD Domain Controller Port (3268 is the default)
- Impersonation User Email Address
- Impersonation User Password
- Enable SSL, if needed
- Exchange Domain (Usually the email domain)
- Search Domain (In LDAP format. e.g. CN=Users,DC=company,DC=com)
- Default EWS URL
- SMTP Host IP Address or hostname
- SMTP Port (25 is default)
- Enable TLS, if needed.

O365 Settings

Select the Destination Server (Office365) and click on Settings.

Enter the data:

- Impersonation User Email Address
- Impersonation User Password
- Default EWS URL as found during System Preparation
- SMTP Host IP Address or hostname

SMTP Port (25 is default)
Enable TLS, if needed.

Note: The test only tests for SMTP connection.

Migration Criteria Settings

General limits on the email migration can be set on this panel. Generally, the defaults are sufficient. However, if your email system contains long term data you may want to consider entering a Start Date. Most organizations have a 10 year data retention policy, it makes little sense to migrate 20+ years of data in that case.

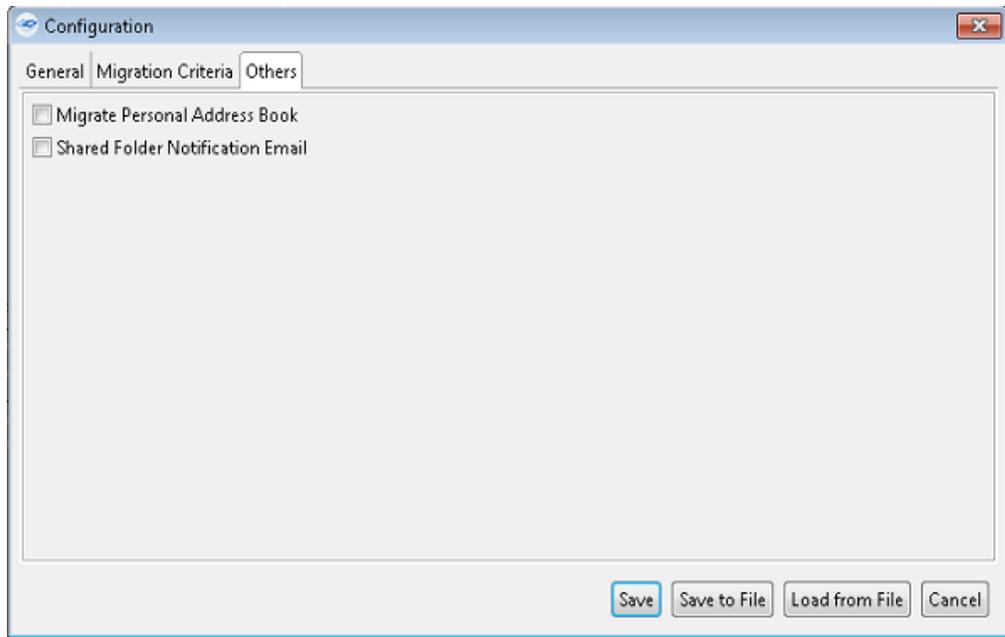
The screenshot shows a 'Configuration' dialog box with three tabs: 'General', 'Migration Criteria', and 'Others'. The 'Migration Criteria' tab is active. It contains a table with columns for 'Type', 'Start Date', 'End Date', and 'Attachment Size'. Each row represents a different email component, with checkboxes for selection and a dropdown for attachment size. At the bottom of the dialog are buttons for 'Save', 'Save to File', 'Load from File', and 'Cancel'.

Type	Start Date	End Date	Attachment Size
<input checked="" type="checkbox"/> Pattern			<input checked="" type="checkbox"/> Unlimited
<input checked="" type="checkbox"/> Mailbox			<input checked="" type="checkbox"/> Unlimited
<input checked="" type="checkbox"/> Sent Items			<input checked="" type="checkbox"/> Unlimited
<input checked="" type="checkbox"/> Draft			<input checked="" type="checkbox"/> Unlimited
<input checked="" type="checkbox"/> Personal Folders			<input checked="" type="checkbox"/> Unlimited
<input checked="" type="checkbox"/> Notes			<input checked="" type="checkbox"/> Unlimited
<input checked="" type="checkbox"/> Tasks			<input checked="" type="checkbox"/> Unlimited
<input checked="" type="checkbox"/> Trash			<input checked="" type="checkbox"/> Unlimited
<input checked="" type="checkbox"/> Cabinet			<input checked="" type="checkbox"/> Unlimited

Other Settings

Personal Address Books are not migrated by default.

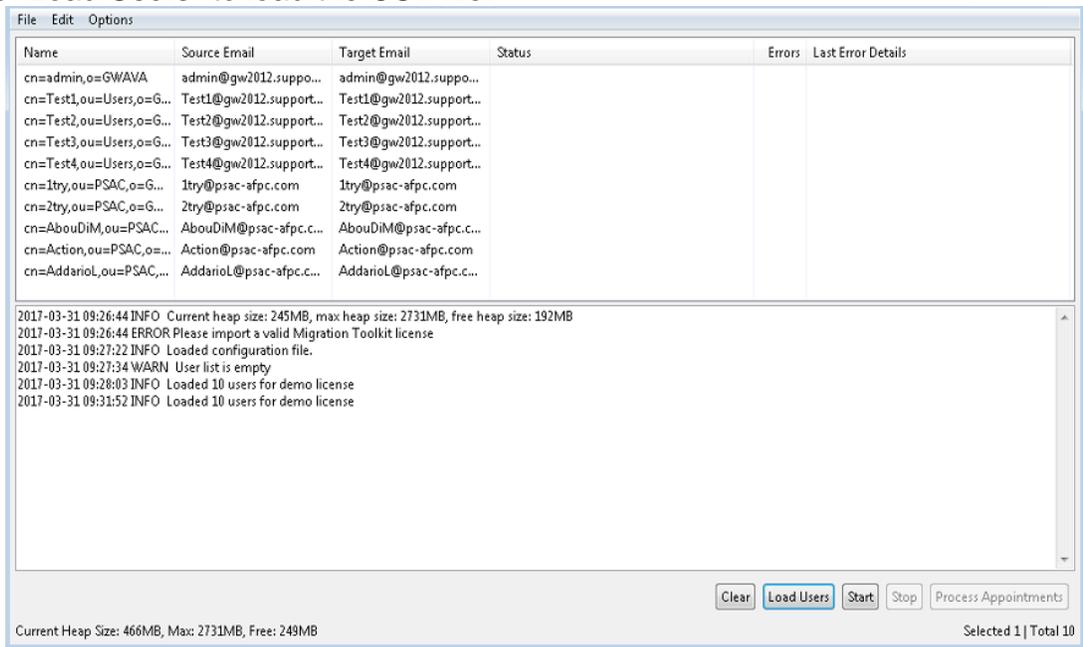
The MTK can send a Shared Folder Notification Email to the owners of the shared folder.



Once the settings are complete, save them to file for the next migration session and press Save to return to the migration tool.

Email Migration

Press "Load Users" to load the CSV file.



Select **none** to migrate all users or **click** on a user select one user, or use **Shift-click** to select continuous multiple users or **Control-click** for discontinuous multiple users.

Press **Start** to begin the migration process.

Migration Toolkit 4.0

If some users failed during a pass you can use **Edit | Select failed entries** to select the failed users to see which ones failed and retry.

The screenshot displays the Migration Toolkit 4.0 interface. At the top, there is a menu bar with 'File', 'Edit', and 'Options'. Below the menu is a toolbar with a button labeled 'Select failed entries'. The main area contains a table with the following columns: 'Name', 'Target Email', 'Status', 'Errors', and 'Last Error Details'. The table lists several users, including 'admin@gw2012.support...', 'Test1@gw2012.support...', 'Test2@gw2012.support...', 'Test3@gw2012.support...', 'Test4@gw2012.support...', '1try@psac-afpc.com', '2try@psac-afpc.com', 'AbouDiM@psac-afpc.c...', 'Action@psac-afpc.com', and 'Addariol@psac-afpc.c...'. Below the table is a log window showing the following messages:

```
2017-03-31 09:26:44 INFO Current heap size: 245MB, max heap size: 2731MB, free heap size: 192MB
2017-03-31 09:26:44 ERROR Please import a valid Migration Toolkit license
2017-03-31 09:27:22 INFO Loaded configuration file.
2017-03-31 09:27:34 WARN User list is empty
2017-03-31 09:28:03 INFO Loaded 10 users for demo license
```

At the bottom of the interface, there is a status bar showing 'Current Heap Size: 466MB, Max: 2731MB, Free: 254MB' and a button labeled 'Selected 1 | Total 10'. On the right side, there are buttons for 'Clear', 'Load Users', 'Start', 'Stop', and 'Process Appointments'.

Calendar and Task Migration

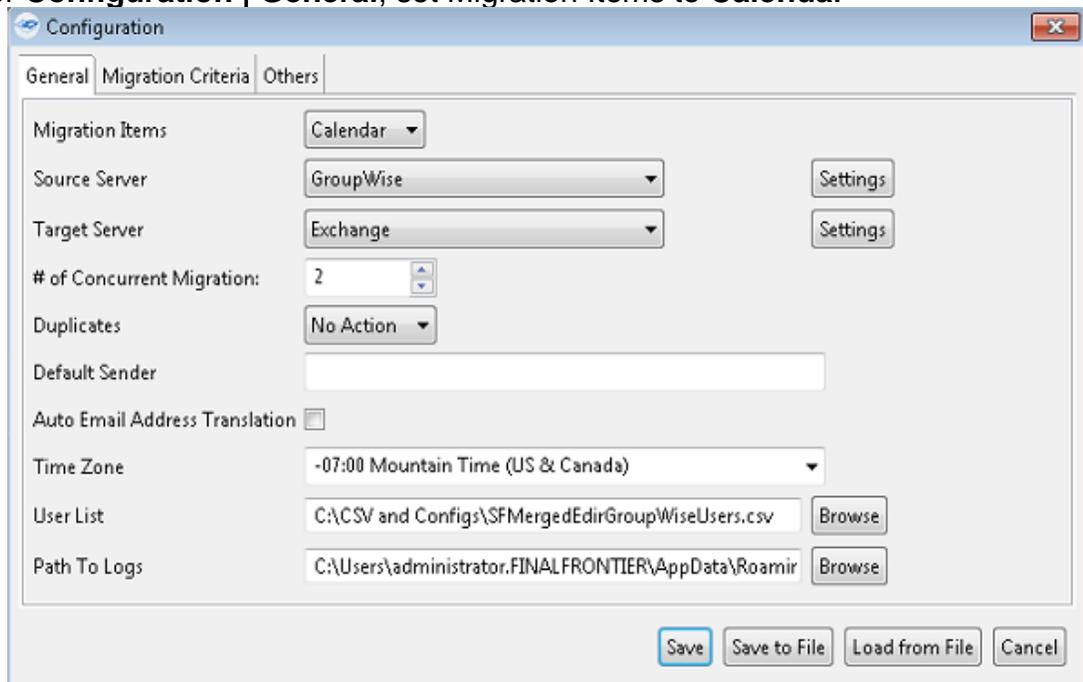
To migrate calendar and task items, the EMail Migrator uses SMTP to transfer the data. For best performance, the user CSV file created during User Migration should be split into 200 user segments. This allows you to also run the migration on multiple workstations.

Prerequisites

- Exported eDirectory, or Merged eDirectory and GroupWise user CSV file, split into 200 user segments.
- Users migrated to Exchange/O365
- SMTP relay configured

Configure Calendar Migration

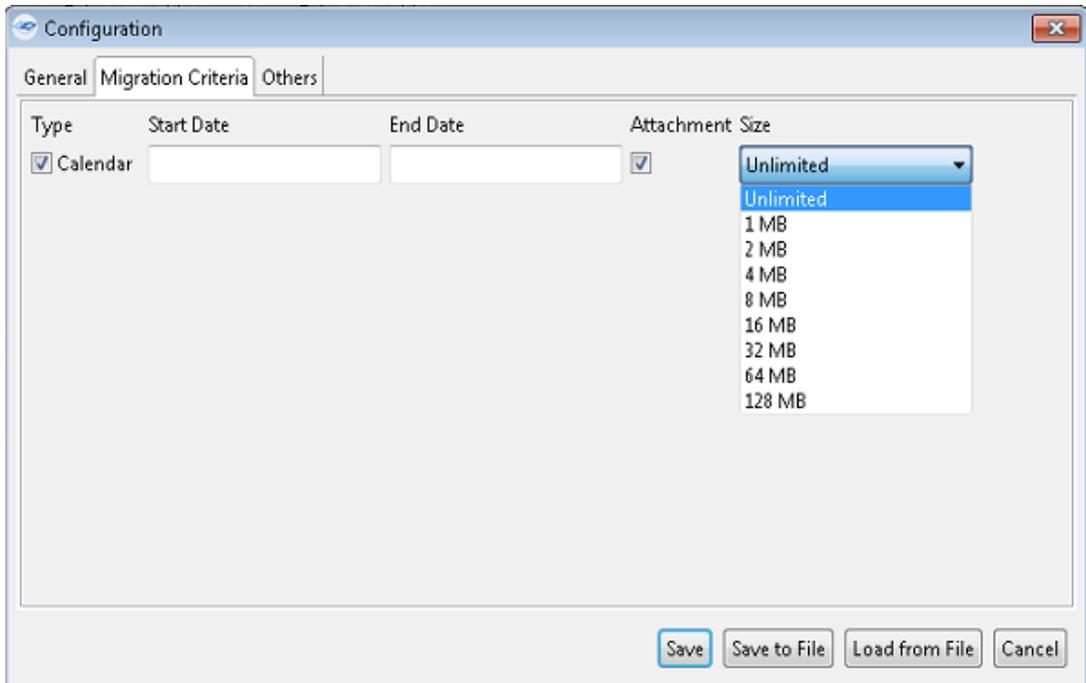
Under **Configuration | General**, set Migration Items to **Calendar**



Configure Migration Criteria

Set **Configuration | Migration Criteria**

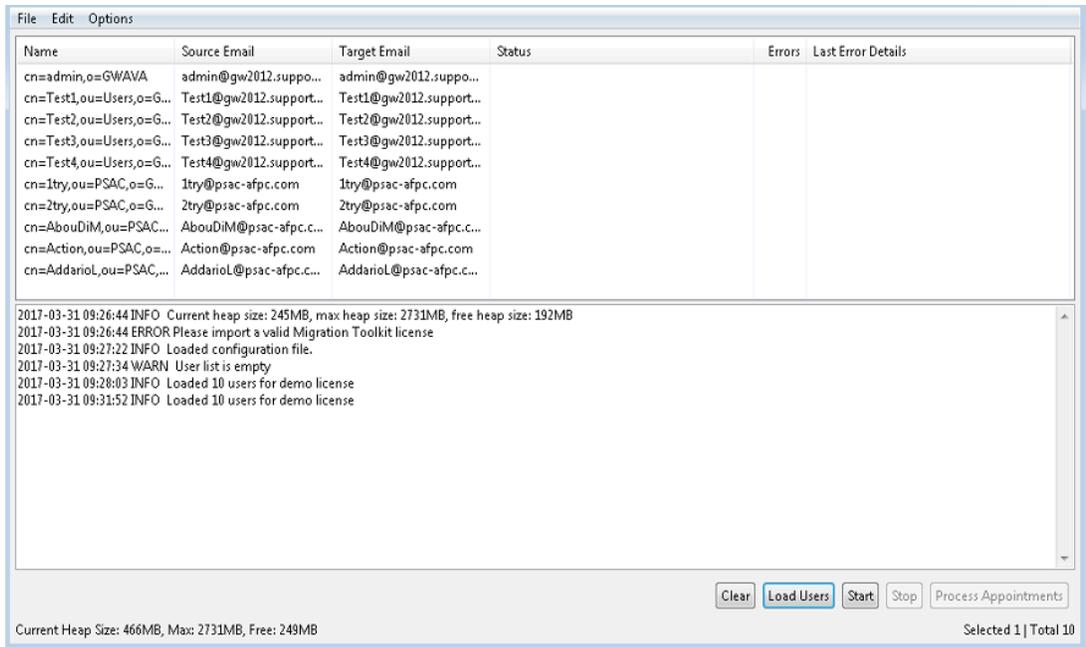
set start and end dates, if attachments are to be migrated and if attachment size is to be limited



Press Save

Calendar and Task Migration

Press "Load Users" to load the CSV file.



Select none to migrate all users or click on a user select one user, or use Shift to select continuous multiple users or Control for discontinuous multiple users. Press **Start** to begin the migration process.

GroupWise to PST Migrator

The GroupWise to PST Migrator

The GroupWise to PST Migrator is a tool that will migrate user mailboxes into PST files.

System Requirements

On a Windows 7 SP1 or Windows 10 64-bit workstation make sure you have installed ALL the following prerequisite software and must be installed to the C:\ drive:

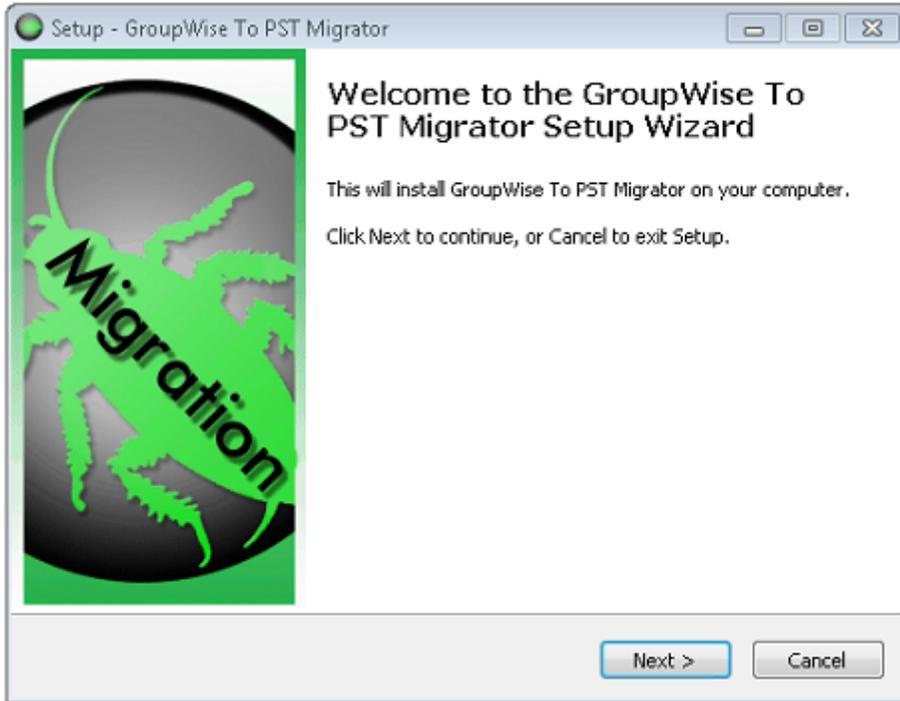
- [Microsoft .NET 4.6.1](#) or higher (installed by default in Win10 64-bit)
- [Java Runtime Environment 1.8](#) or higher
- GroupWise Client 7, 8, 2012 or 2014
- Outlook 2010, 2013, or 2016 (32-bit)

GroupWise To PST Migrator Installation

The GroupWise to PST Migrator is a separate tool that requires its own installation.

The installer is found in the MigrationToolkit folder and is call GroupWiseToPSTMigrator.exe

Double click on the executable to begin the installation process. You will be welcomed to the setup wizard.

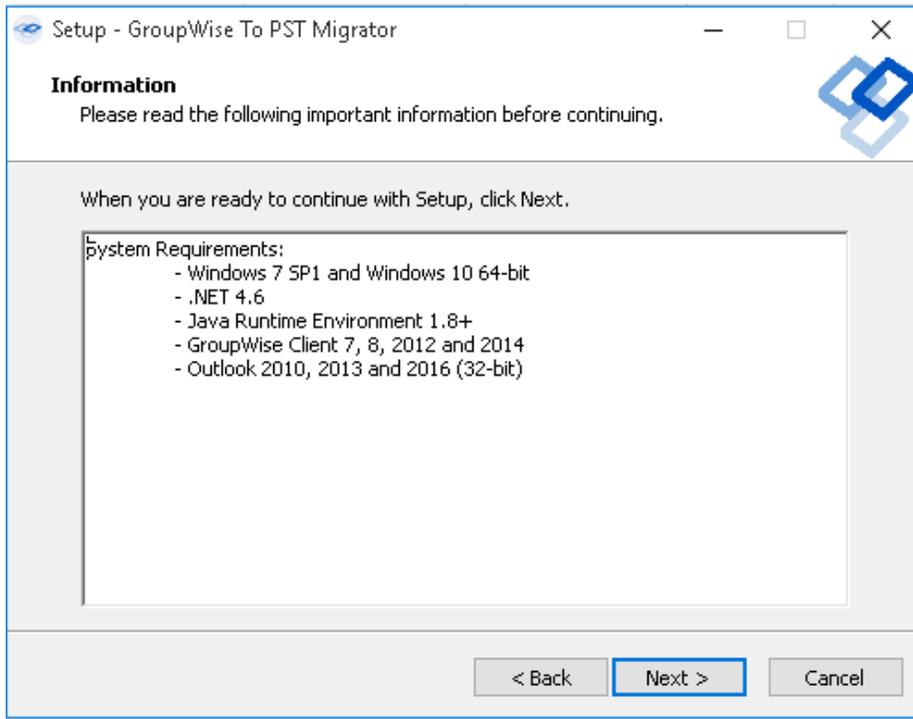


You will need to accept the license agreement to continue.

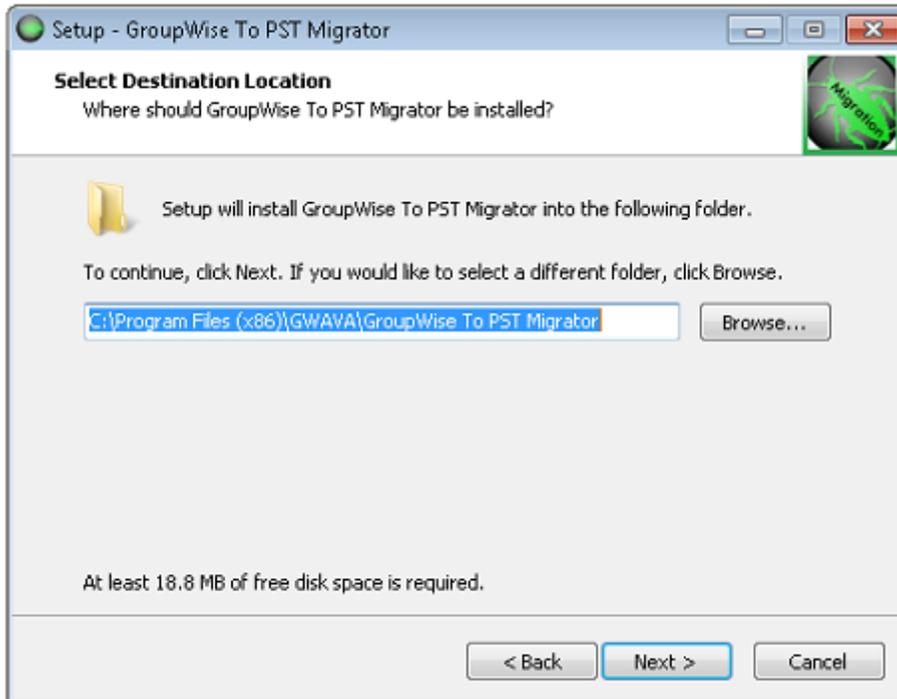


The system requirements will be shown.

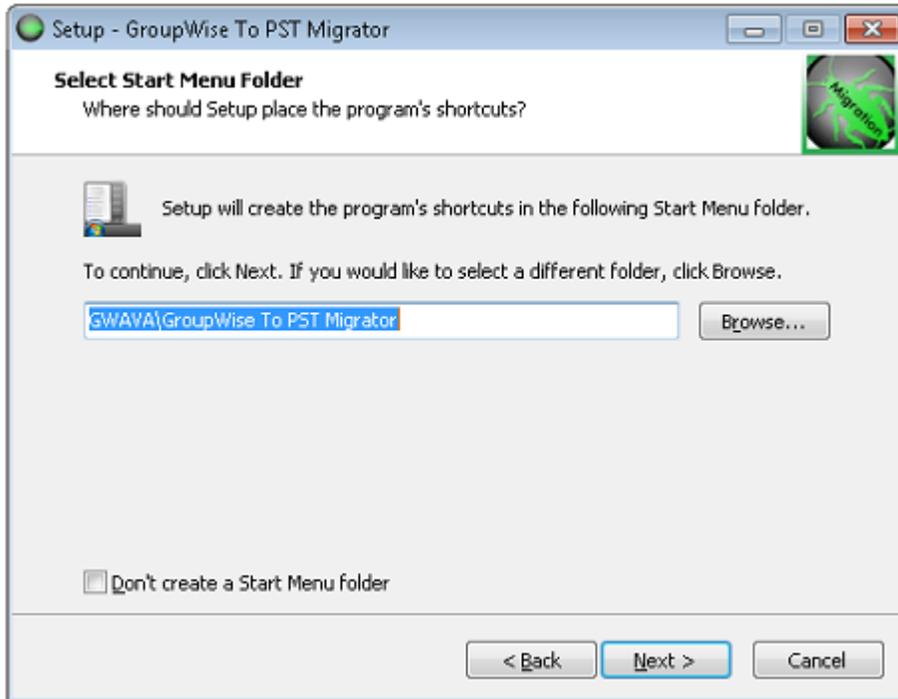
Migration Toolkit 4.0



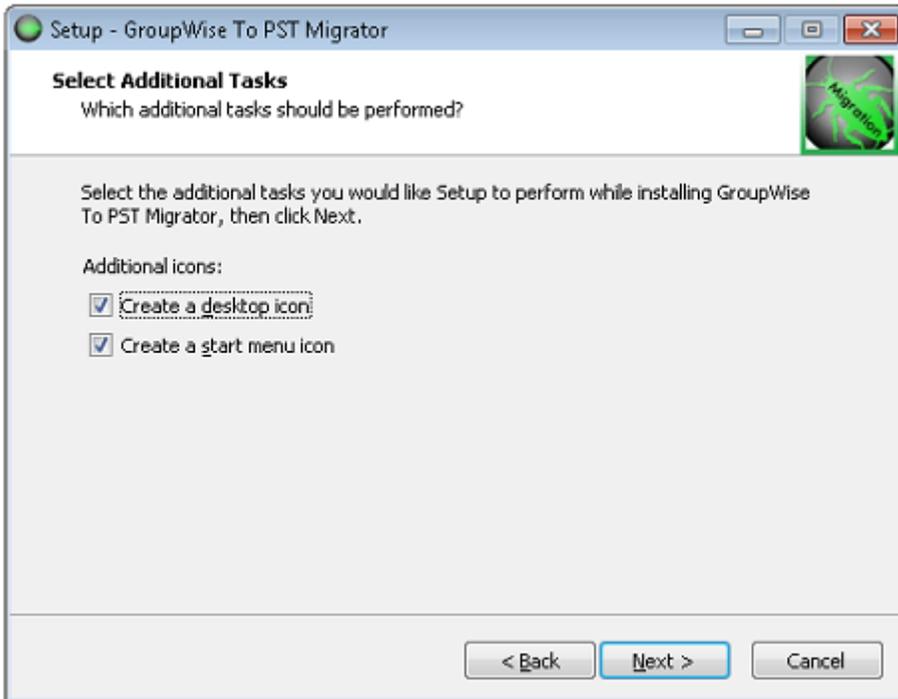
Select the destination location for this installation.



Select the Start menu folder to place the application in.

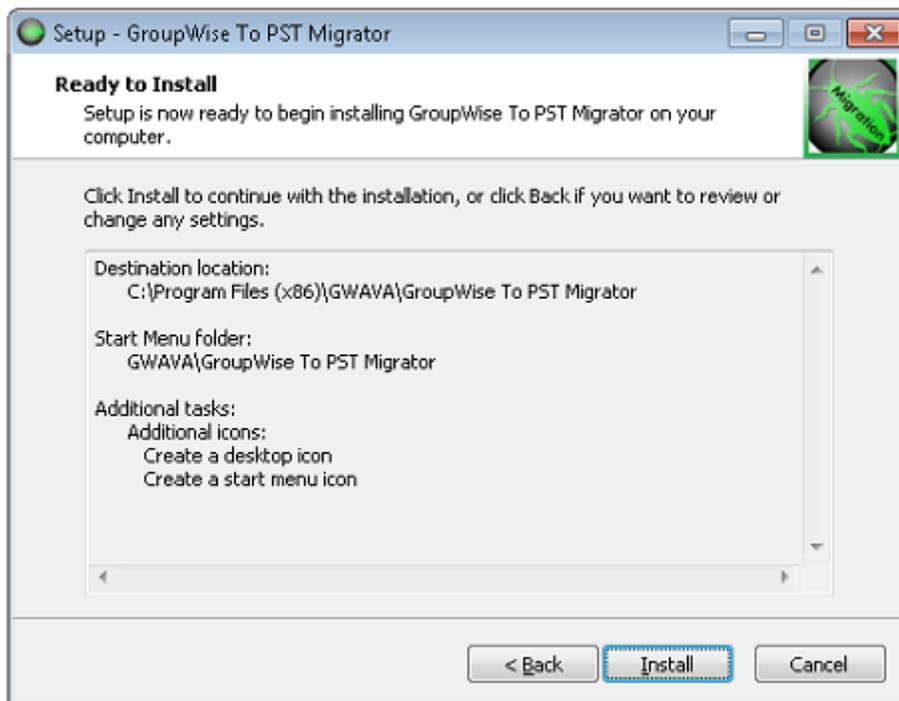


The installer will create a desktop and start menu icon unless otherwise specified.



The program is ready to install. Press Install to complete the installation process.

Migration Toolkit 4.0

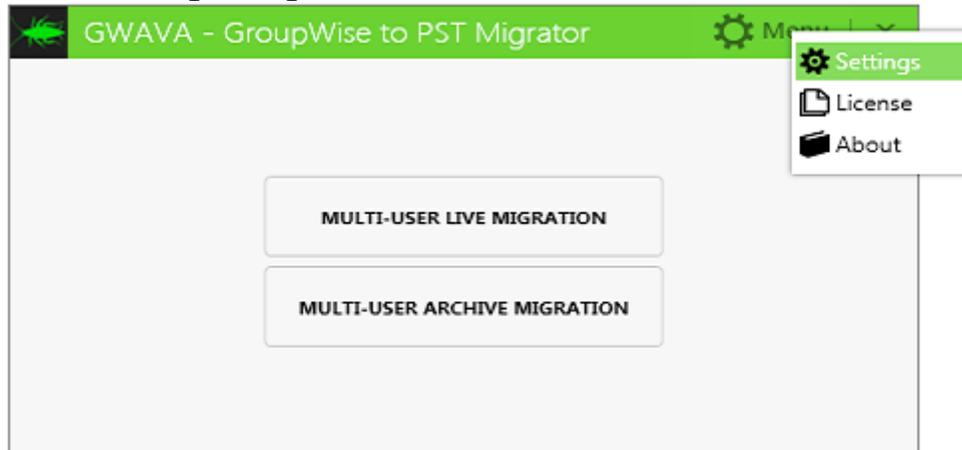


When the installation process is complete, press Finish to exit the installer.



GroupWise To PST Configuration

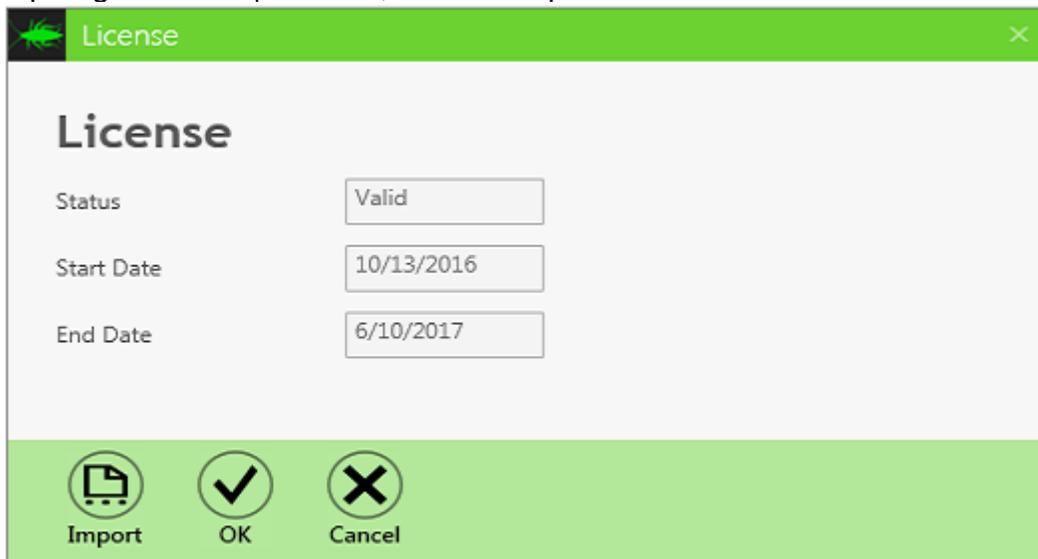
Before any migrations can be done the tool must be configured. Access settings and license through the gear menu



Import License

The first thing that must be done is to import the license. This is a separate license from the main MTK license.

Open gear Menu | License, click on Import and browse to the license PEM file.



Configure Settings

Open gear Menu | Setting page, and fill in the data.

GroupWise

Settings

GroupWise Archive Location PST

Post Office IP address 10.1.6.12

Post Office Port 1677

SOAP Port 7191

Admin Username admin

Trusted App Name MTK

Trusted App Key AC0000BA42C8056BB11F9425B850820EAC00009BC0B61915C5DC95

Save Load from File Save to File Cancel

Post Office IP address: The IP address of the post office being migrated from

Post Office Port: 1677 by default

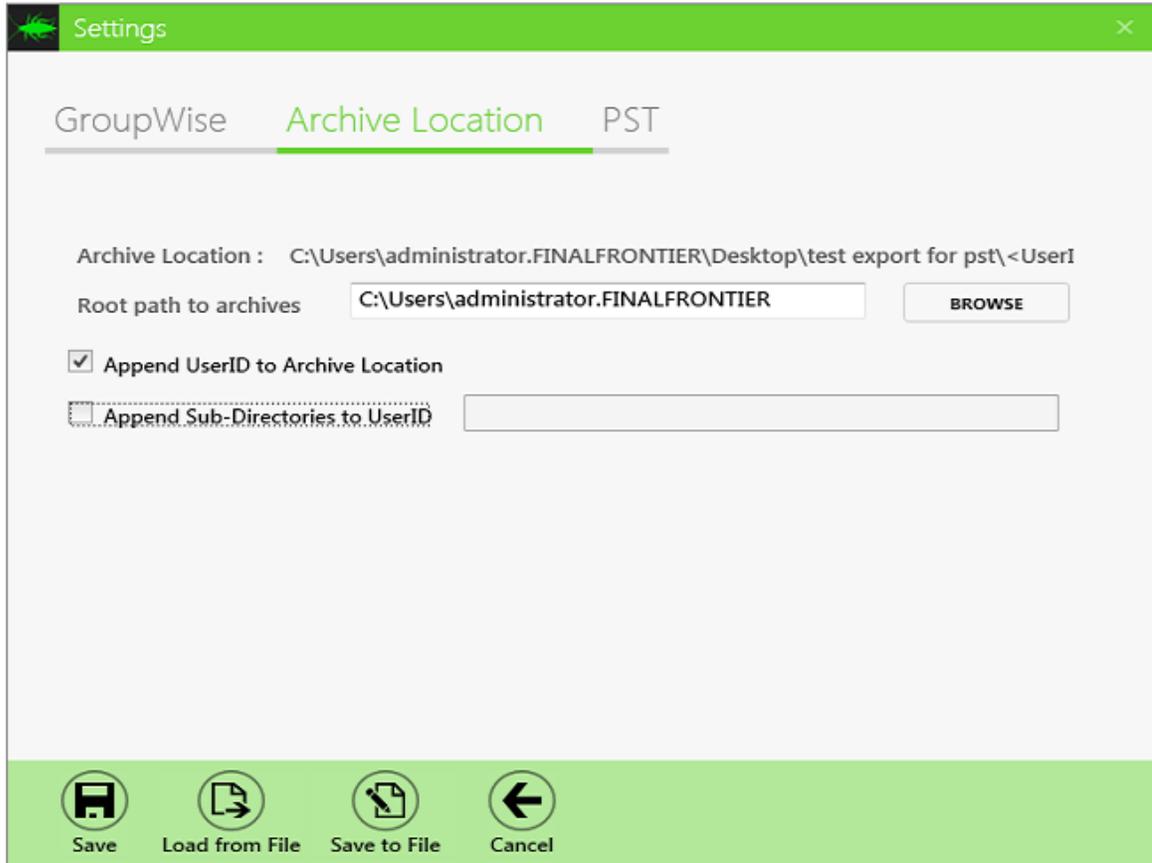
SOAP Port: 7191 by default

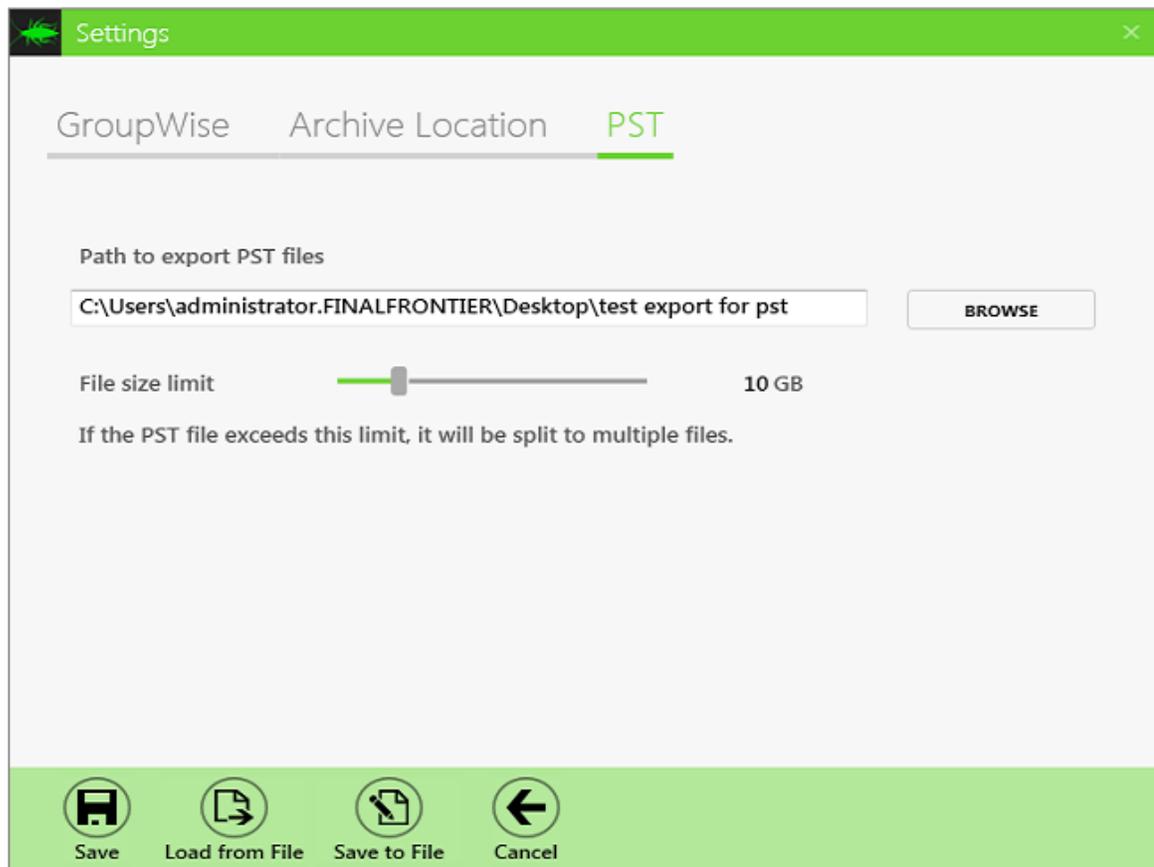
Admin username: The username of an admin user

Trusted App Name: The name of the trusted application key, case sensitive

Trusted Application Key: The key, case sensitive

Archive Location



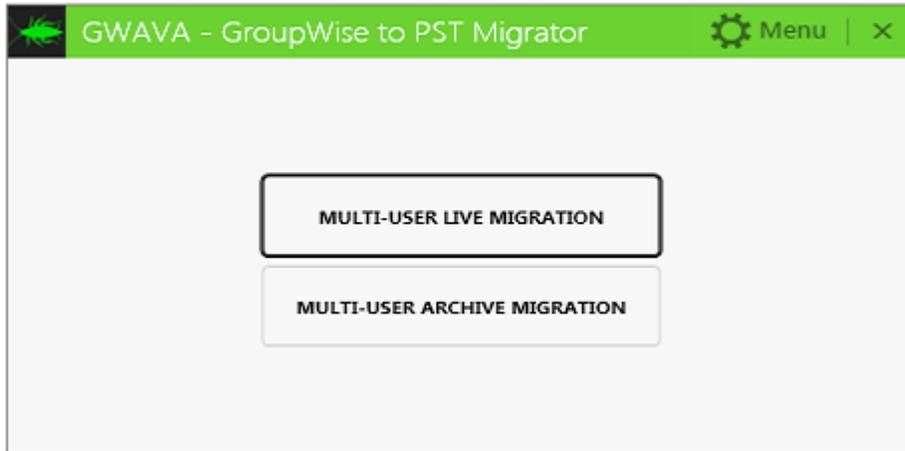


Set the location where the PST files will be exported to.
Set the File size limit. Outlook 2010, 2013, 2016 allow PST files of up to 50GB, Outlook 2007 allows up to 20GB, while Outlook 2002/XP allows up to 2GB. The larger the file the slower Outlook becomes.
<https://www.msoutlook.info/question/852>

Save the settings to file. You will be able to Load these setting from file for the next session after you close the program.
Press Save to begin this session.

GroupWise To PST Migrator

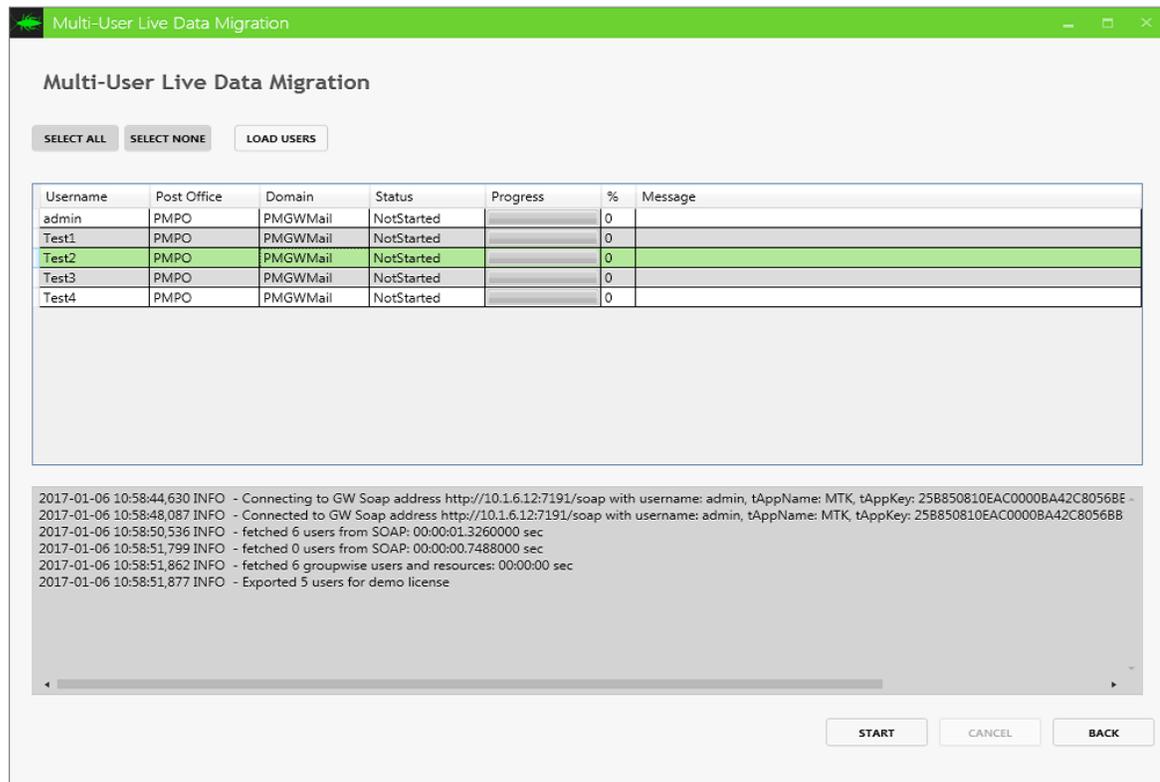
Once the tool have been installed, licensed and configured you may begin migrations.



Multi-user Live Migration

This will connect to the live GroupWise system and migrate each mailbox to PST.
Click "Multi-user Live Migration" to begin.

Press "Load Users" to load the users from the CSV file.



There are buttons to select all or none users. You can also click on one or more users.

Press Start to begin the migration process. Progress will be shown in the console frame.

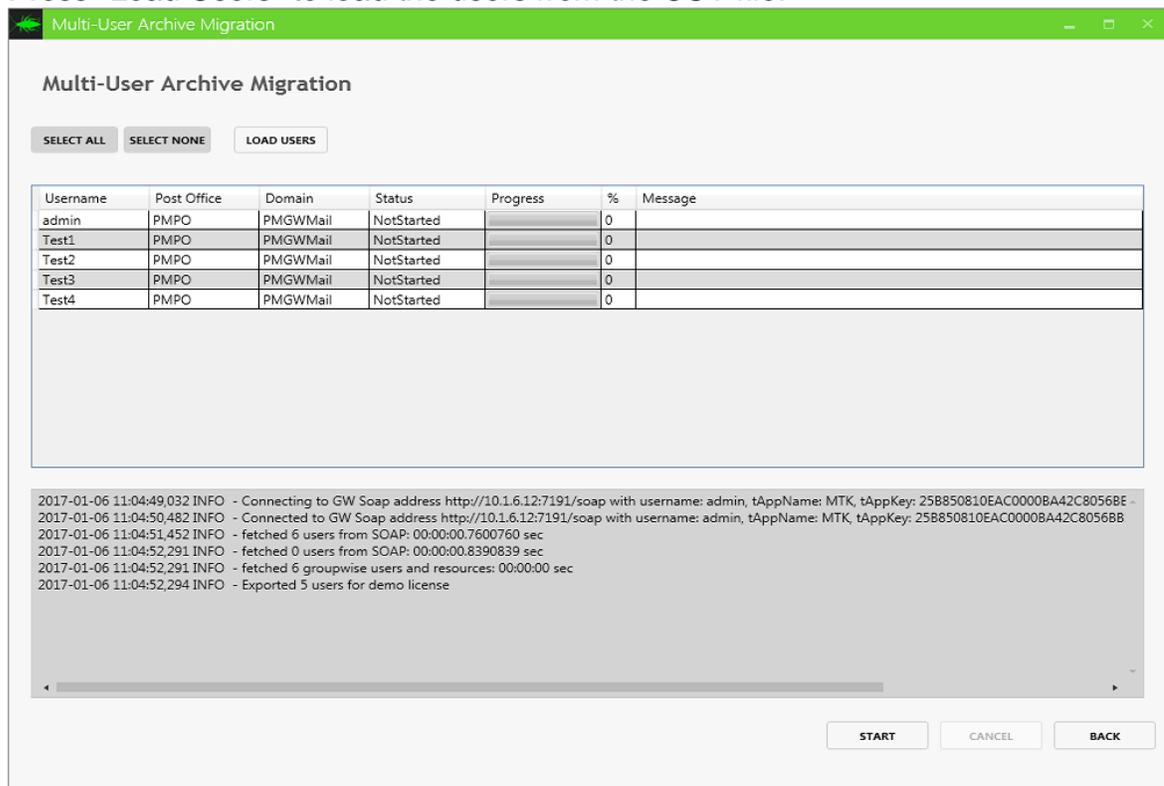
When the migration is done, press "Back" to return to the main migrator page.

Multi-user Archive Migration

This will access GroupWise Personal Archives and migrate each archive to PST.

Click "Multi-user Archive Migration: to begin:

Press "Load Users" to load the users from the CSV file.



There are buttons to select all or none users. You can also click on one or more users.

Press Start to begin the migration process. Progress will be shown in the console frame.

When the migration is done, press "Back" to return to the main migrator page.

