



GWAVA Inc.

GWAVA® Retain™

Upgrade Guide

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Intended Audience

This manual is intended for IT administrators in their use of Retain or anyone wanting to learn more about Retain. It includes installation instructions and feature descriptions.

Organization

The guide is organized into two sections: upgrading from 1 to 2, and upgrading from 2 to 3. While it is possible to upgrade directly from 1 to 3 and the steps are essentially the same, it is recommended to upgrade first to version 2 to ensure that the upgrade finished correctly before finishing the upgrade to the current version. Please see the applicable sections.

This guide also includes an instruction set for switching the indexing engine in Retain.

General use and management of Retain is covered in the Administrator Guide, please read that guide for setup and configuration steps and information.

Upgrade Information

Upgrading Retain to the current version is a simple, automated process. Which steps are required for different systems depends on the version of the installed Retain system. A full upgrade from version 1 to version 3 includes three major steps:

- Upgrade from 1.x to 2.x. Contact Technical support.
- Update the Retain configuration database using an existing migration utility.
- Update the message store database.
- Optionally change the indexing engine.

The configuration database is described in the version 2 update process. Updating the message store database is described in the version 3 update process. Both are described below.

Retain 1, 2, and 3 use different licenses and will not function without valid licenses for each. If updating from 1 to 3, only version 3 licenses are required. Before updating the Retain system ensure that appropriate licenses are available. See a GWAVA sales representative to get the applicable licenses and plan the upgrade

Configuration Database

Retain version 2 introduced a changed location of the Retain configuration database. In Retain 1 the configuration database was located in a separate, embedded Derby database. Retain 2 moves the configuration to the existing Retain SQL database.

Exalead

Retain includes the option to install a new indexing engine for larger systems. Exalead can index massive amounts of data and is recommended for archiving systems with 1000 or more users. Exalead should be installed and run on a dedicated server for best performance. Exalead should not be run on the same machine as the Retain Server. If using Exalead, the system must be installed and running before the Retain Server is configured. For install and system requirements, please refer to the Exalead installation document.

If an administrator wishes to switch the index engine from Lucene to Exalead, it can be done at any time through the admin interface. However, the indexes must be rebuilt so the entire process can be very time consuming. For larger systems, though, the procedure may take quite some time. Please plan your systems accordingly.

Retain Database changes and Improved Search Engine

Retain 3 introduces improved ability with Lucene as well as updated and improved searching abilities in the Retain interface. To facilitate these changes, additional tables need to be added to the database. No modification of existing data is performed and updating the database is facilitated by a database migration utility. The migration requires roughly double the current space of the existing database to be available for use, as well as sufficient down-time for the Retain system while the migration is performed. Retain 3.0 must have an updated database to function, and should not be installed until a migration can be performed. **See the requirements and process for updating to Retain 3 before continuing.**

Upgrade Process

Retain 1 to Retain 2

The upgrade process from version 1 to 3 requires first the upgrade from 1 to 2, and then a second upgrade from 2 to 3. The upgrades steps are separate and have individual considerations. Please see the individual sections and read all instructions to properly plan the upgrade for your system.

Retain 2 to Retain 3

Systems already upgraded to 2 can skip the first step and move directly to the upgrade process from version 2 to 3.

MySQL users: Due to query constraints and different settings in MySQL, the upgrade may temporarily consume large amount of free space. How much space depends on the particular settings of the MySQL system, and is an exponential curve instead of a set limit which may consume up to 10x the current DB size. Plan accordingly.

Upgrade for Retain 1 to 2

When Upgrading Retain from Retain 1 to 2, there are several objects to be aware of and update or migrate before the system will work. All the steps include:

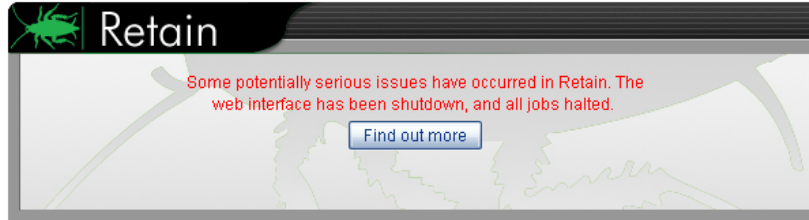
- Backup your Retain System
- Upgrade Retain Server to 2
- Check for successful installation
- Run the migration wizard
- Upgrade all Retain Workers
- Upgrade all Migration tools
- Install Retain 2 license (If upgrading directly to version 3, this step may be skipped)

Optional upgrades:

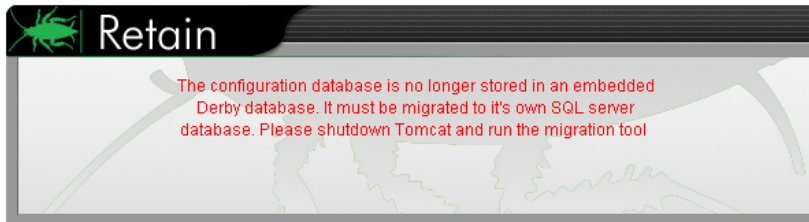
- Exalead

The steps are covered in detail below:

1. **Backup your Retain System.** Should the wrong option be selected during the Retain Server installation, the Retain Server configuration can be overwritten. Connection and access to Retain data requires identification keys stored in the configuration. The Retain Server settings and configuration cannot be lost.
2. **Install Retain Server 2.x.** When Retain is installed, it will detect that a previous version of Retain is installed and prompts whether to upgrade or overwrite the installation. Select the option to **Upgrade, preserving configuration**. If overwritten, Retain Server must be restored from backup and the install upgrade must be restarted.
3. **Check for successful installation.** If the installation upgrade has been successful, the Retain Server home page, (http://<RetainServer_IP_or_Hostname>/RetainServer), should display the following notice:



Selecting the 'Find out more' button will display the next notice:



4. **Run the migration tool.** The migration tool is located in the 'migration' directory in the Retain download. Browse to that directory and run the migrator on the Retain Server.

Windows

Locate and run the migrate.bat file. The migration utility assumes the default path to the Retain Server installation. By default, the components are located at: C:\Program Files\Beginfinite\Retain\RetainServer

Linux

If under linux, you may need to add permissions the migrator by typing:

```
chmod +x migrate.sh
```

The migration utility needs to know where the current Retain Server resides in the file system. Run the migration utility and place the working directory of the Retain Server as an argument. Use absolute pathing.

```
./migrate.sh <path to Retain Server>
```

On either Linux and Windows systems, the migration utility places the default locations between brackets before the prompt. To accept the system defaults simply press <Enter>. In most cases, the defaults will be correct and can simply be accepted. The below example assumes Linux default file paths for the Retain Server components.

```

RETAIN2:/share/Retain200Alpha2/migrate # ./migrate0.sh /opt/beginfinite/retain/RetainServer
/opt/beginfinite/retain/java/jdk1.5.0_22
/opt/beginfinite/retain/java/jdk1.5.0_22/bin/java
A copy of the log is stored at: /tmp/migrate-2483459366805147184.log

BEFORE PROCEEDING MAKE SURE YOU CREATE A NEW DATABASE retain_conf, WITH RIGHTS GRANTED TO A USER
PLEASE NOTE: WE WILL CREATE THE INDEXERS FROM SCRATCH
SO IF YOU HAVE ADDED ANY MIME EXTENSIONS OR CHANGED
SIZE SETTINGS OR ENABLED WORD OR PDF, YOU WILL
HAVE TO REDO THESE CHANGES

Press ENTER to continue

```

Read the notice, and hit enter to continue.

```

This application is used to migrate the old Derby Configuration
databases used before Retain 2.0 to the database server you specify
THIS IS A MANDATORY STEP BEFORE RUNNING RETAIN 2.0!

The Derby database will be loaded and upgraded to the Retain 1.80 schema
but otherwise will be remain untouched.

You will be expected to provide the file location of your ASConfig.cfg
file, which needs to be read and written to during the migration process
You will then be asked to confirm the database parameters
By default, this program assumes you want to use the same database server,
user, and password as your Message Store database. In fact the only difference
will be that the Configuration Database will be named retain_conf, instead of retain

BEFORE PROCEEDING MAKE SURE YOU HAVE CREATED THIS DATABASE AND GRANTED RIGHTS TO
THE APPROPRIATE USER!

Location of ASConfig.cfg [/opt/beginfinite/retain/RetainServer/WEB-INF/cfg/ASConfig.cfg]:

```

The migration program will inform you of what it will do and what information is required. The ASConfig.cfg file is located in the .../retain/RetainServer/WEB-INF/cfg directory.

```

Location of ASConfig.cfg [/opt/beginfinite/retain/RetainServer/WEB-INF/cfg/ASConfig.cfg]:
ASConfig.cfg will be read for default c:values, and later updated if the migration is successful.
Driver JDBC Class [com.mysql.jdbc.Driver]:

```

The JDBC class location must also be provided. Default is shown.

```

Location of ASConfig.cfg [/opt/beginfinite/retain/RetainServer/WEB-INF/cfg/ASConfig.cfg]:
ASConfig.cfg will be read for default c:values, and later updated if the migration is successful.
Driver JDBC Class [com.mysql.jdbc.Driver]:
Database User Name [retain]:

```

Authentication to the database server hosting the retain database is required. The defaults are listed in the current Retain Server configuration. First provide or confirm the user name.

```

Location of ASConfig.cfg [/opt/beginfinite/retain/RetainServer/WEB-INF/cfg/ASConfig.cfg]:
ASConfig.cfg will be read for default c:values, and later updated if the migration is successful.
Driver JDBC Class [com.mysql.jdbc.Driver]:
Database User Name [retain]:
Database Password [retain]:

```

Next confirm or provide the password to the database .

```

Location of ASConfig.cfg [/opt/beginfinite/retain/RetainServer/WEB-INF/cfg/ASConfig.cfg]:
ASConfig.cfg will be read for default c:values, and later updated if the migration is successful.
Driver JDBC Class [com.mysql.jdbc.Driver]:
Database User Name [retain]:
Database Password [retain]:
Server ID (do not change!) [FXROPPHOTTTI]:
Location of embedded database (ebdb folder) [/var/opt/beginfinite/retain/ebdb]:

```

The ebdb database location is required. Unless changed during initial Retain 1.x install, this can remain as default.

```
Location of ASConfig.cfg [/opt/beginfinite/retain/RetainServer/WEB-INF/cfg/ASConfig.cfg]:
ASConfig.cfg will be read for default c:values, and later updated if the migration is successful.
Driver JDBC Class [com.mysql.jdbc.Driver]:
Database User Name [retain]:
Database Password [retain]:
Server ID (do not change!) [FXROPPHOTTTI]:
```

DO NOT CHANGE the Server ID unless specifically instructed to by Support. Accept default by pressing <enter>.

Confirm your settings.

```
ASConfig.cfg path [include filename]: /opt/beginfinite/retain/RetainServer/WEB-INF/cfg/ASConfig.cfg
DB Class: com.mysql.jdbc.Driver
DB User: retain
DB Password: retain
DB URL: jdbc:mysql://localhost/retain_conf
Derby path: /var/opt/beginfinite/retain/ebdb
ServerID: FXROPPHOTTTI
Confirm your selections (yes or no) [yes]:
```

Look over the above information and confirm the correct information. Type 'no' to correct any information.

After selecting 'yes', the migration utility will setup the retain database with the information just provided along with the current configuration settings in the Retain 1.x configuration database.

This will migrate all jobs, schedules, profiles, and worker information from the 1.x server to the new Retain server. After the migration utility has completed, if tomcat has not been started, it should be.

The Retain Server should be fully accessible as usual with the same username and password.

5. **Upgrade all workers and re-upload the bootstrap files for all Retain Workers.** All Retain Workers must be updated or scheduled jobs assigned to an un-updated worker will not run. Retain 1.x workers cannot communicate with higher version Servers. The new bootstrap will be named RetainWorker2.cfg. Run the Retain installer on each Retain Worker box and update each Retain Worker.
6. **Upgrade all migration tools.** If there are any GroupWise Archive Migration Tools or GWArchive M+ Archive Migration tools active in the system, they also must be replaced with new migration tools from the current Retain download. (..\Retain\tools\Migration Tools)
7. **Update your license.** New versions constitute new systems which require new licenses. There is a 30 day grace period to update the license; however, it is best to update the license while working on the server instead of waiting for the grace period to expire. Download or locate your Retain 2 license and upload it to the Retain Server. Log into the Retain Server as admin, select the **Configuration | Licensing** page and upload your new license.

The Retain system has now been updated to version 2. Next continue below to upgrade to version 3.

Upgrading to Retain 3

Retain 2 requires two steps to complete the update to Retain 3.x: Database migration and Retain program update. The Retain program update should be performed first, which then triggers the database migration wizard automatically on next login. After the upgrade, Retain 3 license(s) must be immediately uploaded to begin Retain functionality.

MySQL users: Due to query constraints and different settings in MySQL, the upgrade may temporarily consume large amount of free space. How much space depends on the particular settings of the MySQL system, and is an exponential curve instead of a set limit which may consume up to 10x the current DB size. Plan accordingly.

Retain Upgrade and Database Migration

Retain 3 adds support for Google hosted mail, Mobile, and Social Networking data sources which each have new data items which need new tables in the database. These additional tables make it necessary to upgrade the Retain database. Due to the possible large sizes of Retain databases, the migration process will vary from a short few hours to much longer.

Because the migration may take quite some time, the migration utility has been designed to allow Retain to function while the migration is completed. This means that the upgrade will be split into two major parts, the database migration and the upgrade. The migration is accomplished first, and when the migration is complete, the upgrade is completed.

During the migration and upgrade, two settings are modified for security and protection of the Retain system: Deletion Management jobs are disabled, and the Compression Thread is disabled. **It is essential that the Deletion jobs are not enabled during migration.** They may be enabled after the upgrade is complete. The Compression Thread is reset to the default setting of disabled, and also can be re-enabled after the upgrade is complete.

The steps of the upgrade are as follows:

1. Run the database migration utility, wait until the database has been migrated.
2. Shut down Tomcat
3. Run Retain Install selecting the upgrade options
4. (Windows users) Install Tomcat 7 – included in the Retain Install
5. Start Tomcat
6. Log into the Retain Server as admin and complete the database Schema update
7. Restart Tomcat.

After Tomcat has been restarted, there are four post-upgrade tasks.

Post tasks:

1. Input new Retain License
2. Enable deletion jobs
3. IF compression was used, re-enable compression. (Upgrade sets compression to 'off' by default.)
4. Configure any new licensed modules

Migrator system requirements:

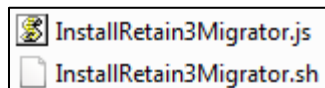
- JAVA_HOME variable set on machine running the migrator utility
- 1 GB of RAM free for migrator use
- Access to the Retain directory structure including the 'ASConfig.cfg' file, either locally or through a mapped drive
- Network access to the SQL database server
- (MySQL Only) - Sufficient free space for temporary consumption during upgrade. Up to 10X current database size

Migration Utility

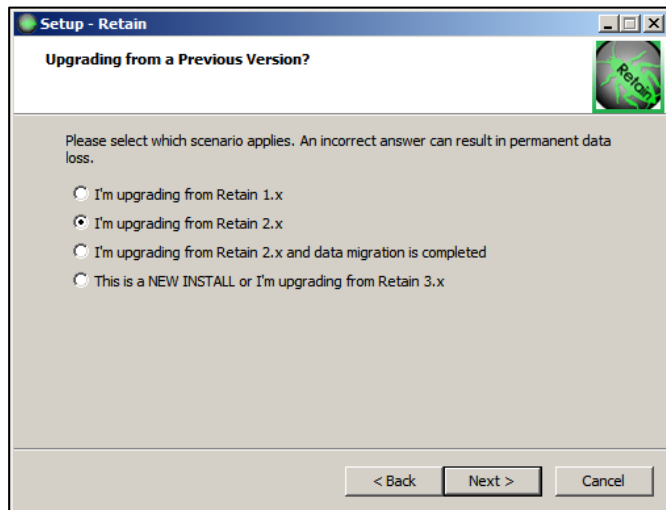
The Migration Utility may be run from any workstation class, or higher, Windows or Linux machine and is not required to be run local to the Retain Server, though it is fine to do so. While changes are made to the database structure, the database will not be unavailable to the currently running Retain system and the data is not modified.

Because Retain is able to archive to the database while the migration is being performed, data archived after the migration is begun will not be initially included in the migrated data. To overcome this, the migrator performs additional passes to migrate the added data. Additional passes completed by the migrator will not duplicate any data, only new data is migrated. Each successive pass is increasingly faster than the previous until migration is complete. There is no limit to the number of passes which can be performed. Once the total of migrated data items reaches '0' for a pass, the migration is complete, and Retain is ready to be upgraded.

To run the migration utility, find and execute the "InstallRetain3Migrator" script found in the Retain 3.1 download. This file should be run on the machine desired to run the migration utility.



The migration MUST be run before the upgrade is completed. If the migration utility is not run independently of the Retain Install, the install will run it automatically if the correct option is selected.



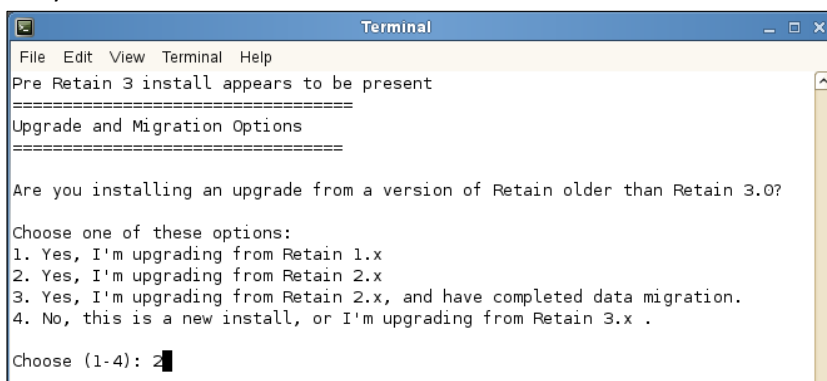
Run the Retain Installation and progress to this point. When the updater requests information on which version of Retain is currently being used in the system, make sure to select the correct version. The install is identical in both Linux and Windows.

Retain 1.x must be updated to 2.x first. If that option is selected, instructions to perform an upgrade to 2.x will be displayed.

Upgrading from 2.x to 3.x requires that the data be migrated into a new database schema. The migration MUST be completed before the

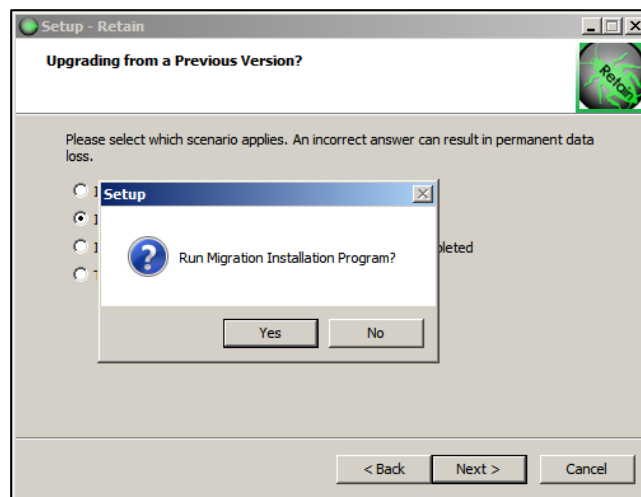
upgrade is performed, and the Install will not continue unless the migration utility is run first. It will offer to run the migration utility automatically.

During the migration process deletion jobs are automatically disabled in the current Retain system. Do not enable deletion jobs. A deletion job may cause database instability and corruption during the migration.

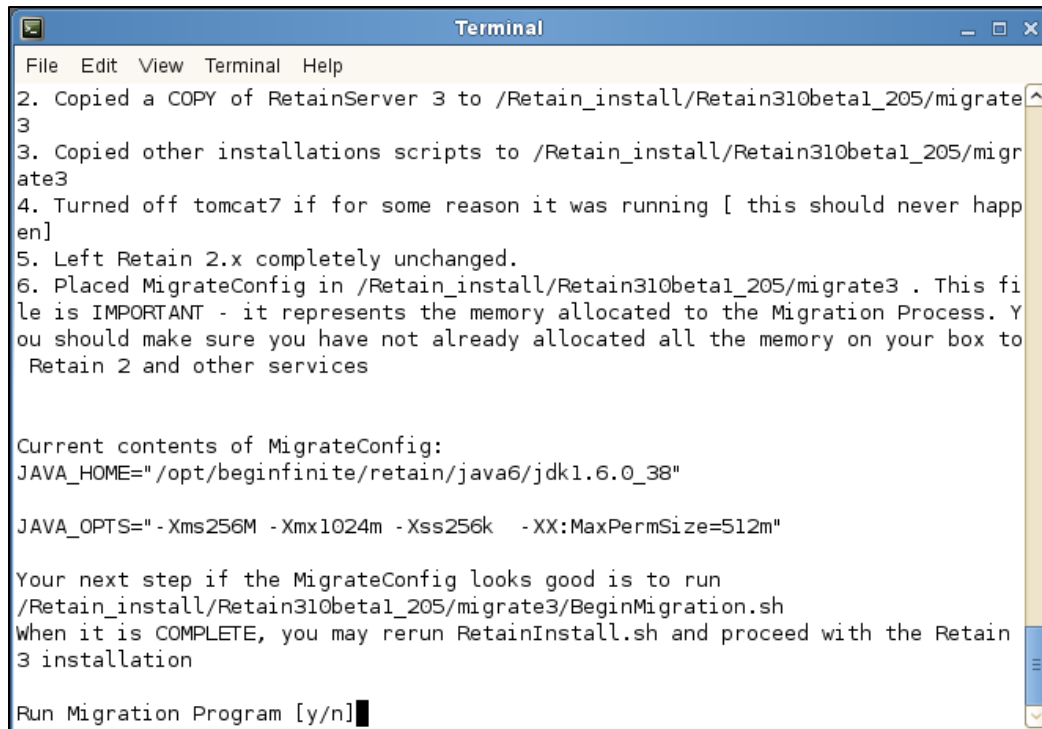


If run via the installer, the installer will prompt to run the migrator. Select 'yes'.

The migration installer is then run.



On initial run, the migration installer creates a folder in the resident directory called "migrate3" where the migration installer is located. This new folder contains the migration utility.

A screenshot of a terminal window titled "Terminal" with a menu bar (File, Edit, View, Terminal, Help). The terminal displays a list of six numbered steps for installing the migration utility. Step 6 mentions a file named "MigrateConfig". Below the steps, the current contents of "MigrateConfig" are shown, including "JAVA_HOME" and "JAVA_OPTS" settings. The terminal then provides instructions on the next steps: running "BeginMigration.sh" and then "RetainInstall.sh". At the bottom, it prompts the user to "Run Migration Program [y/n]" with a cursor.

```

Terminal
File Edit View Terminal Help
2. Copied a COPY of RetainServer 3 to /Retain_install/Retain310beta1_205/migrate3
3. Copied other installations scripts to /Retain_install/Retain310beta1_205/migrate3
4. Turned off tomcat7 if for some reason it was running [ this should never happen]
5. Left Retain 2.x completely unchanged.
6. Placed MigrateConfig in /Retain_install/Retain310beta1_205/migrate3 . This file is IMPORTANT - it represents the memory allocated to the Migration Process. You should make sure you have not already allocated all the memory on your box to Retain 2 and other services

Current contents of MigrateConfig:
JAVA_HOME="/opt/beginfinite/retain/java6/jdk1.6.0_38"

JAVA_OPTS="-Xms256M -Xmx1024m -Xss256k -XX:MaxPermSize=512m"

Your next step if the MigrateConfig looks good is to run
/Retain_install/Retain310beta1_205/migrate3/BeginMigration.sh
When it is COMPLETE, you may rerun RetainInstall.sh and proceed with the Retain 3 installation

Run Migration Program [y/n]

```

After the installation of the migration utility is complete, the utility may be automatically run.

To run the migration, select 'y' and hit enter. To run the migration at a later point locate the 'migrate3' folder and run the migrator.

Migration Utility Configuration

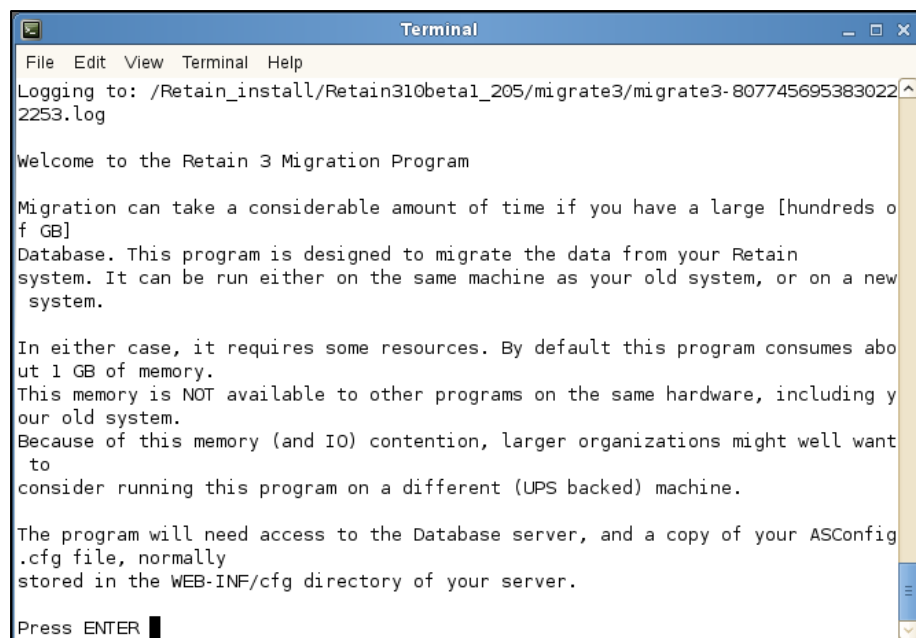
The migration utility needs access to the ASConfig.cfg file and Retain file structure and will try to locate the configuration file automatically. If it is not found, the location must be supplied.

Ensure that the SQL database server is accessible by the system running the migration utility, and then provide the Root Database User and Password.

Hitting 'enter' when prompted will accept the default – the information read from the ASConfig file.

The next decision is whether to use the GUI interface for the migration, or to remain in the console-text only. Both the GUI and text version of the migration utility display the same information and offer the same functionality. The GUI version of the migration utility requires xWindows and cannot be run in a remote console. If using a remote console, select the console version.

The next decision is the refresh interval. This is the amount of time, in seconds, which the migration will update the status information displayed in either the GUI or the console. Make the desired selection and hit 'enter'.



```
Terminal
File Edit View Terminal Help
Logging to: /Retain_install/Retain310beta1_205/migrate3/migrate3-8077456953830222253.log

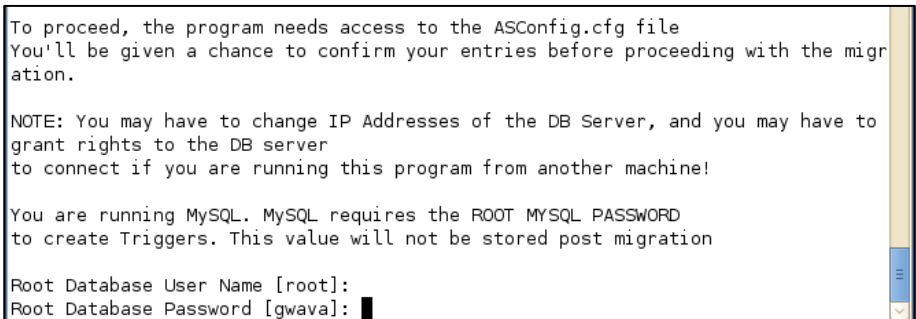
Welcome to the Retain 3 Migration Program

Migration can take a considerable amount of time if you have a large [hundreds of GB] Database. This program is designed to migrate the data from your Retain system. It can be run either on the same machine as your old system, or on a new system.

In either case, it requires some resources. By default this program consumes about 1 GB of memory. This memory is NOT available to other programs on the same hardware, including your old system. Because of this memory (and IO) contention, larger organizations might well want to consider running this program on a different (UPS backed) machine.

The program will need access to the Database server, and a copy of your ASConfig.cfg file, normally stored in the WEB-INF/cfg directory of your server.

Press ENTER
```



```
To proceed, the program needs access to the ASConfig.cfg file
You'll be given a chance to confirm your entries before proceeding with the migration.

NOTE: You may have to change IP Addresses of the DB Server, and you may have to grant rights to the DB server to connect if you are running this program from another machine!

You are running MySQL. MySQL requires the ROOT MYSQL PASSWORD to create Triggers. This value will not be stored post migration

Root Database User Name [root]:
Root Database Password [gwava]:
```



```
Root Database User Name [root]:
Root Database Password [gwava]:
Use GUI instead of Console [n]:
Refresh Stats Interval (seconds): [15]:
```



```
Root Database User Name [root]:
Root Database Password [gwava]:
Use GUI instead of Console [n]:
```

Finally, select whether to automatically end the migration when the item-count reaches zero, aka, the migration completes. Allowing the Migration to exit automatically on zero causes the migration to automatically schedule additional passes on the database until all work is complete. Default is recommended.

Now the migration utility is configured.

The migrator utility offers a configuration check. Different options listed below allow configuration changes for more than what was just confirmed. This contains configuration options read from ASConfig, the active configuration for Retain.

```
Root Database User Name [root]:
Root Database Password [gwava]:
Use GUI instead of Console [n]:
Refresh Stats Interval (seconds): [15]:
Exit automatically when migrated item count hits zero [n]:
```

```
Terminal
File Edit View Terminal Help
Password: gwava

Mailer
Server: 10.1.26.100
From: retain26.3@mythos.com
To: ithaqua@mythos.com
User:
Password:

Interface
Use GUI:false
Stats Refresh (secs.): 15
Exit when zero items: false

PLEASE VERIFY ALL OF YOUR ABOVE SETTINGS BEFORE CHOOSING TO PROCEED WITH MIGRATION

1. Message Store settings
2. Configuration settings
3. Mailer settings
4. Interface settings
5. PROCEED WITH MIGRATION
6. EXIT
Make a selection [1]:
```

These options should not be modified without consulting support.

Message Store and Configuration settings contain the JDBC drivers for the database connection, the storage location, as well as the database username and password and root username and password. These settings are read from the ASConfig file and should not be modified.

Mailer settings

Mailer settings contains the email contact information for Retain as it is configured in ASConfig. The to, from, and login name and password for the mail server are contained here.

Interface settings

Interface settings apply to the migrator alone. Selections on whether to use the GUI, the refresh rate, and the option to exit on completion are stored here.

Proceed with Migration

After confirming the configuration, select to proceed with the migration to initiate the actual work.

```
1. Message Store settings
2. Configuration settings
3. Mailer settings
4. Interface settings
5. PROCEED WITH MIGRATION
6. EXIT
Make a selection [1]: 5
```

```

Testing connectivity...
Upgrading Schema....This may take a while...
Schema upgrade commencing. Error message in logs about legacy_ids table is normal...
Checking Triggers
Disabling deletion jobs....PLEASE DO NOT REENABLE UNTIL MIGRATION IS COMPLETE!
Checking mail parameters...
Ready to migrate...
Press ENTER █

```

After completing a sanity check, the migration disables any deletion jobs and prepares to migrate. Hitting 'enter' will begin the migration. During migration, deletion jobs have been automatically disabled in the Retain Server. **Do not enable deletion jobs while the migration is running in order to avoid database corruption.**

Once begun, the console or GUI will refresh according to the refresh setting, displaying the current status of the migration as it progresses.

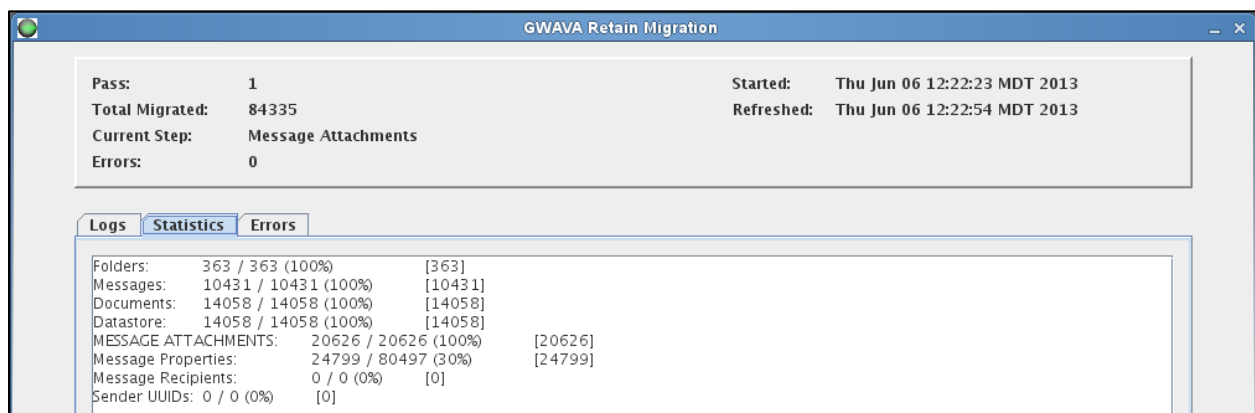
```

=====
Step t_document took: 3 seconds to process approximately 14058 items
STEP t_dsref begins.
Step t_dsref took: 3 seconds to process approximately 14058 items
STEP t_message_attachments begins.
Step t_message_attachments took: 4 seconds to process approximately 20626 items
STEP t_message_properties begins.
=====
Current Step: t_message_attachments
Errors: None

Folders:      363 / 363 (100%)      [363]
Messages:    10431 / 10431 (100%)   [10431]
Documents:   14058 / 14058 (100%)   [14058]
Datastore:   14058 / 14058 (100%)   [14058]
MESSAGE ATTACHMENTS: 20626 / 20626 (100%) [20626]
Message Properties: 20799 / 80497 (25%) [20799]
Message Recipients: 0 / 0 (0%)      [0]
Sender UUIDs: 0 / 0 (0%)            [0]
=====

```

The GUI also shows errors, logs, and a statistics.



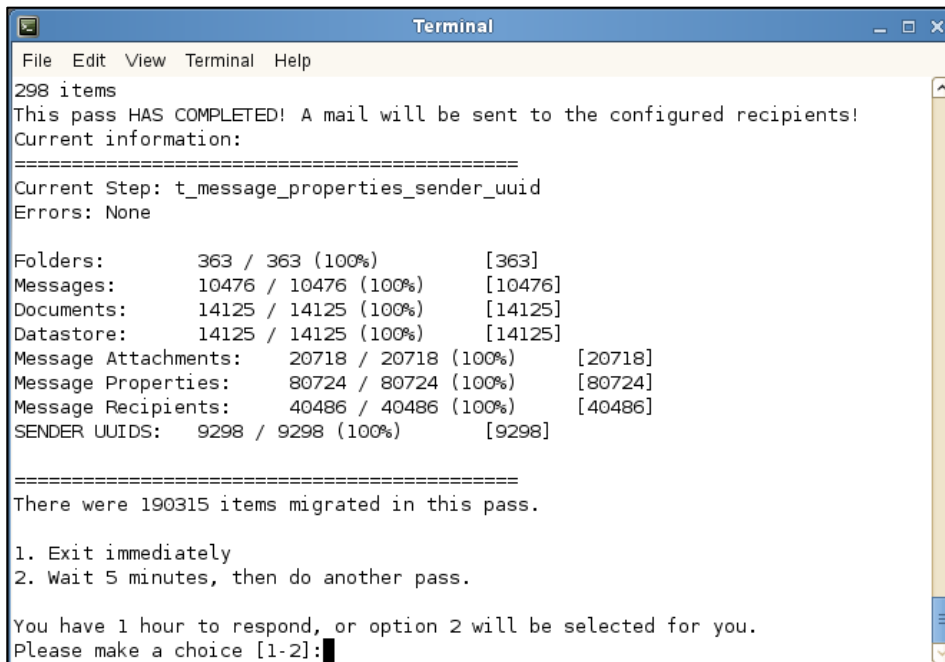
Unless errors occur, the window will be blank. The statistics will show the current status of the migration.

The logs tab displays the active log which can also be found in the 'migrate3' directory.

The migration will continue until all data which resided in the database at the time the migration utility initiated has been migrated.

At this point, if the utility was configured not to exit on completion, the migration will offer to perform additional 'passes' at the database, to catch any data that has been added to the active database since the migration began. On even the largest systems, subsequent passes should take increasingly less time until the migration is complete.

The migration utility is designed as a 'set and forget' system which has a timeout feature, so larger systems may have the migration initiated and then left to complete. Without additional input, the migration utility will automatically schedule a pass in addition to the previously completed work. The timeout for stated input is 1 hour.



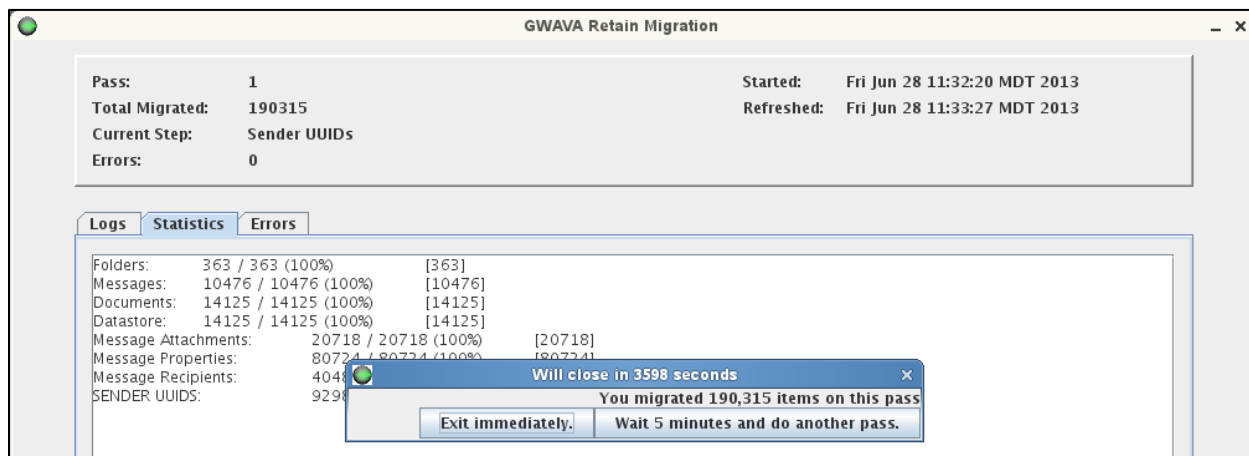
```
Terminal
File Edit View Terminal Help
298 items
This pass HAS COMPLETED! A mail will be sent to the configured recipients!
Current information:
=====
Current Step: t_message_properties_sender_uuid
Errors: None

Folders:      363 / 363 (100%)      [363]
Messages:    10476 / 10476 (100%)  [10476]
Documents:   14125 / 14125 (100%)  [14125]
Datastore:   14125 / 14125 (100%)  [14125]
Message Attachments: 20718 / 20718 (100%) [20718]
Message Properties: 80724 / 80724 (100%) [80724]
Message Recipients: 40486 / 40486 (100%) [40486]
SENDER UUIDS: 9298 / 9298 (100%) [9298]

=====
There were 190315 items migrated in this pass.

1. Exit immediately
2. Wait 5 minutes, then do another pass.

You have 1 hour to respond, or option 2 will be selected for you.
Please make a choice [1-2]:
```



This ensures that the migration utility, if left running, will maintain the database and migrated data while Retain continues to function. To disable this 'set and forget' function of the migration utility, the initial configuration should be set to exit on completion. By default, the system will renew for additional passes. In the GUI, selecting the 'exit immediately' option allows for viewing of the interface after completion without scheduling an additional pass.

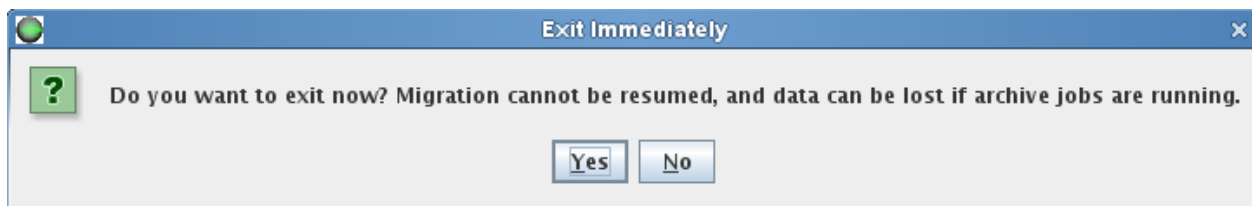
Once the results display '0', all data has been migrated and the migration is complete.

```
1. Exit immediately
2. Wait 1 hour, then do another pass.

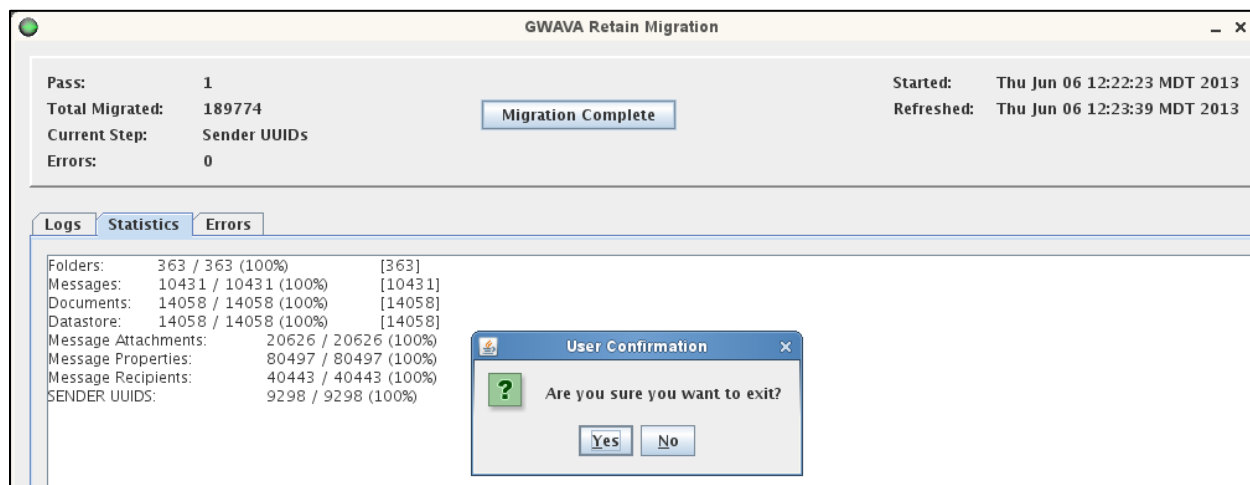
You have 1 minute to respond, or option 2 will be selected for you.
Please make a choice [1-2]:1
Shutdown may take a couple of minutes...
STEP index begins.
Step index took: 2 seconds to process approximately 16 items
Overall Migration took 98 seconds
Writing migration complete
```

For the console version, select '1' to exit the migration utility. On selection, the utility will clean up any processes, and exit.

The GUI gives warning that the migration cannot be re-run or resumed after exiting the program.



Selecting 'Yes' will end the migration processes, but leave the window open for further viewing. A new button at the top, the 'Migration Complete' button will appear to exit the GUI.



Select the 'Migration Complete' button to open the exit dialog.

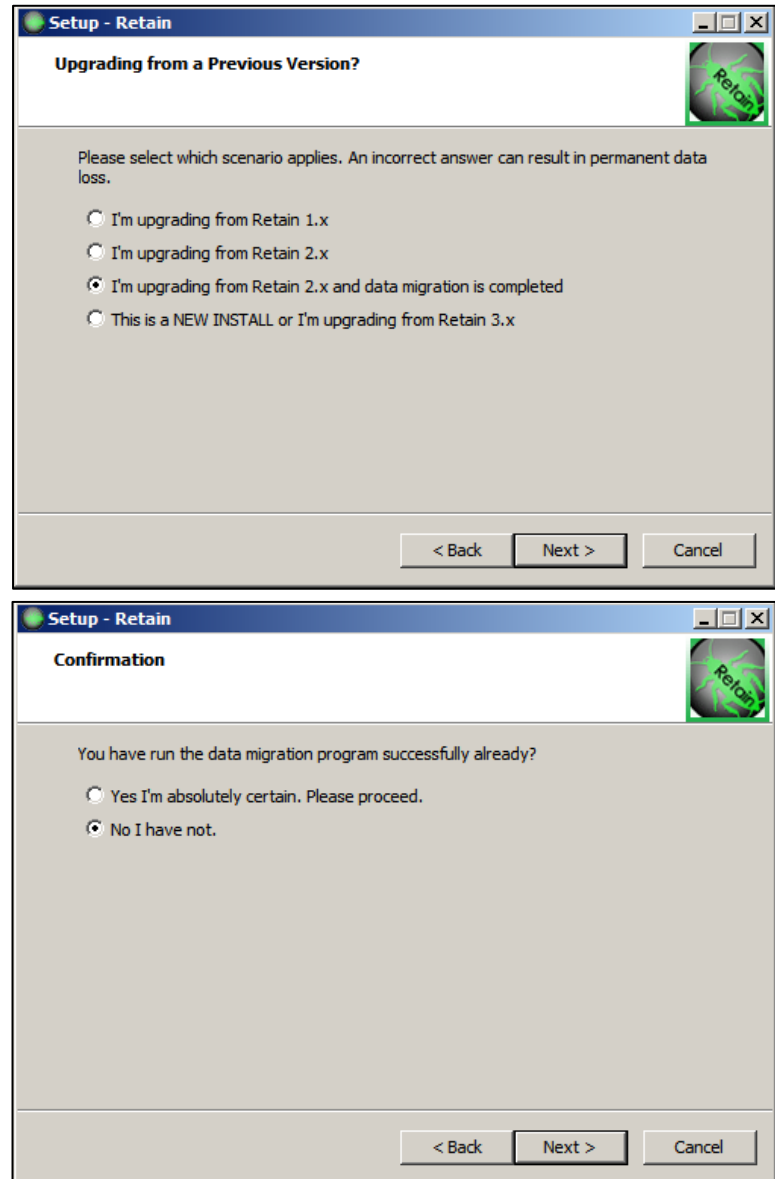
Click 'yes' to exit.

Now that the migration is complete, it is time to upgrade the Retain system.

Upgrade to Retain 3.x

Once the migration has completed, the system can be fully upgraded. After migration the upgrade is simple and straightforward. To complete the upgrade, start the Retain Installation program and select the option stating that the data migration has been completed.

The admin is required to positively affirm that the migration has already been completed. Once this has occurred, the upgrade may continue.



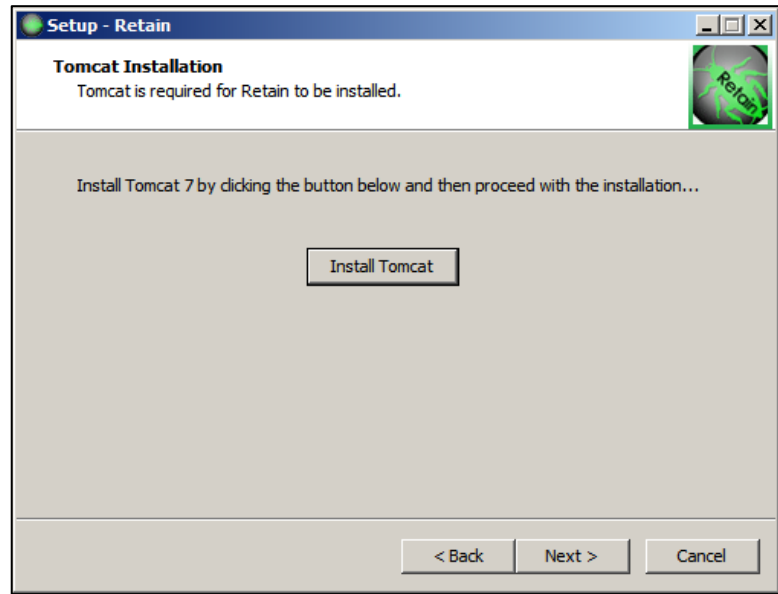
On Linux, the install automatically installs Tomcat 7 for use with Retain 3. The upgrade is nearly identical to a new install, except the administrator should select the 'upgrade' option during the install wizard. Take care to NOT overwrite the Retain Server system.

However, on Windows the admin is required to initiate the Tomcat installation.

To initiate the Tomcat 7 installation, select the 'Install Tomcat' button from the Retain installation wizard.

The Retain installation will not close, but will wait while the Tomcat wizard is completed.

While installing Tomcat 7, note the installation directory.

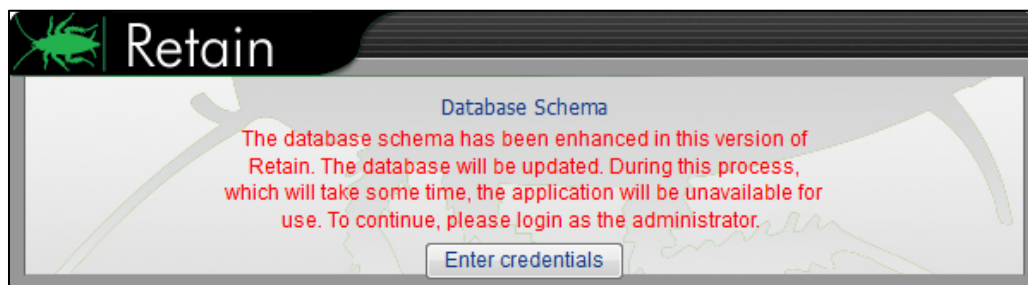


Once the installation of Tomcat 7 has completed, proceed with the Retain installation and upgrade.

Make sure to select options reflecting the Retain system, and do NOT overwrite the current system. Select the 'Upgrade' option to preserve configuration.

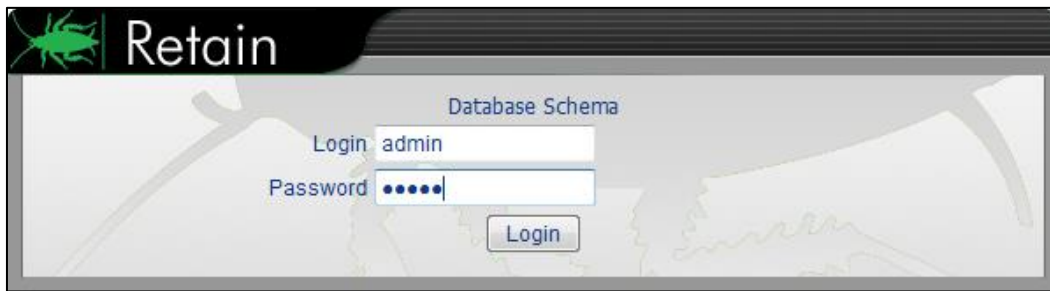
On completion, Apache and Tomcat should be restarted.

Once the upgrade has been completed, the database schema needs to be updated. To update the schema, the admin must login to the Retain Server.




When first connecting to the Retain Server after the upgrade, this page is displayed asking for the administrator credentials. This must be completed before the Retain Server is available again.

Select 'Enter credentials' to login and begin the schema update

The image shows the Retain application's login interface. At the top left is a green bug icon followed by the word "Retain" in white on a black background. Below this, the text "Database Schema" is centered. There are two input fields: "Login" with the text "admin" and "Password" with five dots. A "Login" button is positioned below the password field. The background of the interface is a light gray with a faint, stylized map of the United States.

The user used should be the administrator account.

The image shows the Retain application's "Database Schema" update screen. At the top left is a green bug icon followed by the word "Retain" in white on a black background. Below this, the text "Database Schema" is centered. A red message is displayed in the center: "The database schema update is in progress and should not be interrupted. This message will be updated upon completion." The background is a light gray with a faint, stylized map of the United States.

Once logged-in, the schema update will begin. The schema update will take a short time, around 3-4 minutes or less.

The image shows the Retain application's "Database Schema" update completion screen. At the top left is a green bug icon followed by the word "Retain" in white on a black background. Below this, the text "Database Schema" is centered. A red message is displayed in the center: "Database schema update complete. Please check your logs for error messages. If none are present, please restart Tomcat". The background is a light gray with a faint, stylized map of the United States.

As soon as the update is complete, the display changes. This page will be displayed until Tomcat is restarted.

Once Tomcat is restarted, the schema update is complete.

On the next login, the Retain Server displays the license page. Retain 3 will not function with licenses from previous versions, and new licenses will be required. Install them and then configure any new licensed modules as desired.

Cleanup steps

- License
- Deletion and Compression thread disabled
- Configure new modules (optional)

The migration and upgrade process changed two settings within the Retain system for stability during migration; deletion jobs and compression. Deletion jobs have been disabled, and compression has been reset to 'off'. Re-enable the deletion jobs and, if applicable, re-enable compression as desired.

Optional step: Switch indexing engine to Exalead.

The Exalead indexing engine is not required, and the system can be switched from Lucene to Exalead at any time. However, the index engines are not compatible with each other and have no way to export the indexes between them, causing a need to re-index the entire mail archive each time the index engine is changed to ensure full coverage. Re-indexing the archive will take substantial amounts of time, and switching the indexing engine should only be run during a 'quiet time' when there are no jobs scheduled to run.

Exalead allows much more flexibility and options in searching and scaling. However, Exalead does require a separate physical machine with robust hardware. For a full list of Exalead requirements and install instructions, see the Exalead Install document. Switching to the Exalead indexing engine will cause some server downtime.

Before you begin the migration to Exalead for the indexing engine, you must first have Exalead installed and working. Log into the Retain Server management console as Administrator, and ensure that:

- The Retain System has been backed-up.
- Exalead server has been installed, setup, and is accessible.
- No deletion manager jobs should be running, or set to run.
- Indexer status is set to '0'. On Retain Server status page, the "Total emails in memory queue waiting indexing" should show '0'. If this is not set to '0', and no job is running, contact support before performing the index engine migration.

From this point on, actual changes will be made in your Retain Server system. To change the index engine, perform the following steps

1. As admin, log into the Retain Server management console and browse to the **Configuration | Server Configuration** page and select the **Index** tab and click on the 'Migration Steps' link to spawn the migration steps window.

Retain Welcome, admin | About | Status & Updates | Logout

Server Configuration

Communications Index **Storage** Accounts Maintenance Notification Logging Miscellaneous

Indexing Engine

At the core of Retain's searching functionality is the indexing engine. Retain supports two indexing engines currently, Exalead and Lucene. It is possible to migrate from one to the other, but this may require significant effort. It is better to choose an indexing engine initially that fits your needs.

Here is a brief summary of the Indexing Engines provided. There is more detail in the user manual:

- Lucene - Fast and easy to use. Requires no additional software or hardware installation. Well suited for small scale environments that have only modest searching and storage requirements. Some features, such as extended queries, enhanced publishing and exporting, etc are not available using the Lucene engine. Not clusterable or high availability friendly.
- Exalead - Fast, extremely powerful, and very scalable. Can be clustered with multiple index and search nodes. All Retain advanced features available. Requires one or more dedicated 64 bit servers (quad core recommended), with at least 16GB RAM. Requires an installation process. Recommended for medium to large customers, as well as organizations that need advanced searching, exporting, availability functions.

If you do decide to switch indexing engines, be sure to read the user manual, and follow the [Migration Steps](#) carefully. The Migration Steps page contains a complete step by step guide, as well as special migration functionality.

Current Indexing Engine:

Indexing

Here, you adjust the different types of items to be indexed. You may add, delete, or edit items.

28 days remaining in eval

Open the migration link in a new window or tab.

Indexing Engine Migration

Summary

Migration from one indexing engine to another is a significant step, one not taken lightly. Inherently the process of migration requires reindexing all previous stored mail, a process which may take days or weeks depending on the size of your store.

Motivations for migrating include:

- Enhanced scalability and availability - for example, Exalead can be installed as a multiple node cluster solution. Lucene cannot.
- Enhanced functionality - We will be introducing features (such as advanced search functionality, enhanced publishing and exporting, etc) that require the Exalead engine. We expect most additional major features depending on the search engine might require Exalead.
- Greater simplicity - Lucene is a simple embedded solution, Exalead requires dedicated hardware.

We urge you to read the user manual and this page and consider your options carefully. [Click here](#) to print this page.

Steps for Migration

Backup

Backup your database, and optionally your indexes. These are both large datasets, but it would be wise to back them if possible as a safety precaution. There are steps that incur database changes. No index changes occur to the old index, so you could always back off to the old index engine by changing the Indexing Engine type in [Server Configuration](#) Please read [this section](#) for more information.

Note the Documents Indexed value

In the [Status and Updates](#) screen, note the total number of Documents Indexed, under Server status. Write that number down. Note there is NOT a 1:1 correspondence between Lucene and Exalead in the number, but it can be useful to track the progress once you begin reindexing.

Set up Exalead Server (If switching to Exalead)

Set up your Exalead Server, using instructions in the user manual. Start it, wait about one minute, and then check if you can reach the dashboard (<http://ipaddress:basePort+1/api-ui>), so for example if your Exalead server were at 10.0.0.3, with baseport of 40000, <http://10.0.0.3:40001/api-ui>.

Test the Connection

This window has links and information on the migration as well as the migration settings further down the page. LEAVE THIS PAGE OPEN.

2. Scroll down the page to the link to the Indexer Reset page.

Indexing Engine Migration

DATABASE CHANGE OCCURS HERE AND IN FUTURE STEPS. YOU CANNOT STOP AT THIS POINT, AND DOWNTIME WILL SHORTLY BE INCURRED

All of your data needs to be reindexed. So we must reset the indexed status, which is a field in the EMail table of your database server to the value 0. (After being indexed, the value is set to >0 if fully indexed, and a negative value if only partially indexed. But non-zero in any case!). Then, the background indexer will gradually reindex all of these items.

To reset the indexing status, login as a user with the Manage Servers right (such as your initially created admin account), and run the **Indexer Reset** utility: <http://RetainServerAddress/RetainServer/Util/IndexerReset.jsp>. Normally you want to allow it to reset your entire message store. This operation directly affects only the message store; the index is not written too. (although the background indexer will certainly start reindexing items relatively shortly).

Switch Indexing Engines

In **Server Configuration**, under the Indexing tab, change your configuration to the new engine, and configure as needed (For example baseport and host for Exalead.). Save your changes. and then **continue to the next step, without pause**

Set Migration Options

(Optional but recommended strongly)

By default, the new engine will handle all indexing, deletion, and searching tasks. Because reindexing takes a while, switching over to the new Indexing engine for your searches would result in NO SEARCH HITS initially. This may be unacceptable. Instead you may want to temporarily continue to use your old indexing engine for search results. Of course, it's important to realize the searches will get increasingly out of date, as new messages will be stored in the new index only. You may also optionally configure an email to be sent to a designated person when the indexing is complete. Again, keep in mind all new items will be indexed only by the NEW engine, and unavailable for search results.

To configure these options, fill out the following form. **Do not fill out and submit this form until you are ready to do so!**

Read the instructions below the form before filling it out and submitting it

Migration Parameters

☐ Migration is in progress?

☐ Activate an alternative searching server?

Searching Server should be

☐ Send an e-mail when migration is completed?

Comma delimited list of e-mail recipients:

Type "I understand". This is required to save the form, and is for your protection:

Open the link in a new page or tab. <http://RetainServerAddress/RetainServer/Util/indexerReset.jsp>

By default, the Indexer Reset page should look like the picture below. (Pay attention to the Unindexed Items (DB): number. It should read '0'. If it does not, do not proceed unless under the instruction of support.

Indexer Background Indexer is alive: true
Indexer currently RUNNING engine: lucene (You may have already switched engines, but this will not be reflected until restart)

Unindexed Items (DB): 0

This utility allows you to reset the indexed status of either the entire message store or a specific mailbox. It may take quite some time on a large database.

Do not run this utility without specific instructions to do so! Misuse can corrupt the index, lead to high CPU utilization, and be quite inconvenient for users, as until the index is rebuilt any items affected will not be searchable.

With Lucene, resetting the index is NOT enough. You must either delete the entire existing index (with tomcat unloaded) or delete all items belonging to a certain mailbox. Otherwise redundant information will be stored! See [luceneDelete.jsp](#) for more.

☐ Reset the entire message store. All items will slowly be reindexed by the background indexer

☒ Reset just a specific user's store. All items will slowly be reindexed by the Background indexer

User UUID to reset (case sensitive):

You may also add an additional restriction - that only email stored after a certain timestamp value is affected. Leave this entry as -1 to disable this feature.

Timestamp restriction:

You must type "I AGREE" below before hitting the submit button.

I understand the significant implications of what I am doing:

The next few steps need to be performed with very little time delay between them. No more than a couple minutes. If not switched soon enough, the indexer reset switch will cause Lucene to re-index, instead of causing Exalead to index the message store, resulting in empty search results when switched to Exalead and slow responses due to Lucene re-indexing the message store. Read through the next steps and decide settings before proceeding. These steps must be completed in the order specified.

- From the Indexer Reset page, Select **Reset entire message store**. Type **"I AGREE"** in the dialog after reading the warnings. Select **Submit**.

Indexer Background Indexer is alive: true
Indexer currently RUNNING engine: lucene (You may have already switched engines, but this will not be reflected until restart)

Unindexed Items (DB): 0

This utility allows you to reset the indexed status of either the entire message store or a specific mailbox. It may take quite some time on a large database.

Do not run this utility without specific instructions to do so! Misuse can corrupt the index, lead to high CPU utilization, and be quite inconvenient for users, as until the index is rebuilt any items affected will not be searchable.

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☒ Reset the entire message store. All items will slowly be reindexed by the background indexer
☐ Reset just a specific user's store. All items will slowly be reindexed by the Background indexer
User UUID to reset (case sensitive):

You may also add an additional restriction - that only email stored after a certain timestamp value is affected. Leave this entry as -1 to disable this feature.
Timestamp restriction:

You must type "I AGREE" below before hitting the submit button.

I understand the significant implications of what I am doing:

Proceed **without delay** to the next steps

- THIS STEP MUST BE DONE QUICKLY AFTER RESETTING THE INDEX. Go the server configuration in the Retain Server admin page, and switch indexer engine to 'exalead'.

Welcome, admin | About | Status & Updates | Logout

Server Configuration

- Communications
- Index
- Storage
- Accounts
- Maintenance
- Notification
- Logging
- Miscellaneous

Indexing Engine

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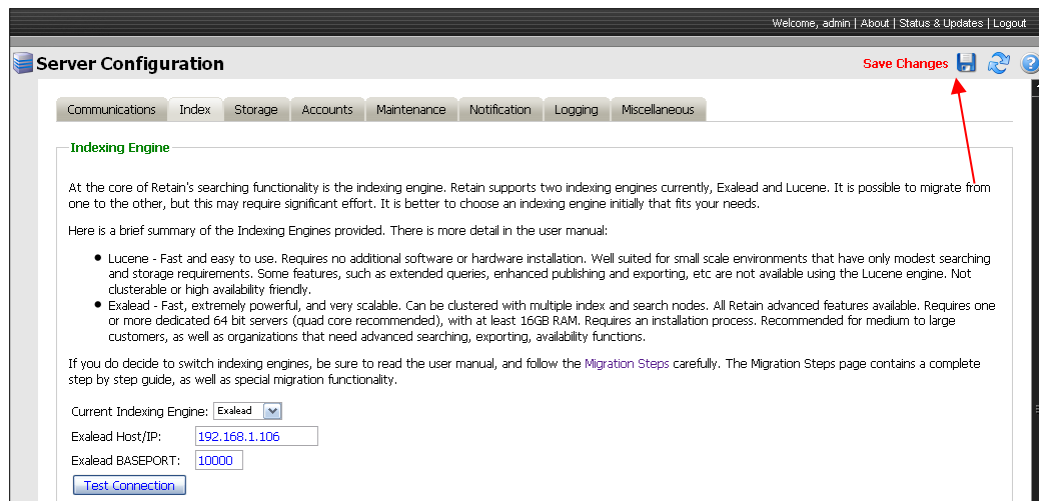
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If you do decide to switch indexing engines, be sure to read the user manual, and follow the [Migration Steps](#) carefully. The Migration Steps page contains a complete step by step guide, as well as special migration functionality.

Current Indexing Engine:

After selecting Exalead as the indexing engine, input the connection information (IP address and base port, the default base port is 10000).



After all changes have been made, select the **Save Changes** button.

5. Go to the **Migration Steps** page and Select, migration in progress, and select to **Send an e-mail when migration is completed**. Specify a destination address.

6. Activate an alternative searching server if desired.

While Exalead is indexing the archive, there will be no mail in the index to be searched through. Depending on how much mail is in the archive, the indexing operation may take a very long time. To have the searching features of Retain available while the archive is processed, specify a separate searching server. In this case, it would be Lucene. The only downside to this operation is that any new mail added to the system during the indexing operation will not be added to the Lucene index, and will not be available to search until Exalead has finished and the search engine has been changed to Exalead.

7. After the settings are correct, type **"I understand"** and select **Save Migration Parameters**.
8. Restart Tomcat on the Retain Server system. When Tomcat starts back up, the settings will be cemented and the archive will be re-indexed into Exalead.
During the indexing process of Exalead, the statistics of the Retain Server Status and update page should rapidly increase. It is one way to monitor the progress of the migration. (The screen shot shown is before the migration is started.)

Welcome, admin | [About](#) | [Status & Updates](#) | [Logout](#)

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Migrate to GroupWise 8

Global Event Series

[Click Here For All The Details](#)

System Status

Jobs Workers **Server** Updates

Server

Index Migration in Progress	false
SQL Server	OK
Server	RetainServer (FXROPPHOTTTI)
Stored EMails	0
Engine	standard
Server started at:	10-Mar-2010 14:00:11
Archived since server started (total/dupes/new)	0 / 0 / 0
Server errors	0

Installation time	08-Mar-2010 15:10:53
Enable Address Book Caching	Yes
Last Address Book Cache	08-Mar-2010 15:13:43
Enable Index Optimization	Yes
Last Index Optimization	Never

Total documents ever indexed	19897
Total emails in memory queue awaiting indexing	0
Total documents indexed so far since uptime	0
Total emails indexed so far since uptime	0
Total emails with indexing errors since uptime	0
Total emails with items skipped (*) since uptime	0
Last item indexed at	Never

9. When the migration complete email arrives, return to the Migration Steps page and unselect the **Migration is in progress** setting, type **I understand**, and **Save Migration Parameters**.

Migration Parameters

☐ Migration is in progress?

☐ Activate an alternative searching server?

Searching Server should be:

☒ Send an e-mail when migration is completed?

Comma delimited list of e-mail recipients:

Type "I understand". This is required to save the form, and is for your protection:

[Save Migration Parameters](#)

Even though Lucene has been unselected, it will still exist with all the indexes until removed. Again, Re-indexing may take a long time depending on the hardware of the Exalead system, the size of the archive, and the speed of the connecting network. Allow for plenty of time for the indexing to be performed. Time may range from several days to several weeks for extremely large systems.

Once it has been determined that Lucene is no longer wanted or needed as a backup for the system, to save system disk space, the Lucene index should be removed from the system. This is not a necessary step, though it does free up system disk space that currently holds duplicate data that now resides in the more robust Exalead system.

To remove the Lucene Indexes, login as admin to the Retain Server, open a new window or tab, and browse to http://Retain_Server_Address/RetainServer/Util/luceneDelete.jsp to remove the users one by one according to UUID. The lucene delete page is also linked from the **Indexer Reset** page. To manually delete the Lucene indexes, remove the contents of the <storage area>/index directory. There should also be a copy of the index directory in the backup folder of the storage area. This measure is not required.