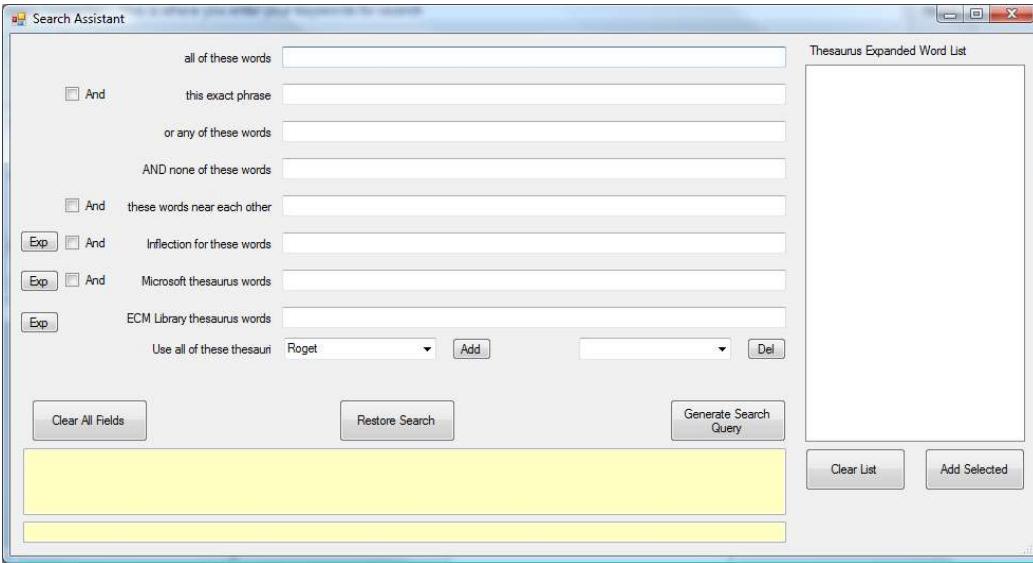
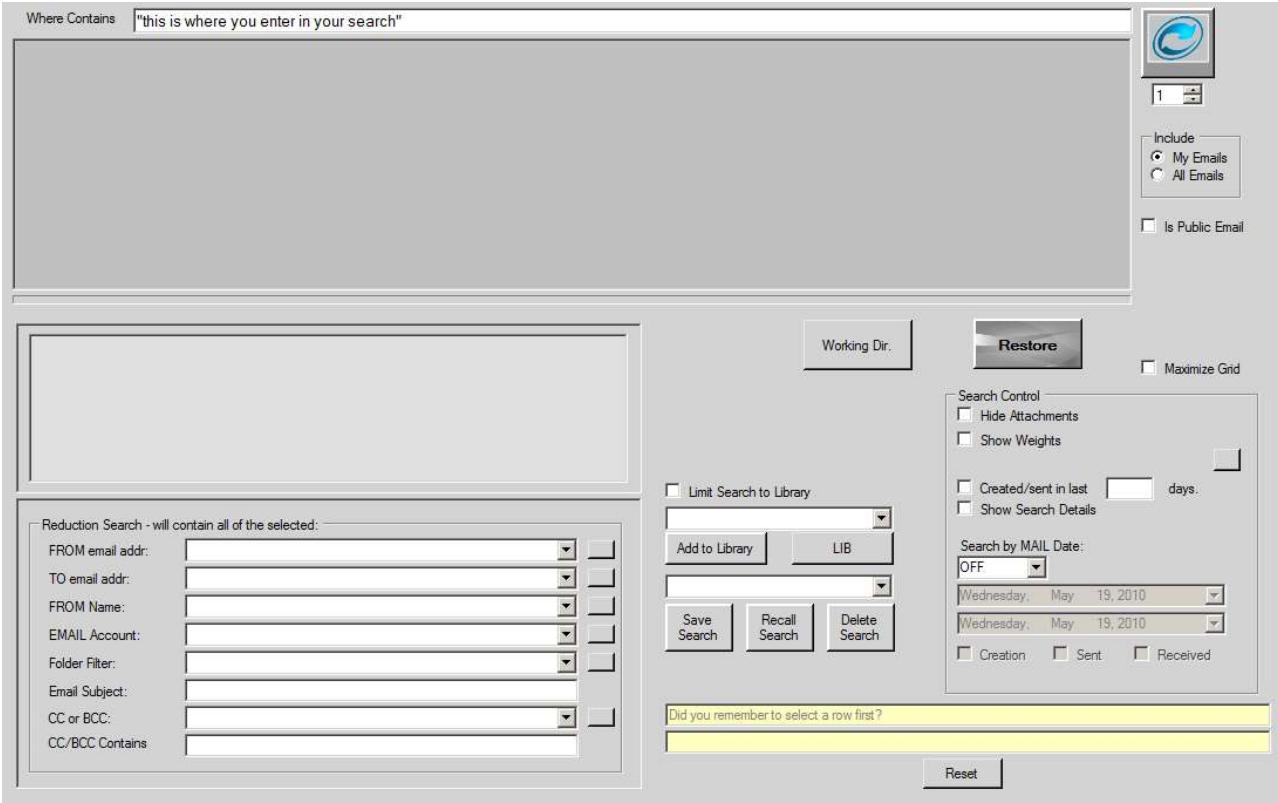


ECM LIBRARY TABLE OF CONTENTS

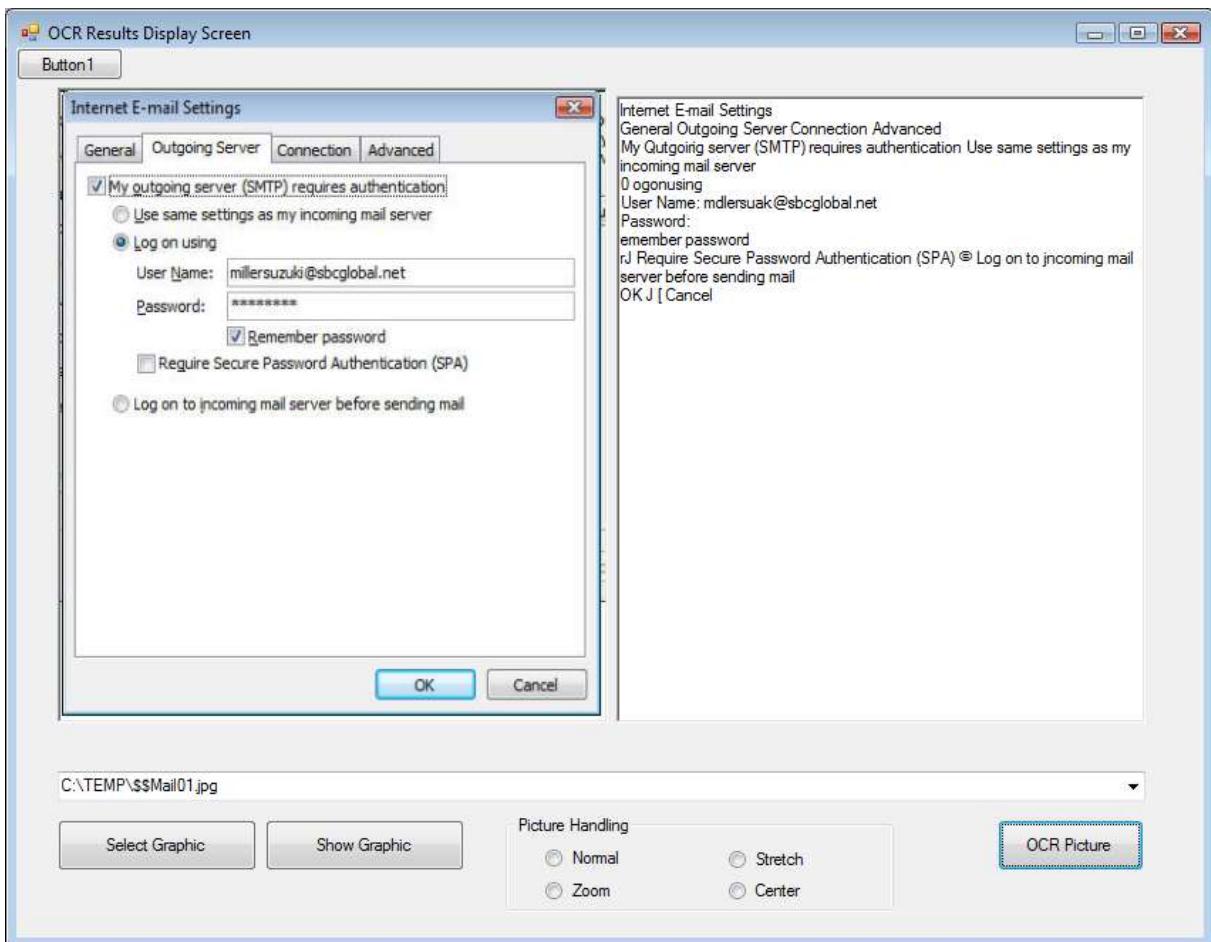
CONTENTS

Help Master Index.....	15
ECM Library Client Step-by-Step Instructions	19
ECM Library Client Step-by-Step Instructions	20
ECM Library Client Manual Download of Prerequisites	22
Other Links:	22
Installing Prerequisites:	22
ECM Library Prerequisites and approved components:	22
OLDER INSTALLS THAT ARE Deprecated:	23
Next	26
Next	26
Error Messages:	26
ECM Library Client Manual Download of Prerequisites	28
Other Links:	28
Installing Prerequisites:	28
ECM Library Prerequisites and approved components:	28
OLDER INSTALLS THAT ARE Deprecated:	28
Next	32
Next	32
Error Messages:	32
Office Security Popup Window	34
Other Links:	34
Resolve this security warning.....	34
Prevent this security warning from appearing again	34
View security settings in the Trust Center	35
Notes:	35
The Application Configuration File.....	35
Other Links:	35
Setting up AppConfig File at the end of a Download	36
Search Help Overview	38
Immediately Search.....	38
Highlights of Search Functions:	39
Search Help Overview	40

Other Help:.....	40
Search Introduction:	40
ECM Library Text Search Syntax Quick Tips	40
Search Option Details	42
Spelling	42
How to Use "Show Weights"	42
Text Searches Are Not Case Sensitive	42
Exact Search Match.....	42
Inflectional Search.....	43
Noise Words	44
Thesaurus Search	45
Searching on Financials or Numbers:.....	45
When Your Company is using Microsoft Thesaurus	46
Using Library Search, Master Document Search or limit to own Content.....	46
Search Assistant	47
Links to other Help Pages.....	48
	48
Thesaurus Search	48
When Your Company is using Microsoft Thesaurus	49
ECM Library Search Help Links.....	50
Information on the Search Content Repository Screen.....	50
On this Page:	50
"Search Content For" Command Line:	51
About Using Wildcards	51

How to search on an Archived Folder:.....	52
How to limit a search to a file type:	52
Using Library Search or Adding to a Library:.....	52
Use Weights:	52
Show Search Details:.....	52
Search Memory Counter:.....	52
Limit search to current list:	53
Restoring Content:	53
Set as Master Doc or Set as Public Doc:.....	53
ECM Library Search Help Links.....	54
Search – Email Repository.....	54
On this Page:	54
	
"Where Contains" Search Command Line:	55
About Using Wildcards:.....	55
"Email Attachments – Always Included in Where Contains":.....	56
Reduction Search Parameters:.....	56
Search "Email Subject":.....	56
How to search on "To" or "From" email addresses or names:	56

How to search on an Archived Folder:	57
Using Library Search or Adding to a Library:.....	58
Show Search Details:	58
Email Dates: Sent, Received, Creation – What do they mean?.....	59
Assigning Emails as Public or as Masters or to another Owner	59
Restoring Emails.....	59
Gen SQL – right hand mouse command.....	59
For Users and Global Searchers - How Weights work:.....	60
Links to other Help Pages.....	60
About Content Weights.....	60
For Administrators - How is Weight/Rank are calculated:.....	61
Show Content Weights	62
Links to other Help Pages.....	62
About Content Weights.....	62
Show Weights When Searching on Emails.....	63
Links to other Help Pages.....	63
About Email Weights.....	63
Search Help Overview	64
Immediately Search.....	64
Highlights of Search Functions:.....	64
Quick Archive Form.....	65
Links to other Help Pages.....	65
Metadata Fields:.....	66
Quick Archive Form Functions:	66
Object Character Recognition (OCR) Results:	67
Links to other Help Pages.....	67
About this Screen	67



C:\TEMP\\$\$Mail01.jpg	68
Metadata	68
Links to other Help Pages	68
Search Tags Tab	70
User Management – For Users	71
Links to other Help Pages	71
About this Screen	71
Refactoring:	71
Co-Ownership:	71
User Management – For Administrators	71
Rejected Senders	72
Links to other Help Pages	73
About this Screen	73
Microsoft Outlook Help	74
Links to other Help Pages	74
Information on this Page	74

When Microsoft Outlook is re-installed - Caution	74
How the Emails are Archived by Folder Name.....	75
Caution on Changing Folder Names in Outlook	75
How to open Outlook Express Emails and Exchange Server Emails (EML files) in Outlook 2007	75
Library Creation and Management Screens.....	76
Links to other Help Pages	76
Index for this Section.....	76
Purpose of a Library User Libraries Library Items Screen Library Assignment Screen For administrators Directory/Library owner listing.....	76
Other helpful pages.....	76
Purpose of a Library	76
Library General Rules:	76
User Libraries	78
Setting up a new Library:.....	78
Library Naming Rules:.....	78
Deleting an existing Library:.....	78
Library Items Screen	79
From this screen library members can:.....	79
Library Members cannot see:.....	79
Library owners can see and manage:	79
Library Assignment Screen.....	80
For Administrator and User Management: Directory/ Library Owner Listing	81
User Defined Groups.....	82
Links to other Help Pages	82
Purpose of the Group Screen:	82
Group Rules:	82
Creating a Group:	83
Removing Users from a Group:	83
Adding Groups to a Library:	83
Trouble Shooting and Reporting.....	84
Other Help:	84
Search Issues?	84
Validate Assembly	85

For Administrators: Error Tracking	86
Navigating through the ECM Library Menu	86
Links to other Help Pages	86
Items listed in order under Tools Menu.....	87
Items listed in order under Help Menu.....	89
ECM Library Step-by-Step Instructions	89
Links to other Help Pages	90
Instructions:.....	90
Post-Install Steps for ECM Library Database Administrator.....	91
The Application Configuration File.....	92
Other Links:	92
Setting up AppConfig File at the end of a Download	92
ECM Library Repository Download Links	94
On this Page:	95
Microsoft SQL Server Download Links	95
iFilter Download Links	95
PDF iFilters.....	96
http://www.foxitsoftware.com/pdf/ifilter/	96
Other Filters.....	96
Prerequisites for Laptop demo installation:.....	97
ECM Library Client Manual Download of Prerequisites.....	97
Other Links:	97
Installing Prerequisites:.....	98
ECM Library Prerequisites and approved components:	98
OLDER INSTALLS THAT ARE Deprecated:	98
Next	101
Next	102
Error Messages:.....	102
For SQL Administrators: Checking Filter Settings and File Types Available for Archive.....	104
Other Links:	104
What File Types will be Archived:	104
Managing Indexes and the ECM Library Repository:	104
FT Troubleshooting Screen's Other Functions	105
ECM Library Parameter Installation Setup.....	106
Other Links:	106

The Steps:	106
For Administrators: License Management Screen	107
Other Links:	107
Option A: Server-Processed License:	108
Option B: Email-sent License:	108
To view the current License Rules:	108
Bulk User Load Utility	109
Links to other Help Pages	109
Email Archive Screen	110
Other Links:	110
For Exchange Servers:	111
For Pop Email Archive:	112
Admin Functions	113
Links to other Help Pages	113
Locate Current Application Directory - User and Admin	117
DB List Views:	118
Verify Commands:	119
ECM Library Exchange Server Archiver	120
Microsoft Exchange Server 2007 Journaling Interface	120
Testing the traditional way of Journaling	124
Overview – Exchange Server 2007 Journaling Rules	125
Using the new Exchange Server 2007 feature	125
To create a journal rule, follow these steps:	126
Testing the Journaling Rule...	128
How can I make a journaling rule for the whole organization?	129
Problem Resolution: Journaling vs. Transport Rules	130
Summary	132
Article I. Journaling with Microsoft Exchange Server 2003	133
(a) Abstract	133
Article II. Contents	135
Article III. Journaling with Exchange Server	137
Section 3.01 What Is Covered in This Guide?	137
Section 3.02 What Is Not Covered in This Guide?	137
Section 3.03 Who Should Read This guide?	138
Article IV. What Is Journaling?	138

Article V.	Why Journal?	138
Article VI.	Compliance Solution Framework.....	139
Article VII.	Overview of Exchange Server 2003 Journaling.....	139
	Section 7.01 Types of Journaling.....	139
	Section 7.02 Where Journaling Does Not Work.....	140
	Section 7.03 Journal Data Format.....	140
Article VIII.	How Exchange Server 2003 Envelope Journaling Works.....	140
Article IX.	Example: Journaling for a Single Mailbox Database	141
Article X.	Example: Journaling for Two Mailbox Databases	142
Article XI.	Example: Journaling for Two Mailbox Databases with Distribution List Expansion	143
Article XII.	Envelope Message	145
Article XIII.	Recipient Data Gathering	146
Article XIV.	Conclusions About How Envelope Journaling Works	147
Article XV.	Planning an Exchange Server 2003 Journaling Deployment.....	147
Article XVI.	Journaling Effect on User Mailbox Servers	148
Article XVII.	Planning for Journal Recipient Mailbox Servers	148
	Section 17.01 Organizing Journal Recipient Mailboxes	148
Article XVIII.	Active Directory and Journaling	149
	Section 18.01 Heuristic Attribute.....	150
	Section 18.02 msExchMessageJournalRecipient Attribute.....	150
Article XIX.	How to Deploy Exchange Server 2003 Journaling as Part of a Compliance Solution	150
	Section 19.01 Before You Begin	151
	Section 19.02 Procedure	151
	Section 19.03 For More Information	152
Article XX.	How to Create a Custom SMTP Recipient for Exchange Server 2003 Journaling	152
	Section 20.01 Before You Begin	152
	Section 20.02 Procedure	152
Article XXI.	How to Set a Server-Side Rule for Journal Recipient Mailboxes	153
	Section 21.01 Before You Begin	153
	Section 21.02 Procedure	153
Article XXII.	How to Configure Mailbox Manager to Clean the Journal Recipient Mailbox	154
	Section 22.01 Before You Begin	154
	Section 22.02 Procedure	154
Article XXIII.	How to Schedule Mailbox Manager to Run Recipient Policies.....	155
	Section 23.01 Before You Begin	155
	Section 23.02 Procedure	155

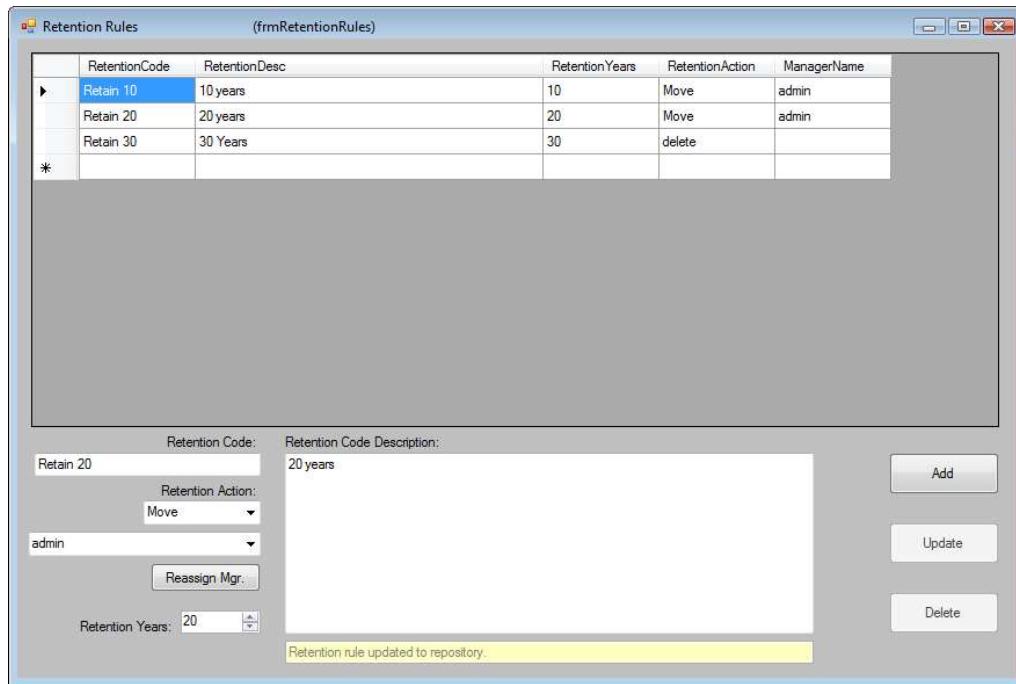
Section 23.03 For More Information	155
Article XXIV. How to Enable Exchange Journaling.....	155
Section 24.01 Before You Begin	156
Section 24.02 Procedure	156
Section 24.03 For More Information	156
Article XXV. How to Enable Standard Journaling	156
Section 25.01 Before You Begin	156
Section 25.02 Procedure	156
Section 25.03 For More Information	156
Article XXVI. How to Enable Envelope Journaling.....	157
Section 26.01 Before You Begin	157
Section 26.02 Procedure	157
Section 26.03 For More Information	157
Article XXVII. How to Manually Enable Envelope Journaling	157
Section 27.01 Procedure	157
Article XXVIII. Copyright	158
User Startup Parameters for Users:.....	158
Links to other Help Pages.....	159
About this Screen	159
Changing Other User Parameters:	160
User Startup Parameters for Administrators:.....	160
System Parameters	161
Other Help:.....	161
User Management – For Users	163
Links to other Help Pages.....	163
About this Screen	163
Refactoring:	163
Co-Ownership:.....	163
User Management – For Administrators	163
The Application Configuration File for Administrators	165
Other Links	165
For ECM Library Administrators	165
System.Configuration Basics	166
appSettings Section.....	166
Customized Configuration Sections	167

SQL Server 2012 Thesaurus Rules of Engagement.....	168
Links to other Help Pages.....	168
About Microsoft Thesaurus on SQL Server	169
Location of the Thesaurus Files.....	169
How Queries Use Thesaurus Files	170
Understanding the Structure of a Thesaurus File	170
To load an updated thesaurus file.....	172
Example A: Load a thesaurus file even if it is already loaded.....	173
Example B: Load a thesaurus file only if it is not yet loaded	174
To view the tokenization result of a word breaker, thesaurus, and stoplist combination.....	174
Using Unicode for Parsing Special Characters.....	178
When to Use sys.dm_fts_parser	178
A. Displaying the output of a given word breaker for a keyword or phrase.....	179
B. Displaying the output of a given word breaker in the context of stoplist filtering	180
C. Displaying the Output of a String that Contains Special Characters.....	180
Stopwords and Stoplists	180
Creating a Stoplist	181
• A. Creating a new full-text stoplist	183
• B. Copying a full-text stoplist from an existing full-text stoplist	183
• C. Copying a full-text stoplist from the system full-text stoplist.....	183
Overview of CONTAINS and FREETEXT Searches	184
Full-Text Search Dynamic Management Views and Functions	185
Links to other Help Pages.....	185
Managing Filters and Indexing	185
Commands in Microsoft SQL Server Management Studio (Transact-SQL)	187
In This Section	187
Gen SQL – Right Click Mouse inside Search Query Command.....	188
Other Links:	188
ECM Library Query Engine	188
Links to other Help Pages.....	189
On this Page:	189
Strict querying using CONTAINS.....	189

Fuzzy querying using FREETEXT (Business Meaning)	191
The LANGUAGE argument.....	191
Stemming	192
Declensions	193
Conjugation	193
Thesaurus-based searches	193
Diacritics and accents.....	194
False friends or false conjugates	195
UK vs. US English at query time.....	195
Analyze Results of Word Search – for ECM Library Administrators.....	195
Links to other Help Pages.....	195
sys.dm_fts_parser (Transact-SQL).....	196
Table Returned.....	197
Remarks.....	199
Using Unicode for Parsing Special Characters.....	199
When to Use sys.dm_fts_parser	199
Permissions	200
DM_FTS_PARSER – Microsoft SQL Server Administrator Functions.....	201
Other Help:	201
FULL TEXT Index Change Tracking.....	203
Full Population.....	204
Change Tracking-Based Population.....	204
Incremental Timestamp-Based Population.....	206
Here are the Microsoft examples on how to work with a fulltext index:	207
A. Creating a full-text index without running a full population	207
B. Running a full population on table	207
C. Creating a full-text index with manual change tracking.....	207
D. Running a manual population	208
E. Altering a full-text index to use automatic change tracking	208
For SQL Administrators: Checking Filter Settings and File Types Available for Archive.....	209
Other Links:	209
What File Types will be Archived:	209
Managing Indexes and the ECM Library Repository:	209
FT Troubleshooting Screen's Other Functions	210

File Type Profile Management	211
Links to other Help Pages	211
ECM Library Administrative Tables	213
On this Page:	213
Other Help:	213
Assignable User Parameters	213
Attachment Codes	214
Attributes Screen	215
Available File Types	216
Content Profiles	217
Data Type Codes	218
File Type Codes	219
SMTP Email Users	220
Help Contact Information	221
Importing or Exporting Tables	221
Pop Email Downloads	222
Link to set up an Exchange Server:	223
Retention Codes	223

Z



224

Set up Default Lookup Codes	224
-----------------------------------	-----

Service Configuration	224
System Parameters	225
User Runtime Parameters	226
Retention Rules.....	228
Other Links:	228
Retention Management Screen – For Administrators.....	230
Links to other Help Pages.....	230
About Retention Management	230

ECM LIBRARY DOCUMENTATION

Note: This document is comprised of the merged, online help files. This full set of help can be accessed through:

<https://ecmlibrary/ helpfiles>

HELP MASTER INDEX	
Click F1 anywhere on a particular screen to see help for that screen	
Help Topic	Links for All Users
SET UP OF ECM LIBRARY	
1. Step-by-step Installing ECM Library for the first time	ECM Library Client Install Help
2. Changing Search, Archive and Directory Default Parameters	User Startup Parameters
3. Prerequisite Software prior to installing ECM Library	Links of ECM Library Prerequisites
4. Office Email Security Popup Window	Office Security Popup Window.htm
5. Setting up App config for the first time	Application Configuration File.htm
SEARCH AND RETRIEVAL	
6. ECM Library Search Best Quick Tips	Quick Search Tips
7. ECM Library Search Guide	ECM Library Search Basics
8. Search Assistant Functions	Search Assistant Screen Help
9. Document/Content Search Functions	Document Search Screen Help
10. Email Search Functions	Email Search Screen Help
11. How is Weight Calculated in General	How is Weight Calculated
12. Show Content Weights/Search Rankings	How Weight Works Documents
13. Show Email Weights/Search Rankings	How Weight works for Email
ARCHIVE AND CONTENT MANAGEMENT	
14. ECM Archive Setup Screen	Archive Set Up Screen Help
15. Quick Archive	Quick Archive Screen Help
16. How to test the quality of OCR	OCR Test Screen Help

17. Adding/Managing Meta Data	Metadata Screen Help
18. Changing Password and Content Ownership	User Management Screen Help
19. How to not archive “junk” emails	Email Sender Filter Screen Help
20. Outlook Folder Archive Considerations and other Help	Outlook Help

LIBRARY AND GROUP MANAGEMENT

21. Library Creation and Management Screen	Library Creation and Management Screen Help
22. Setting up & Managing Groups	Groups Management Screen Help

TROUBLE SHOOTING

23. Error Tracking & Help Request	Error Tracking Help and Screen Instructions
24. Select Tool File Help Windows Navigation	Various Menu items what do they mean?

Help Topic	Links for Administrators only
SET UP OF ECM LIBRARY	
25. ECM Library Step by Step Installation Instructions for Administrators	Setup Instruction Links
26. App Config File – steps for a new publish	Application Configuration File
27. SQL Server and Filter Download Resources	Filters and SQL Server Downloads
28. Prerequisite Software prior to installing ECM Library	Links of ECM Library Prerequisites
29. Checking which Filters are Installed and File types available for archive	Managing Filters and Repository Performances
30. Company Parameter-based Installs	Parameter Install Help
31. License Management Screen	License Management Screen Help
32. Bulk User Load Utility – how to load from 1 to 1,000,000 users in a batch scenario	Bulk User Load Utility Screen Help

33. Setting up Exchange Server email	Exchange Mail Screen help
34. Navigating through all the Admin Screens	Admin Function Screen Links and Help
35. Setting up Journaling on an Exchange Server	Journaling Set Up Exchange Resources
36. Microsoft document on Setting up Journaling for Exchange 2003	Journaling for Exchange 2003 Instructions

PARAMETERS AND USER MANAGEMENT

37. Changing Search, Archive and Directory Parameters	User Startup Parameters Screen Help
38. System Parameters	Systems Parameters Screen Help
39. Changing Password and Content Ownership	User Management Screen Help
40. Application Configuration File Editor – purpose and use	Application Config for Admins Help
41. SQL Server 2012 Thesaurus Rules of Engagement	SQL Server Thesaurus Rules of Engagement
42. Full-Text Search Dynamic Management Views and Functions	Full-Text Management Screen

DATABASE ADMINISTRATION

43. Generate SQL Functionality	About Generate SQL Functionality
44. The Query Engine	Information Query Engine
45. Analysis of the results of a word search	Analyze Results of Word Search
46. DM_FTS_PARSER – A very technical explanation of the SQL Server function(s).	DM_FTS_PARSER
47. Full Text Change Tracking	FULL TEXT Index in SQL Mgr
48. Filter Updates / Word Breaker Availability	Filter Resources

CONTENT MANAGEMENT

49. File type Profile Management	File Type Profile Management Screen Help
----------------------------------	----------------------------------------------------------

50. Tables to manage Attributes, Parameters, Codes, Profiles, and Email	Administrative Table Screens Help
51. Retention Rules Management	Retention Rule Screen Help
52. Retention Management Screen	Retention Content Management Screen Help

ECM LIBRARY CLIENT STEP-BY-STEP INSTRUCTIONS

[ECM Library Master Help Index](#)

ECM Library Client Supported Platforms

Supported Operating Systems:

- Microsoft Windows XP Pro SP3
- Microsoft Windows Vista Business or above
- Microsoft Window 7 Pro or above

Supported Hardware:

Minimum: 1 GB RAM
Recommended: 2 GB RAM & Pentium duo-processor +

Supported Microsoft Office Platform: Microsoft Office 2003 (supported through Oct 2010) and Microsoft Office 2007 (recommended)

Step 1 : [Verify/Download the Prerequisite Microsoft Software](#)

This is applied to the each computer/PC accessing ECM Library repository.

Step 2 : [Install ECM Library Client](#)

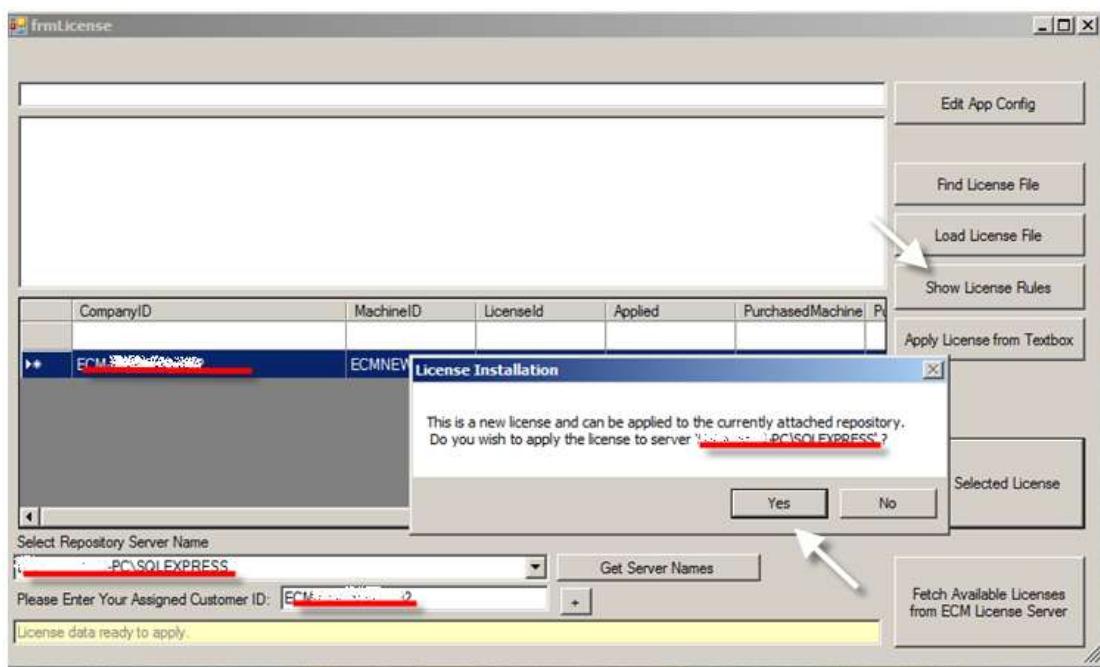
This is applied to the each computer/PC accessing ECM Library repository once Step 1 has been completed.

Step 3 :

The very first time you install ECM Library client you must identify your company server and, where required, any ID and password to start the connection to the server. Click [here](#) for the application configuration set up instructions.

Step 4 :

A new **licensing screen** will come up. Click on “Get Server Names” and pull down the menu until you see the name of the Server your administrator has set up for ECM Library. Enter your assigned Customer ID supplied by your administrator. Click on “Yes” as shown below. Your individual information will appear along the red lines indicated below, so long as your PC is connected to the ECM Library repository correctly.



Step 5 : Click on ECM Library icon on your desktop. If you are given an ID and password screen, enter in the one given to you by your administrator.

You are ready to archive your files and emails! Contact your administrator for procedures and training times.

Step 6 : If you are also archiving from your computer, you will need to download the Archiver Client software. Click [here](#)

ECM LIBRARY CLIENT STEP-BY-STEP INSTRUCTIONS

[ECM Library Master Help Index](#)

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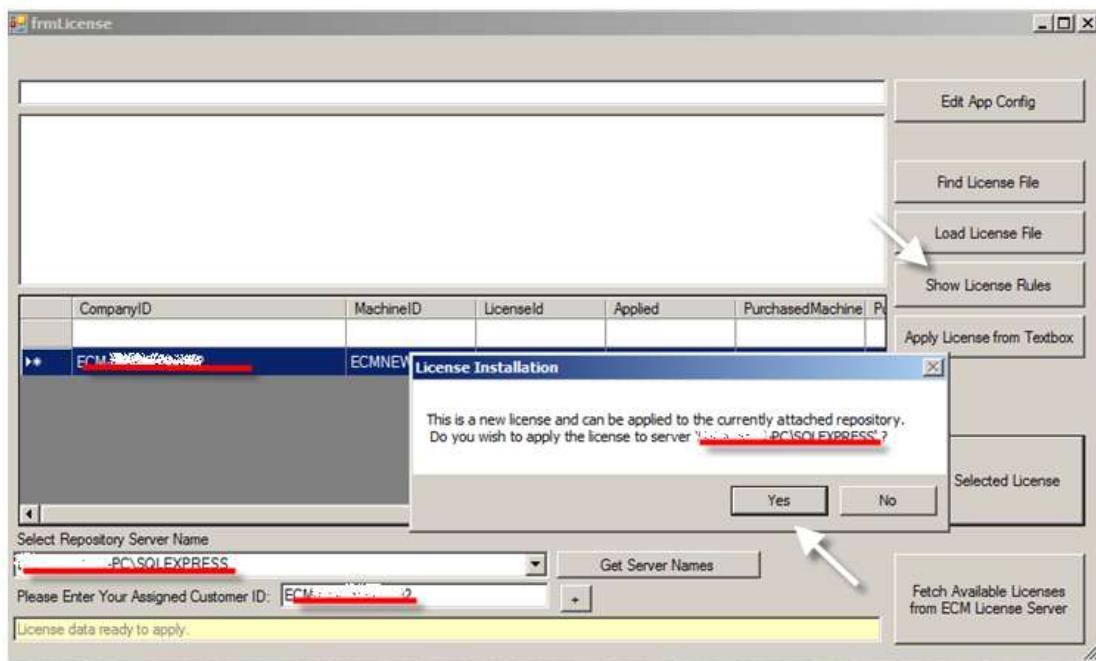
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SetupECMLibraryClient.htm

ECM LIBRARY CLIENT MANUAL DOWNLOAD OF PREREQUISITES

OTHER LINKS:

- [Administrative Screens and Help](#)
- [ECM Library Master Help Index](#)

INSTALLING PREREQUISITES:

ECM Library has powerful intelligence about managing where information is processed –the server vs. your computer – and how to make processing time as efficient as possible. These install steps are done once, and then you will start to take pleasure in the quick responsiveness of this application, so when you want to find something, you can find it immediately!

ECM LIBRARY PREREQUISITES AND APPROVED COMPONENTS:

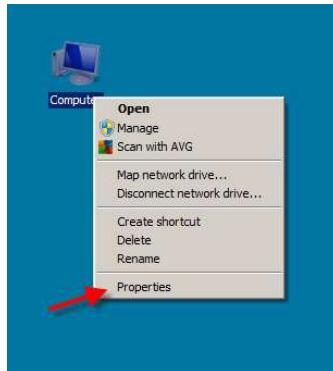
- Windows Server 2012 thru Windows Server 2012 R2
- SQL Server 2012 R2 thru SQL Server 2014
 - Full-text indexing option required
 - File store option enabled
 - Enterprise version or
 - Standard or
 - Web
 - NOTE: Each of the versions should be evaluated for your needs and the amount of user activity.
- IIS 6.0 and beyond
- Browsers
 - Internet Explorer version 6.0 and beyond

- FireFox
- EDGE ([not currently available](#))
- Chrome (prior to 42, Chrome 42 blocks Java, Silverlight, and other plugins by default now) Please see: [Chrome Deprecation](#)
- Silverlight 4.x and above
- .Net 4.5
- WCF 3.0 and beyond
- Windows Operating Systems
 - Windows 8.x
 - Windows 7.x
 - Vista (not recommended)
 - Windows 10 (not currently available)

OLDER INSTALLS THAT ARE DEPRECATED:

Extra Prerequisite for XP Pro: If you are running on XP Pro, ECM Library requires you to be on Service Pack 3 (SP 3).

Prior to Install: verify your computer properties first to see which Service Pack you currently have installed, and if your computer runs a 32 bit or a 64 bit operating system. To do so, right click mouse on your computer and check properties.

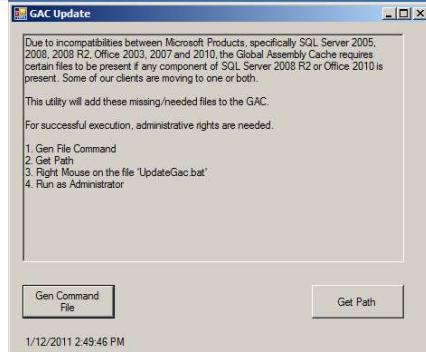


Please do these prerequisites in the exact order below:

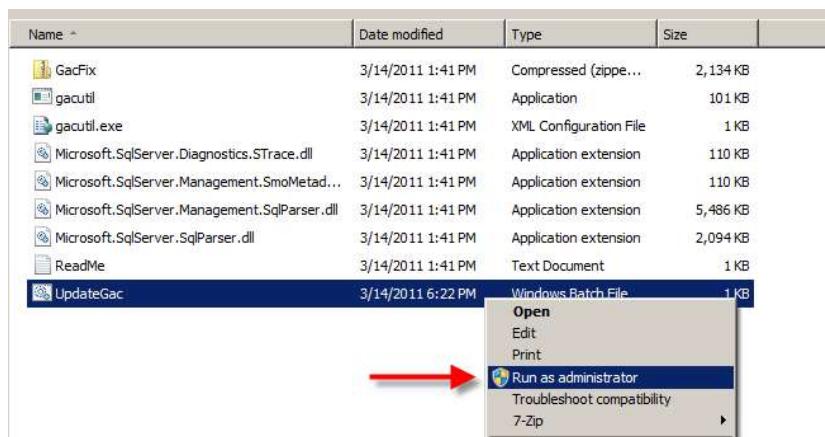
First open up Internet Explorer.

We recommend Internet Explorer for any Installs.

1. [Update to the GAC \(Global Assembly Cache\)](#) As of January 12, 2011, this quick install fixes a new issue arising from incompatibilities communicating with "SQL Server 2012 and 2012 R2" until Microsoft provides a smoother transition. It is still needed for every computer/all users. Just follow the short 4-step instructions by clicking on the left button first, then the right button second.



For the fourth step it requests you to Run as Administrator. Highlight the updateGac.bat at the bottom of the list and right click - select “Run as Administrator” as shown below.



2. [Windows Installer 4.5](#)

In case of forced reboot just continue with next step after you log back in.

Windows6.0-KB942288-v2-ia64.msu	for 64A bit computers	3.4 MB	Download
Windows6.0-KB942288-v2-x64.msu	for 64 bit computers	2.9 MB	Download
Windows6.0-KB942288-v2-x86.msu	for 32 bit computers	1.7 MB	Download
WindowsServer2003-KB942288-v4-ia64.exe		24.6 MB	Download
WindowsServer2003-KB942288-v4-x64.exe		4.5 MB	Download
WindowsServer2003-KB942288-v4-x86.exe		2.9 MB	Download
WindowsXP-KB942288-v3-x86.exe	for 32 bit XP computers	2 MB	Download

3. [Microsoft Report Viewer 2012](#)



4. http://www.ecmlibrary.com/download/redemption_for_email/redemption_redist.zip

This program should be downloaded if you are archiving any emails.

5. These next downloads need to be installed in this exact order:

Note: If any problems with the following links below are experienced, go to this link and install the following in this order:
[Microsoft SQL Server 2012 Feature Pack](#)

a. Microsoft SQL Server System CLR Types

For X86 (32-Bit) [Click here](#) to download

For X64 (64-Bit) [Click here](#) to download

For ia64 (IA64-Bit) [Click here](#) to download

b. Microsoft Core XML Services (MSXML) 6.0

Note: If a message box saying that a newer version is already installed appears, great! You need not worry about completing this install. Cancel out.

[Click here:](#) On this page you need to scroll down and find the appropriate download for your computer. ia64 is for IA64-Bit machine, x64 is for a 64-Bit machine, and x86 is for a 32-Bit machine.

Files in This Download

The links in this section correspond to separate files available in this download. Download the files most appropriate for you.

File Name:	File Size	
msxml6_ia64.msi	3.6 MB	Download
msxml6_x64.msi	2.5 MB	Download
msxml6_x86.msi	1.5 MB	Download

[Top of page](#)

c. Microsoft SQL Server 2012 Management Objects (SMO)

For X86 (32-Bit) [Click here](#) to download

For X64 (64-Bit) [Click here](#) to download

For ia64 (IA64-Bit) [Click here](#) to download

d. Microsoft Sync Framework

For X86 (32-Bit) [Click here](#) to download

For X64 (64-Bit) [Click here](#) to download

For ia64 (IA64-Bit) [Click here](#) to download

- 6. New SQL Server 2012 Management Objects (SMO) by Microsoft.** This is only needed for those customers whose server uses SQL Server 2012 R2. If you're not sure, just take it.

[X86 Package](#)

(SharedManagementObjects.msi)

[X64 Package](#)

(SharedManagementObjects.msi)

[IA64 Package](#)

(SharedManagementObjects.msi)

- 7. Check to make sure you have MODI installed.** This is done by looking under your Microsoft Office programs as shown. If it has not been installed your ability to perform object character recognition – search on text in a graphic – will not work. If you do not have this function, ask your IT support desk to install it for you.



NEXT

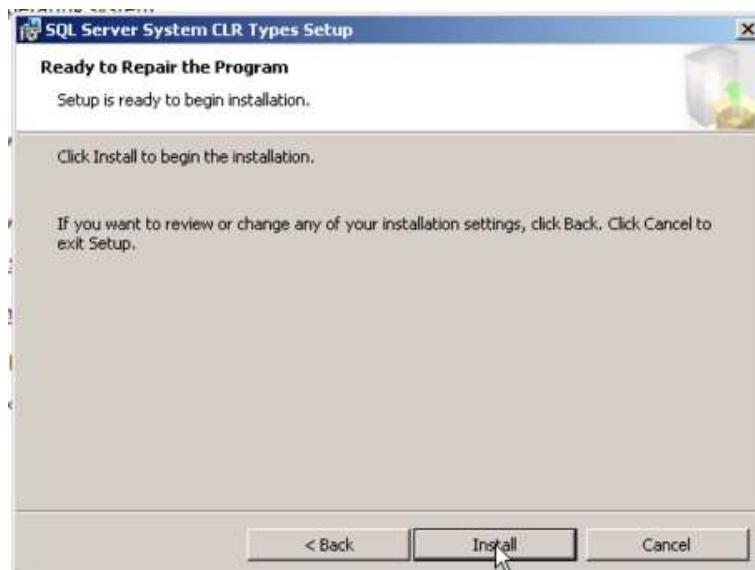
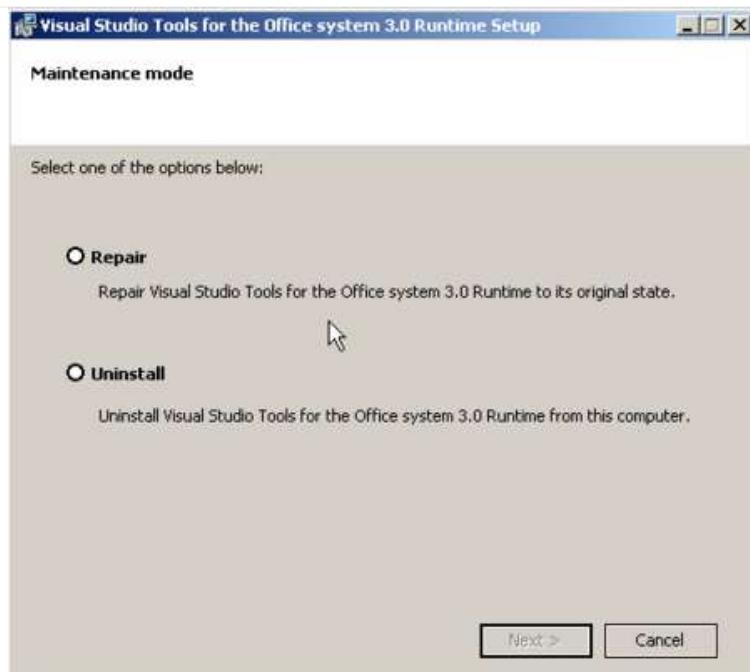
When these are completed, congratulations – you are ready to install ECM Library! [Click here](#) to go to ECM Library client download.

NEXT

If you are going to archive from your computer [Click here](#) to go to ECM Library Archiver download.

ERROR MESSAGES:

If you receive a message like this, it most likely means that you already have this software installed on your computer. You can cancel and then go onto the next manual install:



[Back to top](#)

ECM LIBRARY CLIENT MANUAL DOWNLOAD OF PREREQUISITES

OTHER LINKS:

- [Administrative Screens and Help](#)
- [ECM Library Master Help Index](#)

INSTALLING PREREQUISITES:

ECM Library has powerful intelligence about managing where information is processed –the server vs. your computer – and how to make processing time as efficient as possible. These install steps are done once, and then you will start to take pleasure in the quick responsiveness of this application, so when you want to find something, you can find it immediately!

ECM LIBRARY PREREQUISITES AND APPROVED COMPONENTS:

- Windows Server 2012 thru Windows Server 2012 R2
- SQL Server 2012 R2 thru SQL Server 2014
 - Full-text indexing option required
 - File store option enabled
 - Enterprise version or
 - Standard or
 - Web
 - NOTE: Each of the versions should be evaluated for your needs and the amount of user activity.
- IIS 6.0 and beyond
- Browsers
 - Internet Explorer version 6.0 and beyond
 - FireFox
 - EDGE ([not currently available](#))
 - Chrome (prior to 42, Chrome 42 blocks Java, Silverlight, and other plugins by default now) Please see: [Chrome Deprecation](#)
- Silverlight 4.x and above
- .Net 4.5
- WCF 3.0 and beyond
- Windows Operating Systems
 - Windows 8.x
 - Windows 7.x
 - Vista (not recommended)
 - Windows 10 (not currently available)

OLDER INSTALLS THAT ARE DEPRECATED:

Extra Prerequisite for XP Pro: If you are running on XP Pro, ECM Library requires you to be on Service Pack 3 (SP 3).

Prior to Install: verify your computer properties first to see which Service Pack you currently have installed, and if your computer runs a 32 bit or a 64 bit operating system. To do so, right click mouse on your computer and check properties.

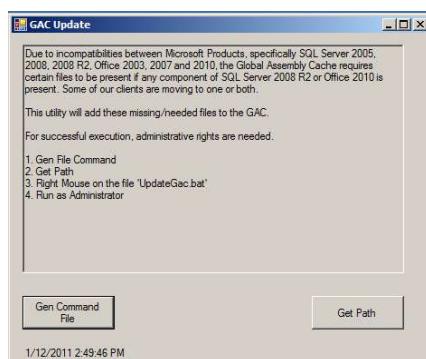


Please do these prerequisites in the exact order below:

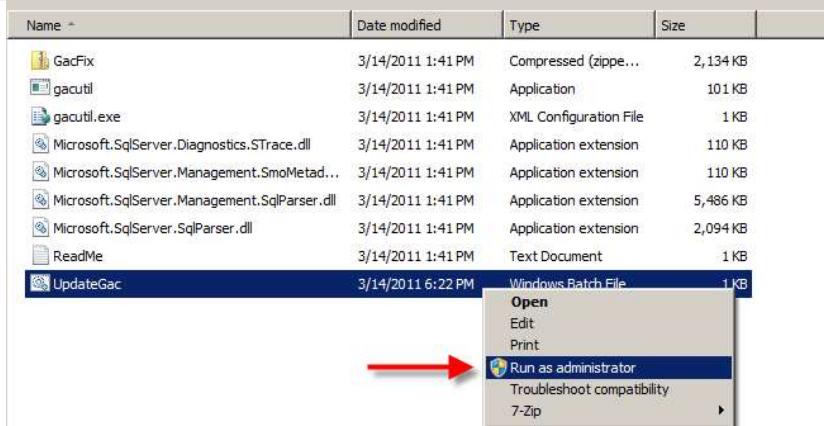
First open up Internet Explorer.

We recommend Internet Explorer for any Installs.

8. [Update to the GAC \(Global Assembly Cache\)](#) As of January 12, 2011, this quick install fixes a new issue arising from incompatibilities communicating with "SQL Server 2012 and 2012 R2" until Microsoft provides a smoother transition. It is still needed for every computer/all users. Just follow the short 4-step instructions by clicking on the left button first, then the right button second.



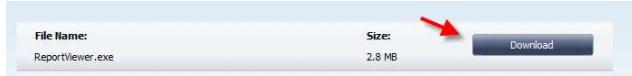
For the fourth step it requests you to Run as Administrator. Highlight the updateGac.bat at the bottom of the list and right click - select "Run as Administrator" as shown below.



9. [Windows Installer 4.5](#)

In case of forced reboot just continue with next step after you log back in.

10. [Microsoft Report Viewer 2012](#)



11. http://www.ecmlibrary.com/download/redemption_for_email/redemption_redist.zip

This program should be downloaded if you are archiving any emails.

12. These next downloads need to be installed in this exact order:

Note: If any problems with the following links below are experienced, go to this link and install the following in this order
[Microsoft SQL Server 2012 Feature Pack](#)

e. Microsoft SQL Server System CLR Types

For X86 (32-Bit) [Click here](#) to download

For X64 (64-Bit) [Click here](#) to download

For ia64 (IA64-Bit) [Click here](#) to download

f. Microsoft Core XML Services (MSXML) 6.0

Note: If a message box saying that a newer version is already installed appears, great! You need not worry about completing this install. Cancel out.

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[↑ Top of page](#)

g. Microsoft SQL Server 2012 Management Objects (SMO)

For X86 (32-Bit) [Click here](#) to download

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h. Microsoft Sync Framework

For X86 (32-Bit) [Click here](#) to download

For X64 (64-Bit) [Click here](#) to download

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13. New SQL Server 2012 Management Objects (SMO) by Microsoft. This is only needed for those customers whose server uses SQL Server 2012 R2. If you're not sure, just take it.**X86 Package**

(SharedManagementObjects.msi)

X64 Package

(SharedManagementObjects.msi)

IA64 Package

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NEXT

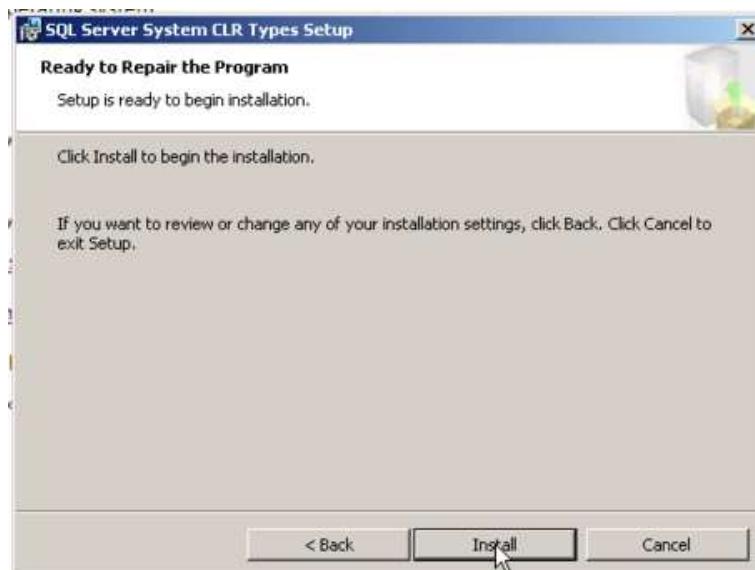
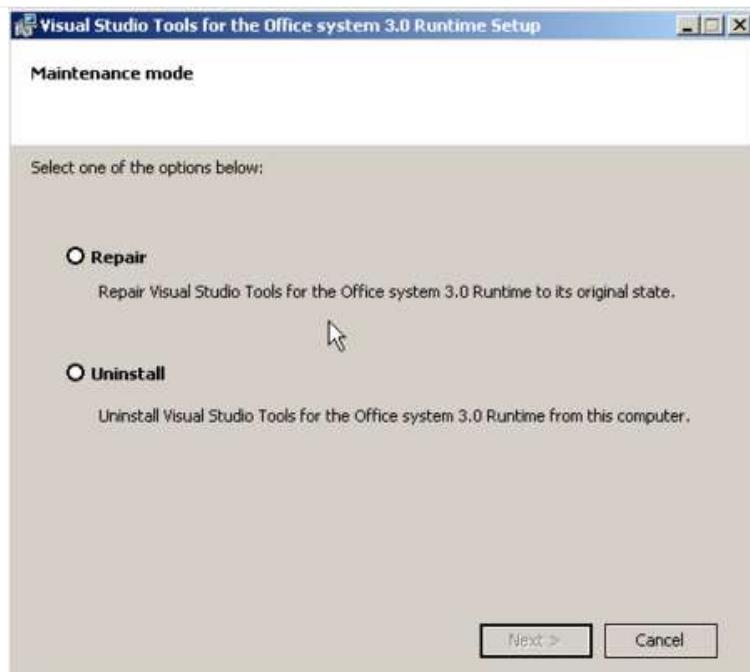
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ERROR MESSAGES:

If you receive a message like this, it most likely means that you already have this software installed on your computer. You can cancel and then go onto the next manual install:



[Back to top](#)

OFFICE SECURITY POPUP WINDOW

OTHER LINKS:

[Administrative Screens and Help](#)

[Table Functions](#)

[ECM Library Master Help Index](#)



This is a Microsoft message box that warns you if another program is accessing Outlook. It will not let ECM Library or other programs access mail unless you manually give permission.

RESOLVE THIS SECURITY WARNING

- If you did not expect a program to access Outlook, or if you are not sure whether the program attempting to access Outlook is trustworthy, click **Deny**.
- If you clicked a command or started a program that you know is supposed to access Outlook data or send e-mail messages using Outlook, and you consider the program to be trustworthy, do one of the following:
 - Click **Allow**.
 - If you are prompted to allow access to recipient information, select the **Allow access for** check box, click the amount of time that you want to grant access for, and then click **Allow**.

Note You should pick the least amount of time necessary for the other program to access your Outlook data. If the program needs additional time, the security warning will appear again.

PREVENT THIS SECURITY WARNING FROM APPEARING AGAIN

Under certain conditions, installing an antivirus program and keeping it updated regularly might prevent this security warning from appearing again. The conditions are as follows:

- Your antivirus software must be compatible with Microsoft Windows XP Service Pack 2 (SP2). Check with your [antivirus software vendor](#).
- Your antivirus software must be updated regularly. Most antivirus programs enable you to get automatic updates when you are online. Check with your antivirus software vendor.
- Your antivirus software is configured to share its update status with other applications. Typically, antivirus programs share their update status with other applications by default. To check the update status setting, look in the preferences or options for your antivirus program, or check with your antivirus software vendor.

Notes:

- Office Outlook 2007 relies on the Windows Security Center to check for the presence of the antivirus program and update its status.

- If your antivirus software subscription expires or has been inactive, you might get the security warning again when a program attempts to access Outlook.

VIEW SECURITY SETTINGS IN THE TRUST CENTER

The **Programmatic Access** security settings in the Trust Center provide the following options:

- **Warn me about suspicious activity when my antivirus software is inactive or out-of-date (recommended)** This is the default setting in Office Outlook 2007. Suspicious activity refers to an untrusted program attempting to access Outlook.
- **Always warn me about suspicious activity** This is the most secure setting and you will always be prompted to make a trust decision when a program attempts to access Outlook.
- **Never warn me about suspicious activity (not recommended)** This is the least secure setting.

To view these settings, do the following:

1. On the **Tools** menu, click **Trust Center**.
2. Click **Programmatic Access**.

NOTES:

- If your computer is managed by a [Microsoft Exchange](#) administrator or a Microsoft Windows Active Directory Domain Services administrator in your organization, and the administrator changes the default setting and prevents users from making changes, the option to customize the Programmatic Access security settings will be disabled.
- If your computer is not managed by an Exchange administrator or a Microsoft Windows Active Directory Domain Services administrator, and you are the Windows administrator of your computer, you can change the **Programmatic Access** security settings. However, this is not recommended.

[Back to top](#)

Office Security Popup Window.htm

THE APPLICATION CONFIGURATION FILE

OTHER LINKS:

[ECM Library Master Help Index](#)

[Administrative Screens and Help](#)

[AppConfig Help for Administrators](#) - administrative help

SETTING UP APPCONFIG FILE AT THE END OF A DOWNLOAD

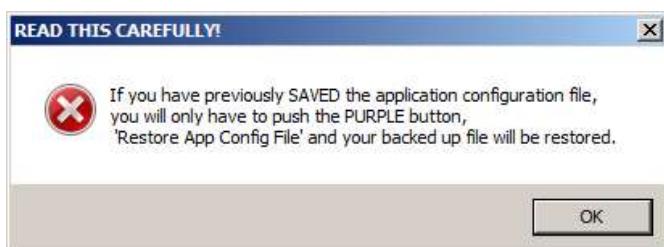
When you receive a new publish from ECM Library, after the new publish has downloaded you may be asked this question:



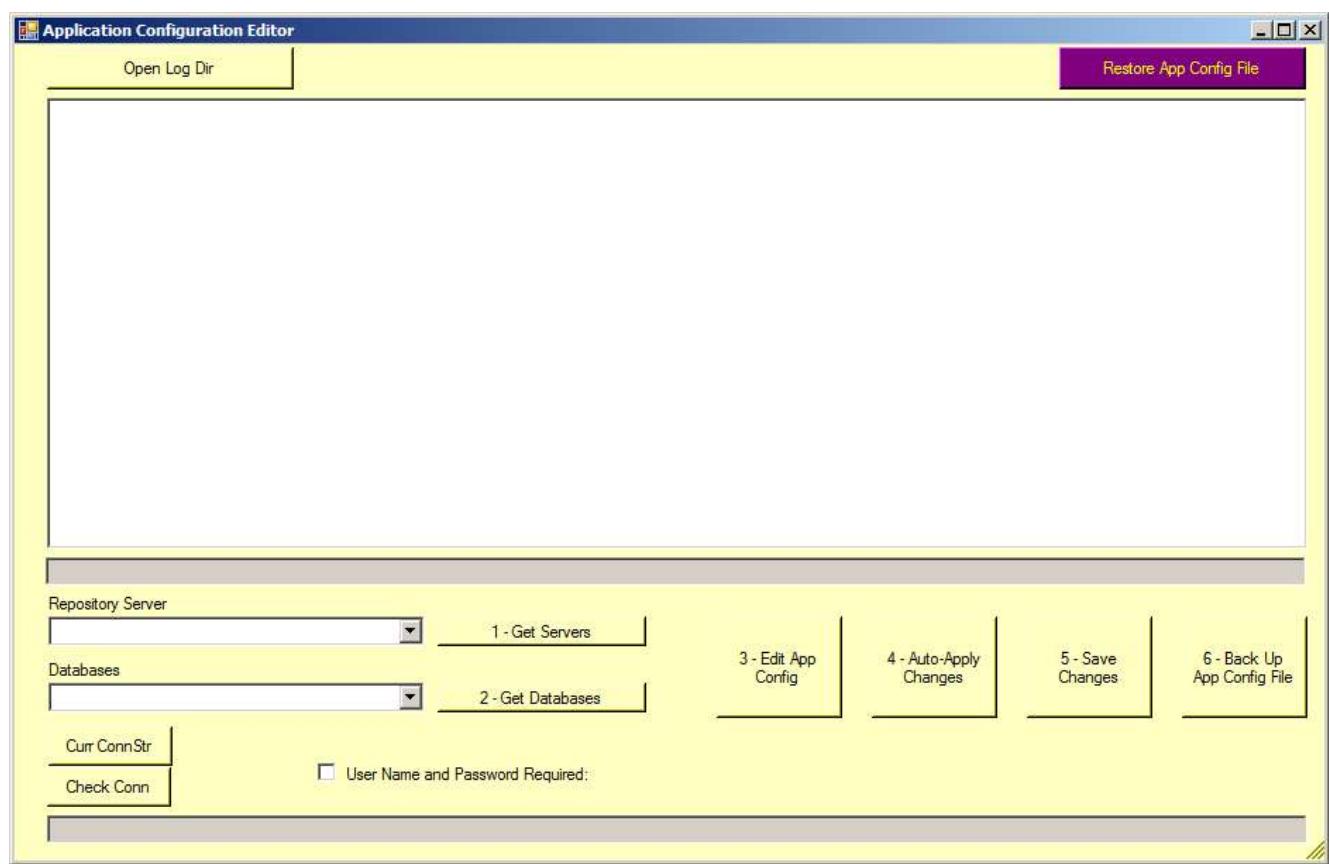
Choose yes if your company administrator has not told you otherwise. Chances are there have been no changes to your configuration to connect to the server and most times you just click yes.

However, for the first time downloading ECM Library you may need to go to the right button. Here's the sequence of events that will follow:

First: You'll get this warning message. Read it and click OK. (Your company administrator will tell you if you should use the purple button.)



This window below will appear next. Click on Step 1, as indicated, to identify your network Servers. This may take a minute. Next pull down the list using the arrow under "Repository Server". Click on the ECM Library server name that your company administrator has given you.

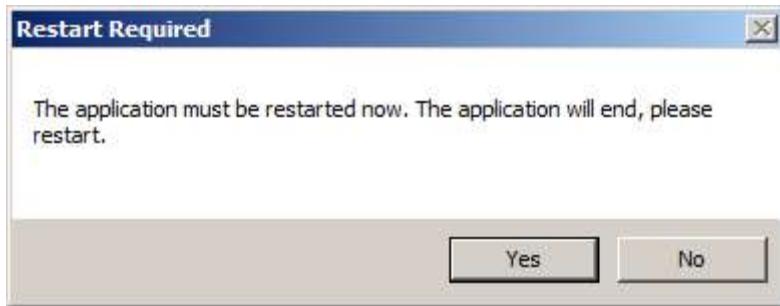


Next #2 is optional – get databases. It helps verify your connections for trouble shooting purposes.

Next Continue clicking on each numbered button once the status (bottom left of screen) shows you changes are applied. #3 will bring in the standard application configuration script. You do not have to type in anything into this complex script – just follow the steps. #4 inserts the name of your computer so the server can connect to your computer. # 5 saves the changes and #6 backs up your computer's unique settings. At this point you can close the window by clicking on the X in the upper right hand corner.

Some company servers are set up to connect after user name and password authentication. If that's the case, before you click on 4, 5 and 6, click on the small window box beside user name and password and enter in the name. Password must be entered in twice to verify correct entry.

Next upon closing the window, you will receive this message below. Press yes if you wish to use the application immediately.



Next click on your new ECM Library desktop icon shown below.



ECM Library will come on the screen once it has connected to the server.

[Back to ECM Library Client Install Set up Instructions](#)

[To the top](#)

Application Configuration File.htm

SEARCH HELP OVERVIEW

[Search Basics](#)
[Reference to Email Search Screen](#)
[Reference to Content Search](#)
[ECM Library Master Help Index](#)

IMMEDIATELY SEARCH...

Enter in your search keywords immediately in any of the three screens you have and click the button.



For advanced search options, right-mouse click or F10 within the Search Command Line. It will give you options like find this exact phrase, not these words, these words near each other, all inflections on this word etc.

HIGHLIGHTS OF SEARCH FUNCTIONS:

1. Searches are **not case-sensitive**.
2. Searches are **spelling sensitive**. Right-mouse click to check spelling (make sure Microsoft Word is first closed. Spelling window may fall to a back window.)
3. "Search for" words are **interpreted as having "OR's" between words**. (e.g. contract license =contract or license) Use a "+" or an "AND" if you wish the search to limit the search to "ANDs".
(e.g. contract AND license)
4. In the search command line, **right-click mouse or F10 to bring up a search assistant**.
5. For emails, searches look at text for **emails or any email attachments**. There is a column in the search return grid to tell you if the match was in the email attachment (Y or N). You may have more email attachments than you expect – use the Y/N email attachment column to sort if you don't want to see the attachments.
6. **Using "weights" to rank** the relevancy of your search results. The higher the number the higher chance it is what you are looking for. Search results with a very low weighting will not be shown. To see every result, unclick "show weights".
7. To **cut and paste** a word, use the right-mouse click.
8. **Use the RESET button for each next search** if you want to make sure all your search criteria is deleted for a next search.
9. A **wildcard search** * can be used with an asterisk at the end of partial words. E.g. search* will find any word that begins with search (e.g. searches)
10. Go under Help Menu to turn on or off **help hover text** that can appear as you mouse-over functions.
11. Keep **single quotations ' out** of your searches words – "youll still find what youre looking for"

[Back to top](#)

SEARCH HELP OVERVIEW

OTHER HELP:

[Search Basics](#)
[Reference to Quick Search Screen Functions](#)
[Reference to Email Search Screen](#)
[Reference to Content Search](#)
[Reference to Search Assistant Screen](#)
[ECM Library Master Help Index](#)

SEARCH INTRODUCTION:

Similar to web searches, ECM Library can be used for the simplest of searches like “Steve Smith”, but when it’s critical to find that one document, users can use ECM library to do **much** more. Learning to use various types of search queries will lead to more specific and exact results. Most of the search query options are available through ECM Library menu checkboxes. In addition, there is a search language, or “query syntax”, that gives you quick search access by directly entering in keywords. Or use the ECM Library search assistant (via F10 function key) to give you menu driven choices. This document introduces some of the more common and useful tips to use in ECM Library.

You can search on the full text of 100’s of identified file types immediately after the set-up of ECM Library, giving you the confidence that if it’s in your database, you can find it.

CONTENTS

[ECM Library Text Search Syntax Quick Tips](#)
[Search Option Details](#)
[Spelling](#)
[How to Use “Show Weights”](#)
[Text Searches Are Not Case Sensitive](#)
[Exact Search Match](#)
[Inflection Search](#)
[Noise Words](#)
[Thesaurus Search](#)
[Searching on Financials or Numbers](#)
[When Your Company is using Microsoft Thesaurus](#)
[Using Library Search, Master Document Search or limit to own Content](#)

ECM LIBRARY TEXT SEARCH SYNTAX QUICK TIPS

for main search command line

For menu driven search: Click F10 or right-click to see the Search Assistant screen.*

Exact Word or Phrase "Maggie Smith" Maggie <i>Searches are case insensitive</i>	Results Maggie smith, maggie smith, MAGGIE SMITH, maggie, Maggie, MAGGIE
Inflectional searches ^Run <i>Searches on one word and not a phrase</i>	Results run, runs, running and ran <i>See search assistant to view list of inflections for a word</i>
OR peace OR treaty peace treaty	Results Peace, treaty, Peace (and) treaty, Peace (and) TREATY etc <i>Search results will bring back any combination of any search keywords.</i>
Wildcards tree* *tree "John Sch*"	Results treed, treen, treetop, trees <i>exact results only – wildcard works for the end of words only</i> John Schmidt, John Schulz, John Schultz
AND Bill AND Dave bill +Dave Bill + Dave	Results Bill (with) Dave Bill (with) dave BILL (with) DAVE etc.
AND NOT - Exclude Operator Bill AND NOT Dave Bill AND NOT Dave Bill –dave <i>AND NOT statement must follow another keyword statement in the query</i>	Results bill (but never one mention of) dave BILL (but never one mention of) Dave etc
Near or Proximity Search "Dave Smith" NEAR "Thomas Bartlett"	Results "Dave Smith" 's name will be in the same document as "Thomas Bartlett" <i>Weightings must be turned on to identify how near and how often these two words appear.</i>
Microsoft Thesaurus ~claim ~competitivesearch	Example customized results Customer Record 565A, Company XYZ Standard Claims Form Transact Data Corp, Maztra Development Inc., Seabuild Corp. <i>Contact your administrator for details. Your company needs to populate the Microsoft Thesaurus in order for this function to bring back something other than an exact match.</i>

ECM Library Thesauri record <i>Must be placed in the "Thesaurus command line", which can be found on the search assistant screen(F10 function key)</i>	Results Record, conduct, evidence, indication, security, superiority
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------

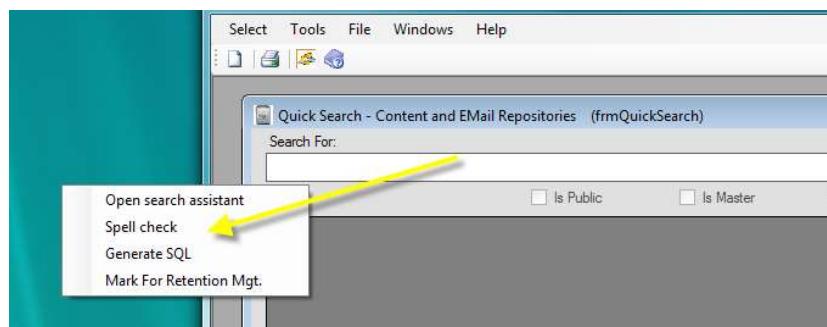
* If you use search syntax (e.g. ~ ^) and then use search assistant, you need to clear out the syntax first in order for the search assistant to work.

[Back to top](#)

SEARCH OPTION DETAILS

SPELLING

Search words need to be spelled correctly. By clicking on the right mouse, a menu will come up giving you an option to spell check your search. This will automatically open up Word spelling and will automatically close that Word window when you are completed. *NOTE: If Microsoft Word is open at the time of spell check, you will experience a series of Microsoft errors that you will need close out and disregard.*



HOW TO USE "SHOW WEIGHTS"

Weights help identify the relevancy of your content results to your search query. Search results are sorted with the top line showing the highest weight ranking. Email attachments are given a separate weight ranking from the email and shown on a separate search-return row. For more information, [Please refer to this link.](#)

TEXT SEARCHES ARE NOT CASE SENSITIVE

ECM Library search queries are not case sensitive. However, when you find a document you want to review, and you open that document, that software application (e.g. Adobe Reader) may have a search engine that is case sensitive for viewing that document.

EXACT SEARCH MATCH

For an exact word search just enter in a word or words without quotations. For example:

Maggie

Will bring back all documents that contain maggie, Maggie, MAGGIE, but no other words. Adding another word right after Maggie will default to an OR statement. For example:

Maggie Smith

Will look for documents with Maggie in a document, or Smith in a document, or Maggie and Smith somewhere within a document.

Phrases should be enclosed in double quotation marks (""). For example:

Search For: "maggie smith"	
-------------------------------	-------------------------------------------------------------------------------------

In this search, ECM Library will look for files/documents that contain specifically Maggie Smith as an exact phrase. All searches are case insensitive, which means it doesn't matter how you capitalize the letters – or not. For example, typing "maggie smith" will return all content containing the words like "Maggie Smith, maggie smith," or "MAGGIE SMITH" or "meggie smith"

[Back to top](#)

INFLECTIONAL SEARCH

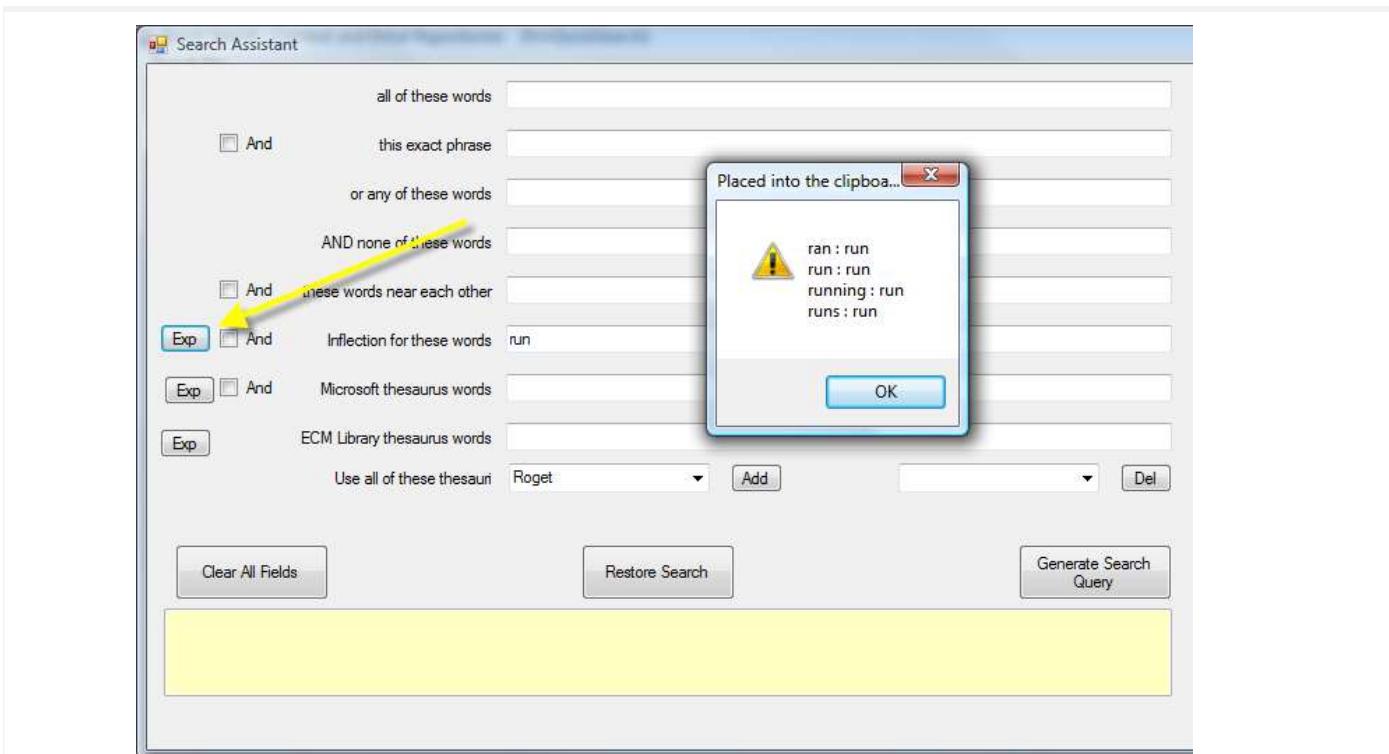
Inflectional searches handle grammatical relations to a word such as tense, number, gender etc. More specifically, the plural and singular, as well as the gender and neutral forms of nouns, verbs, and adjectives will be matched.

If a word is searched with ^Run :

Search For: ^run	
---------------------	--------------------------------------------------------------------------------------

The search query is asking “find any words that are similar to *run* in one document”. The search engine will look for inflectional use of the word *run*, such as *run*, *runs*, *running* and *ran*. Without a weighted search on, all documents will be presented in order of what is retrieved by the search engine, and not in order of best search matches. Using a weighted search with inflectional use is often the best combination.

If you want to see what words were “run” under the inflection search, then go into the Search Assistant (via right mouse click or by F10 key), click EXP (for expand) and you will see the words generated.



[Back to top](#)

NOISE WORDS

There are many words that are disregarded in the search as they are considered “noise words”. These words will be ignored in a search if included in your search words. Examples are:

we	were	through	too	such	over	must	just
way	well	that	very	take	out	never	for
was	will	the	up	see	other	no	from
want	with	their	use	said	or	many	get
who	would	them	under	same	our	me	got
when	you	then	should	re	might	make	had
where	your	there	since	now	more	like	has
which	than	these	so	of	most	it	have
while	this	they	some	on	much	is	in
what	those	to	still	only	my	its	into
if	do	by	0	E	S	I	after
he	each	but	1	F	T	at	Y
here	else	came	2	G	N	any	Z
her	be	can	3	H	O	are	about
how	because	could	4	A	P	as	XXXVIII
his	been	come	5	B	D	an	XXXVII

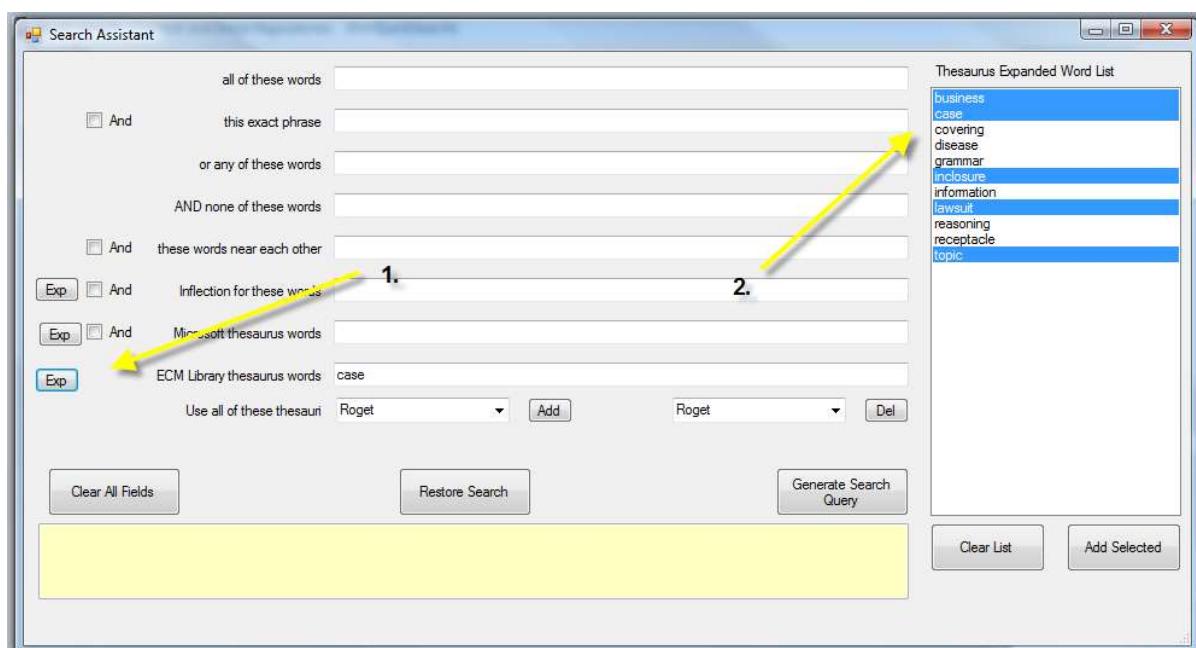
him	before	W	6	9	M	and	XXXVI
himself	being	X	7	U	J	another	
did	between	V	8	Q	K	also	
does	both	\$	C	R	L	all	

THESAURUS SEARCH

Accessing Thesaurus searches is only available through the Search Assistant (F10 function key). The Roget Thesaurus in ECM Library is the default Thesaurus unless another Thesaurus is provided by your Administrator. You may choose to use one or more Thesauri to expand and find key words that help your search. Roget's Thesaurus is made up of mostly single words, but has some phrases in it.

This search query means “find any of these words or words that like the word “case”.

1. Pressing the Expand button, it populates a potential listing of words on the right hand side.
2. Select the words that you would like to have included in your search. This will then populate the “or any of these words” line.
3. After you have included any other search keywords, press “Generate Search Query”.



SEARCHING ON FINANCIALS OR NUMBERS:

If you are searching on financials or numbers you need to have it written out exactly for the search to come back. Ideally your search has quotations around it with the exact information inside. E.g. “41,345.00”

Do not use commas unless you put quotations around a number with the commas. A search will be able to find numbers in documents with commas in them if you enter in the number with no quotes and no commas. If you are not sure if the number has a comma or not, or if it has a \$ in front or not use quotations with OR statements e.g. “\$40000” OR “40000”

Wildcard use: Doing a combination of wildcards with numbers that contain commas within the searched documents may not retrieve as expected. A retrieved comma will eliminate the wildcard in the search engine results. An exact search is recommended whenever possible.

However, once you open up a document or file, that document type may be search sensitive to commas so exactness may be needed within any particular document.

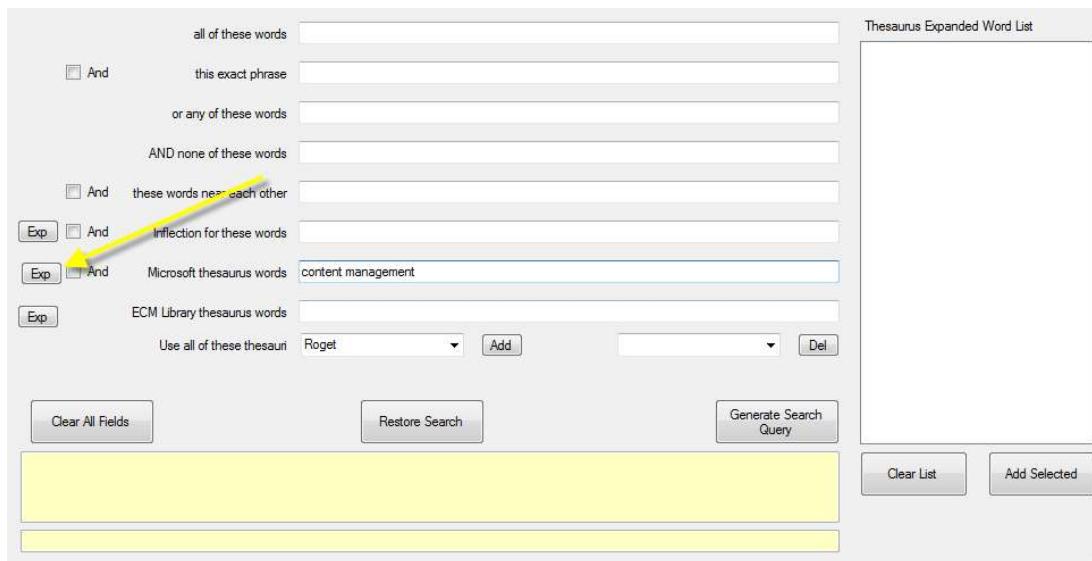
If you put down a time, you need to put quotes around it e.g. "5:30"; otherwise you'll get a syntax error.

[Back to top](#)

WHEN YOUR COMPANY IS USING MICROSOFT THESAURUS

Your company has the ability to create its own Cross Reference Dictionary, where you can have expand a search to automatically include similar words. It may also be called a "Classonomy" of language that is specific to the needs of ECM Library searchers.

A Microsoft Thesaurus search is either noted with a "~" in front of each word in a search command line or by entering word(s) in the Microsoft Thesaurus line in the Search Assistant (F10 Function key from search command line):



Your ECM Library database administrator is responsible for training you on the type of Cross Reference Dictionary used. Within the same "Microsoft Thesaurus", you could have either a "substitution" listing or an "expansion" listing. For example, if you enter in the acronym "ECM", the Cross Reference Dictionary may automatically substitute so "ECM" to only search on "Enterprise Content Management". Or if you enter in ECM, the Cross Reference Dictionary may expand ECM into searching on many similar words for your search, such as "content management" "archive" "search and retrieval" "e-Discovery" etc. For administrative set up help [click here](#).

[Back to top](#)

USING LIBRARY SEARCH, MASTER DOCUMENT SEARCH OR LIMIT TO OWN CONTENT

You have the choice of searching on:

1. Just the **default** repository of the files to which you have access (**your personal files with public files and files in libraries where you're a member**). Note: public setting may not be made available for your company.). Here none of the boxes from 2. To 5. is checked.
2. Just "**Master Content Only**". This will show you both your master content and any public master content (public may be invisible if deselected for your company). To make content a master see [Content Reassignment Screen](#).
3. "**My content only**". Here you will see your content, which will include master content if you own it.

4. **"Limit Search to Library"**. Your searches automatically include the libraries to which you are a member for both emails and/or any content. You need to drop down the menu first to select one library of which you are a member. To create a library see [Library Help](#).
5. **"See all contents in one library"**. Pull down a library name using the downward arrow and click on "LIB".

All of these options are available in all three search screens EXCEPT master viewing is not available in the email search screen.

Example from the content repository search screen:

[Back to top](#)

ECMsearchbasicsshort.htm

SEARCH ASSISTANT

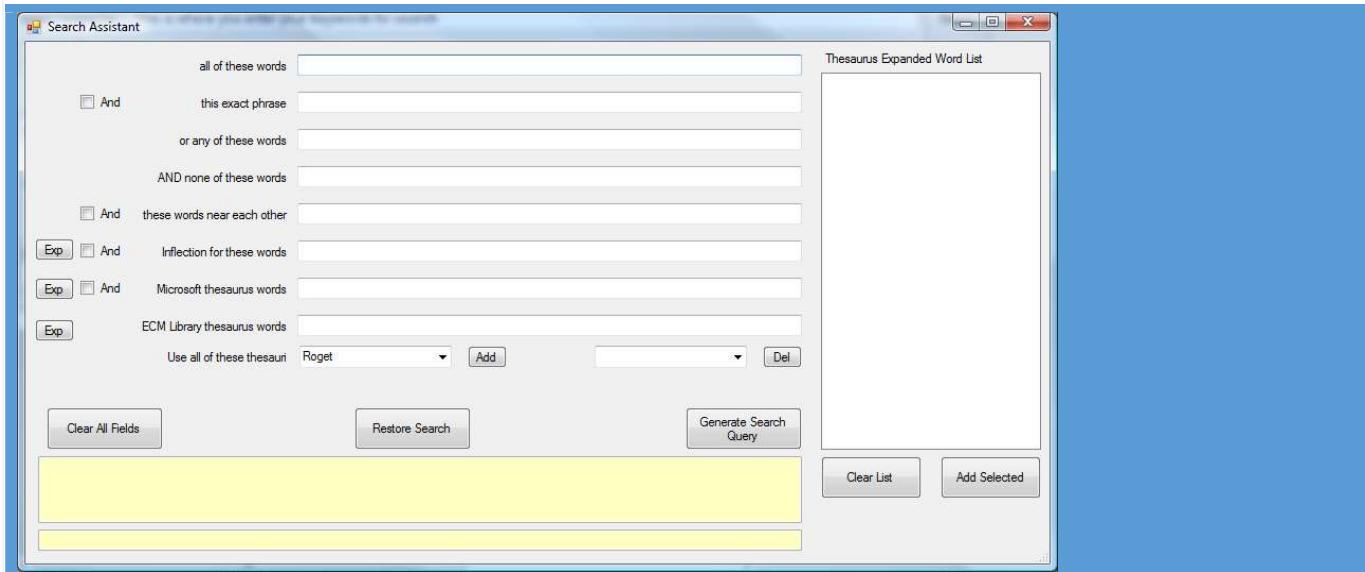
LINKS TO OTHER HELP PAGES

[Master Help Index](#)

The Search Assistant is provided to allow a simplistic approach to forming very complex searches without requiring the searcher to know the full syntax of ECM Library searches. The fields should be filled in with only words and phrases. Words should be written stand alone and phrases should be entered into the “this exact phrase” line. Multiple phrases should be separated by commas and commas should not be used in the text anywhere else.

This assistant does not work in combination with search operators (e.g. ~ ^ + OR NOT) but generates the right syntax when “Generate Search Query” is pressed.

Once you have the search query you are looking for, close the window and resume with one of the three search windows (email, content, or quick search) to execute the search.



There are three “EXP” buttons. This is an abbreviation for Expand. When pressed, the word(s) contained in the respective line will be expanded either as a list of inflections or as a list of words gleaned from the repository that represent the words in the line.

One critical point is that MULTIPLE thesauri can be chosen to expand a word or phrase. If a phrase is used in the thesaurus or inflection search line, it should have double quotes around it.

Clear All Fields will do just that – it will empty the screens fields and set them all to null.

Restore Search will recall the last executed search parameters.

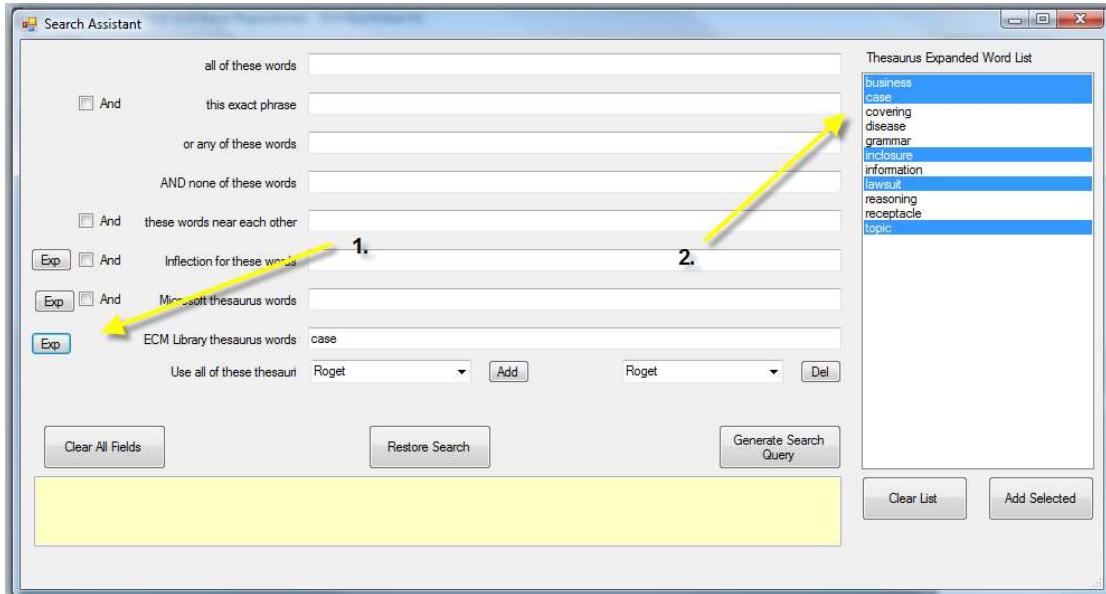
When ready to generate the query’s search parameters, press the “Generate Search Query” button and the resulting syntax will appear in the larger yellow box. After this, simply close the ASSISTANT screen and the generated search will be passed back to the calling search screen.

THESAURUS SEARCH

Accessing Thesaurus searches is only available through the Search Assistant (F10 function key). The Roget Thesaurus in ECM Library is the default Thesaurus unless another Thesaurus is provided by your Administrator. You may choose to use one or more Thesauri to expand and find key words that help your search. Roget’s Thesaurus is made up of mostly single words, but has some phrases in it.

This search query means “find any of these words or words that like the word “case”.

4. Pressing the Expand button, it populates a potential listing of words on the right hand side.
5. Select the words that you would like to have included in your search. This will then populate the “or any of these words” line.
6. After you have included any other search keywords, press “Generate Search Query”.



[Back to top](#)

WHEN YOUR COMPANY IS USING MICROSOFT THESAURUS

Your company has the ability to create its own “Classonomy” of language that is specific to the needs of ECM Library searchers.

A Microsoft Thesaurus search is either noted with a “~” in front of each word in a search command line or by entering word(s) in the Microsoft Thesaurus line in the Search Assistant (F10 Function key from search command line):

The screenshot shows the 'Search Assistant' interface. On the left, there are several search criteria fields:

- 'all of these words' input field
- 'And' checkbox followed by 'this exact phrase' input field
- 'or any of these words' input field
- 'AND none of these words' input field
- 'And' checkbox followed by 'these words near each other' input field
- 'Exp' button (highlighted with a yellow arrow)
- 'And' checkbox followed by 'Inflection for these words' input field
- 'Exp' button (highlighted with a yellow arrow)
- 'And' checkbox followed by 'Microsoft thesaurus words' input field containing 'content management'
- 'Exp' button (highlighted with a yellow arrow)
- 'ECM Library thesaurus words' input field
- 'Use all of these thesauri' dropdown set to 'Roget' with 'Add' and 'Del' buttons

On the right, there is a large, empty rectangular area labeled 'Thesaurus Expanded Word List'. At the bottom of the screen are several buttons: 'Clear All Fields', 'Restore Search', 'Generate Search Query', 'Clear List', and 'Add Selected'.

Your ECM Library database administrator is responsible for training you on the type of classonomy used. Within the same classonomy, you could have either a "substitution" listing or an "expansion" listing. For example, if you enter in the acronym "ECM", the classonomy may automatically substitute so "ECM" to only search on "Enterprise Content Management". Or if you enter in ECM, the classonomy may expand ECM into searching on many similar words for your search, such as "content management" "archive" "search and retrieval" "e-Discovery" etc.

[Back to top](#)

For other search tips please see : [Search Basics](#)

frmSearchAssistantHelp01.htm

ECM LIBRARY SEARCH HELP LINKS

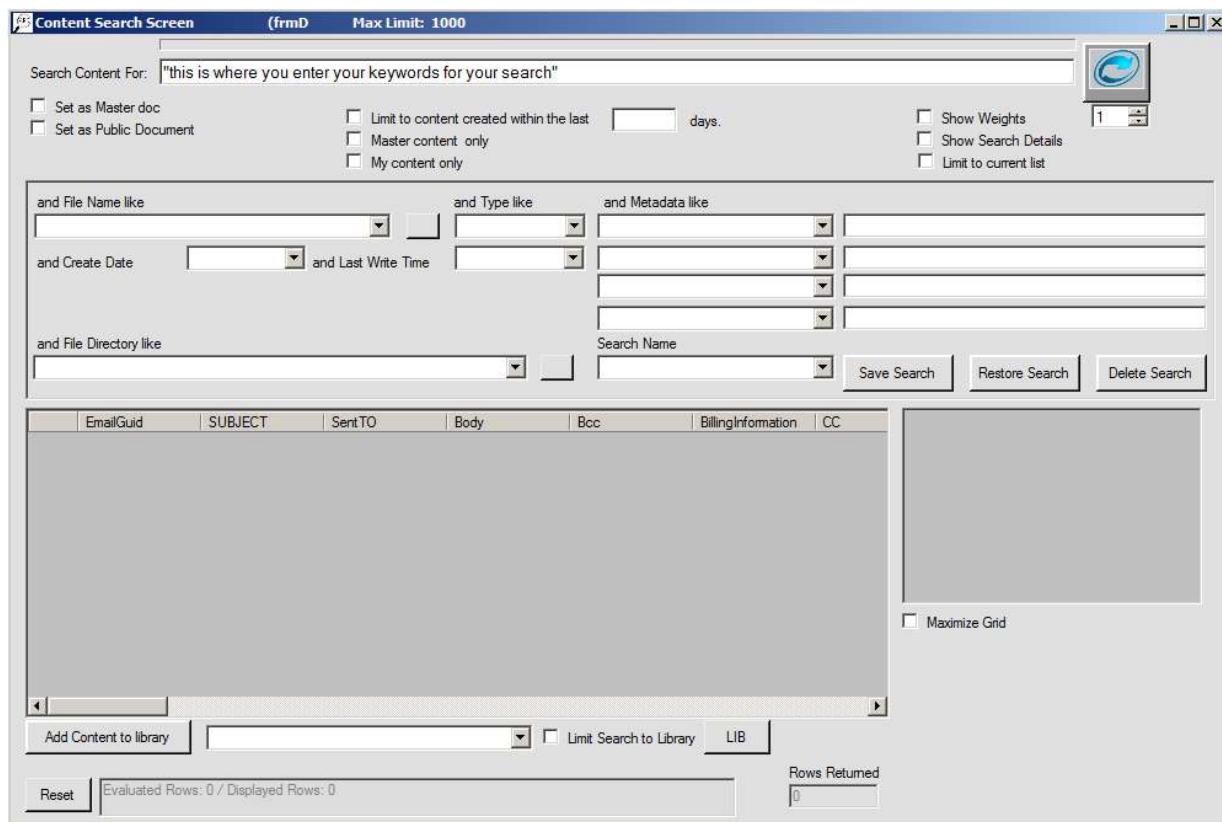
- [Search Basics](#)
- [Detailed Email Search Screen](#)
- [Search Assistant Screen](#)
- [Quick Search Screen](#)
- [ECM Library Master Help Index](#)

INFORMATION ON THE SEARCH CONTENT REPOSITORY SCREEN

This screen provides the user with the ability to perform highly detailed searches on content other than emails. As with the Email Detail Search screen, the level of granularity is almost unlimited allowing millions of documents and other types of content to be reduced a handful that is significant in just minutes.

ON THIS PAGE:

["Search Content For" Command Line](#)
[About Using Wildcards](#)
[How to search on an Archived Folder](#)
[How to search file types](#)
[Use Weights](#)
[Show Search Details](#)
[Search Memory Counter](#)
[Limit Search to Current List](#)
[Using Library Search or Adding to a Library](#)
[Restoring Content](#)
[Set as Master doc or Set as Public Doc](#)



"SEARCH CONTENT FOR" COMMAND LINE:

This is where you enter your keywords for your search. Right-click on the mouse or use F10 to use the Search Assistant. Keywords will find the words within a file or document, the file name, but will not search on any other metadata. Any search parameters that are added to "search content for" assume an "AND" as part of the search and limit the search further to those extra search parameters. For example, find only those documents that use one or more mentions of "electronic" that end in ".docx".

ABOUT USING WILDCARDS

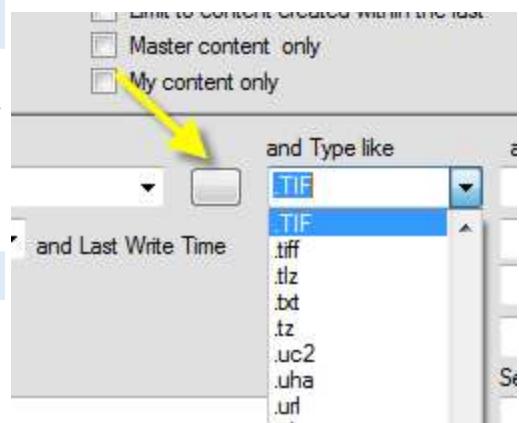
Wildcard searches are used with an "*" symbol directly in the "Search Content For" search command line. However, all other searches in the content management screen use a "%" to denote wildcard. Also, any "%" wildcards can be used before and/or after a partial word or phrase. E.g. %ohn% can search on john, johns etc.

HOW TO SEARCH ON AN ARCHIVED FOLDER:

You can find all your archived emails by first pressing on the button (see yellow arrow). Then click on the down arrow to select a folder for your search. Use the wildcard % symbol to see more than one directory path with the same name - e.g. %document%. If you wish to see all files, you can immediately click the search icon button (top right corner). Or you can add other search parameters.

HOW TO LIMIT A SEARCH TO A FILE TYPE:

You can find all your archived files by a file type. By pressing on the button you can find all the files that have been archived. Your options are to either search on just the file type (which typically may bring back too many files) or in combination with another parameter.



USING LIBRARY SEARCH OR ADDING TO A LIBRARY:

Search on Library: You automatically search on all your libraries in any searches. But you can limit your search to a particular library. Both of these searches will include only libraries to which you are already a member. To select a library, click on the triangle (where the yellow arrow is pointing) to select the library you wish to search.



Add to Library: First select a library from the pull down menu. Highlight the row or rows of files you wish to add to the library. Click on "Add to Library". A pop-up menu will verify your selection. Click OK. You and library members can then review these files going forward using the Library Items screen in ECM Library.

USE WEIGHTS:



Add weights to see the relevancy of your search results to your search criteria. The higher the number the closer the match.

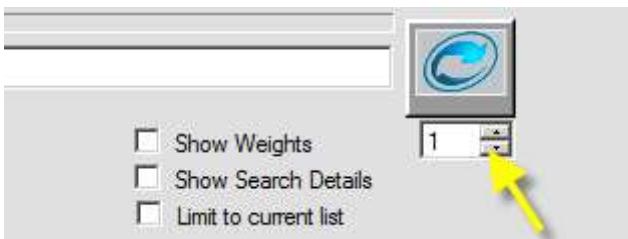
SHOW SEARCH DETAILS:



To get more information on a document or file, click on show Search Details (see yellow arrow). This will open the details screen, a floating screen, that shows the associated metadata and the original directory where the file was kept.

With this details screen open at the front, you can scroll up and down a row of returned items on one screen while viewing the details in this details screen. When you are finished with the details screen, click on the x in the upper right hand part of the window.

SEARCH MEMORY COUNTER:



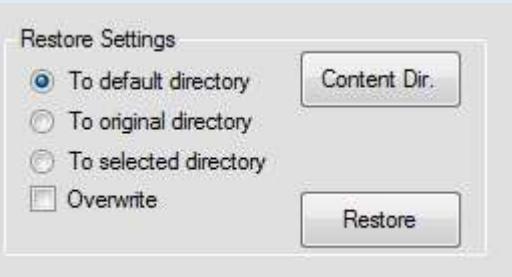
This counter keeps track of all of your previous searches, similar the concept of a back arrow on a browser. Simply use the up arrow to peruse previous searches. "Limit to current list" works well in conjunction with the search memory counter

LIMIT SEARCH TO CURRENT LIST:



In the content search screen, search results can be reduced further by checking off "Limit to the current list" box (near the search button). With this function checked, only the files listed in the search-return grid will be used in the subsequent search. This function provides an easy way to conduct a reduction search by adding other search parameters with a blank, new search query.

RESTORING CONTENT:



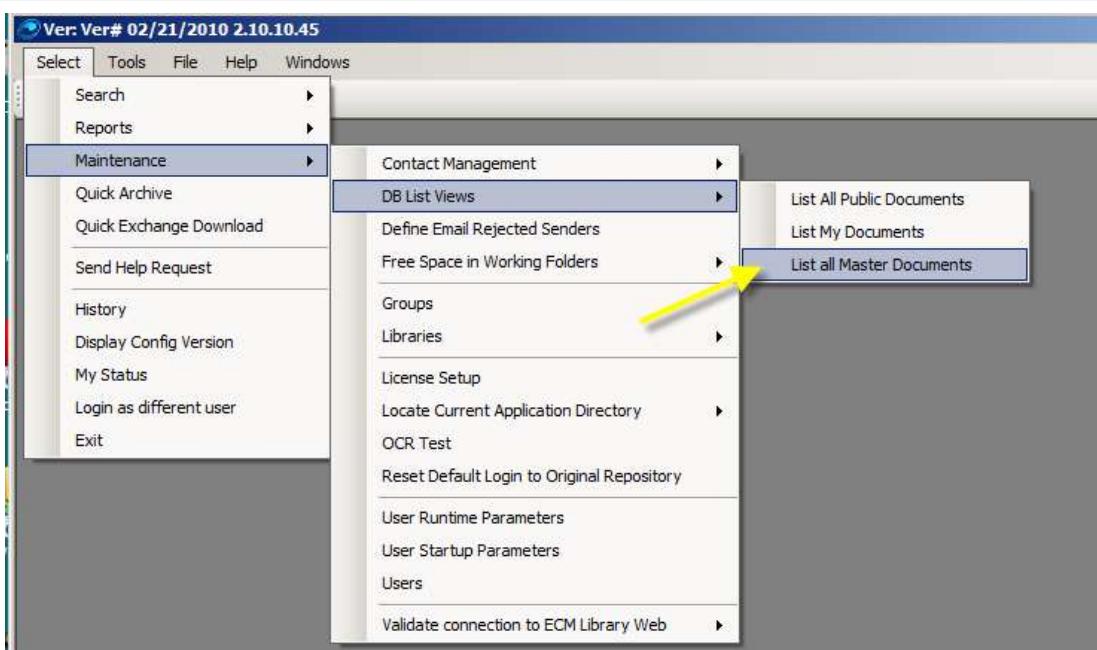
Restoring content/documents allow you to download any selected files to your computer. To see this section of the screen, first select the file(s) you wish to restore in the search/return grid.

By selecting the "Restore" content button, you are making an exact image of the file(s) highlighted from the search-return grid into a directory within your computer. ECM Library assigns a default working directory for you. If you wish to change your Working Directory, go to [User Start Up Parameters](#) to change that directory.

You can also select the original directory or another directory to restore any files. The overwrite function allows you to write overtop of any original file that may exist in the directory in which it is being restored.

SET AS MASTER DOC OR SET AS PUBLIC DOC:

Marking documents in the top left-hand section as masters allow a user to keep track of those documents that are masters – or the “main document to use for general purposes”, perhaps vs. another version. Any marking of master documents allow a user to view all master documents from one a list at any time. Also, as one scrolls down through documents in a search-return grid, those documents



Similarly, a user can view all public documents from one list at any time. However public documents are available to be made "public" only if administrators give this capability across the company. (Public means everyone can see all public documents found within a repository.)

[Back to top](#)

frmDocSearchHelp01.htm

ECM LIBRARY SEARCH HELP LINKS

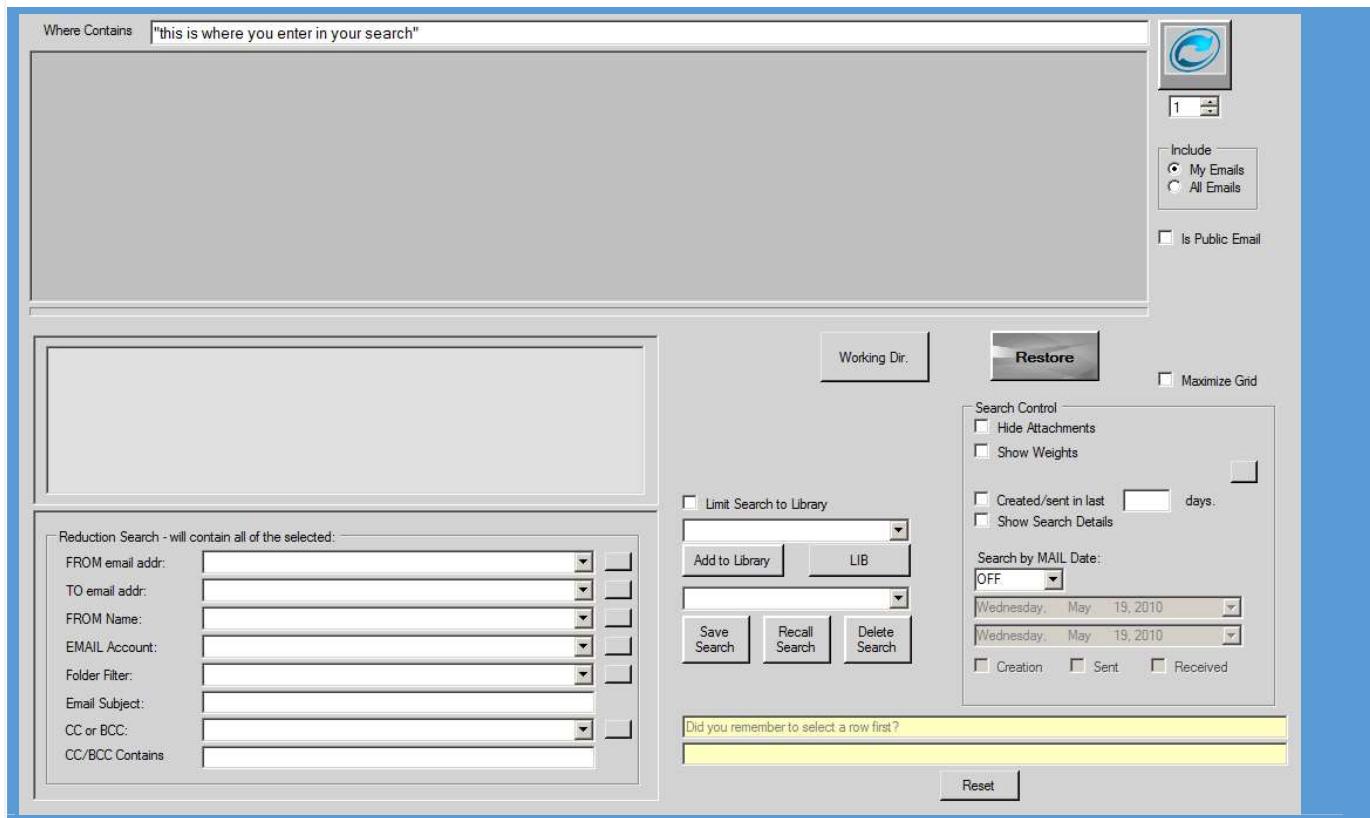
- [Search Basics](#)
- [Search Assistant Screen](#)
- [Document Search Screen](#)
- [ECM Library Master Help Index](#)

SEARCH – EMAIL REPOSITORY

The email search screen provides the user with the ability to perform highly detailed searches on emails, allowing a search across millions of emails to be reduced quickly to a handful of emails.

ON THIS PAGE:

["Where Contains" Search Command Line](#)
[About Using Wildcards](#)
[Email Attachments – Always Included in Where Contains](#)
[Search Subject For](#)
[How to search on "To" or "From" email addresses or names](#)
[How to search on one Archived Folder](#)
[Using Library Search or Adding to a Library](#)
[Show Search Details](#)
[Email Dates: Sent, Received, Creation – What do they mean?](#)
[Assigning Emails as Public or as Masters or to another Owner](#)
[Restoring Emails](#)
[What is GEN SQL?](#)



"WHERE CONTAINS" SEARCH COMMAND LINE:

The following email elements are included in the search for any words entered in the search command line (this applies to both the email search screen and the Quicksearch screen); the body of the email - including the subject line, and any description text or keywords that has been added in as metadata. Also included will be the attachment itself including any description text or keywords that has been added in as metadata.

The "Where Contains" search command line will **not** search on **message header** address information such as an email address or date. To search on other email parameters, you can add these on under the appropriate parameter listing. In many cases, you can search using these parameters without including keywords in the "Where Contains" search command line. You get a warning message but just click okay.

ABOUT USING WILDCARDS:

Wildcard searches are used with an “******” symbol directly in the “Where Contains” search command line. Any other searches in the email search screen use a “**%**” to denote wildcard. Also, any % wildcards can be used before a partial word or phrase and/or afterwards. E.g. %ohn% can search on john, johns etc.

“EMAIL ATTACHMENTS – ALWAYS INCLUDED IN WHERE CONTAINS”:

Quicksearch screen and Email search screen automatically search email attachments for anything placed in the “where contains” search. When Email Attachments” are searched, the full contents of the attachment are searched as well as any OCR'd text. Attachments are searched separately from the email. This allows weighting to bring back relevant number results (e.g. the higher the number, the higher the potential match to the search criteria.)

You may at times receive more search results than you desire to see. Try sorting search results (click on top of each column) to narrow down the relevancy. By looking to the far right in the row (shown below) you will see “FoundInAttachments” column that indicates what the returned row is identifying; the attachment or the email for the weight/ranking.

Folder	EmailGuid	RetentionExpiration	isPublic	UserID	SourceTypeCode	NbrAttachments	FoundInAttachment
Folders ...	fd956374-382d-4...	10/30/2019 4:55...	N	d8631010-35df-4...	MSG	2	Y
Folders ...	fd956374-382d-4...	10/30/2019 4:55...	N	d8631010-35df-4...	MSG	2	Y

REDUCTION SEARCH PARAMETERS:

Specific to the Email Search Screen: Any parameters used in addition to the email search “Where contains” command line assumes the AND operator. For example “Find me emails that contact the word “contract” AND for only emails sent between 10/02/08 and 6/01/09.”

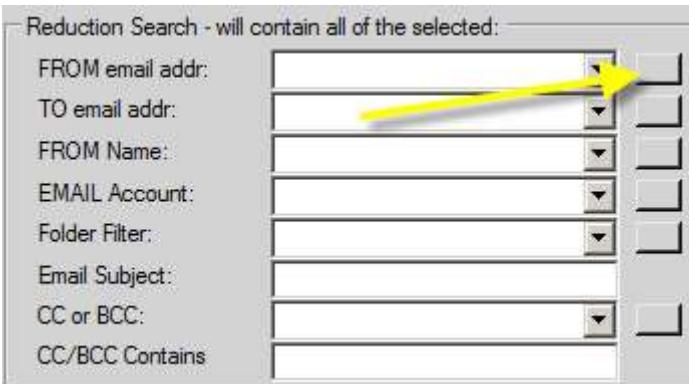
SEARCH “EMAIL SUBJECT”:

When the Subject search line is included in a search, you are telling the search engine that the chosen word(s) **MUST** be in the subject or the email is not to be included in the return data.

The use of the wildcard % is important to use for most “Email Subject” searches. Otherwise the search assumes that you are describing the full subject information and nothing more. For example, %liz% will bring back anything within the subject that has Elizabeth, Liz, Liz's, lizdavis, etc.

HOW TO SEARCH ON “TO” OR “FROM” EMAIL ADDRESSES OR NAMES:

In the Reduction Search area you can search just on address options by identifying the name of the person or the address you wish to search on. Your options are:



1. Before pressing a right button, use a wildcard to reduce the choice of addresses. E.g. For example, entering in first %dav% in the “from email address” will list any addresses that include dave as part of the email address. Then select the specific address you wish to find.
2. Press on a button (see arrow) to the side see a pull down list what names or addresses have been archived.
3. Directly enter in the full name in the name fields. Or directly enter in the full address in the address fields.
4. Use the % as a wildcard to identify any addresses or names you wish to find. E.g. %dav% without pressing on the right hand button will search any emails that have an address of dave or david in them.

You can search on email addresses or names without using the “Where Contains” command line.

All attachments with keywords (where contains) in the searches are returned back: You will get back matching (Where Contains) keywords found in email attachments regardless of adding in a specific reduction parameter. If you want to NOT see these attachments try not using any keywords. Of those emails from a specific address should be at the top of the search-return list. If they are not, scroll the search return grid to the right and sort on “found in attachments” so the N or NO is at the top. Or you can sort on email addresses column as well.

	Folder	EmailGuid	RetentionExpiration	isPublic	UserID	NbrAttachments	SourceTypeCode	FoundInAttachment
▶	Folders...	740c1704-906c...	12/1/2019 2:11 ...	N	52064ff4fe57-4a...	1	MSG	N
	Folders...	db0e0584-7b85...	12/1/2019 2:11 ...	N	52064ff4fe57-4a...	1	MSG	N
	Folders...	219a4697-4411...	12/1/2019 2:10 ...	N	52064ff4fe57-4a...	1	MSG	N
	Folders...	11bb4f40-1280-4...	12/1/2019 2:10 ...	N	52064ff4fe57-4a...	1	MSG	Y
	Folders...	1914bd51-1c7a...	12/15/2019 11:5...	N	52064ff4fe57-4a...	1	MSG	Y
	Folders...	39693ef0-3706-4...	12/7/2019 11:18...	N	52064ff4fe57-4a...	2	MSG	Y
	Folders...	3d47b588-6f78-4...	12/1/2019 2:11 ...	N	52064ff4fe57-4a...	1	MSG	Y
	Folders...	4eecfcfd0-812b-4...	12/1/2019 2:11 ...	N	52064ff4fe57-4a...	1	MSG	Y

HOW TO SEARCH ON AN ARCHIVED FOLDER:

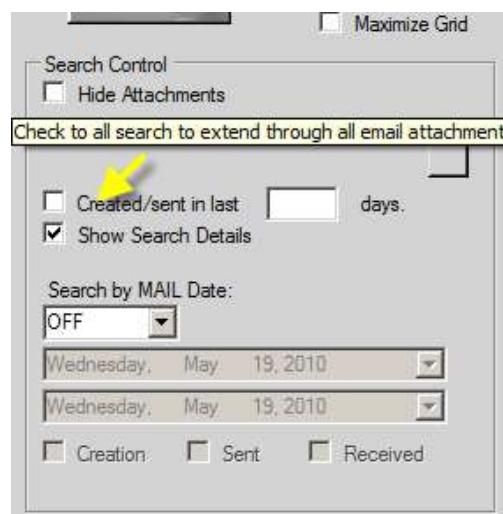


You can find all your archived emails by first pressing on the button (see yellow arrow) to the right of Folder Filter command line and then by selecting the folder on which you wish to search. If you wish to see all your emails in this folder, next click on "Search" (top right corner of email search screen). Or you can add other search parameters to reduce your search, such as using a keyword in the "Where Contains" search command line.

You can find all your archived emails by first pressing on the button (see yellow arrow) to the right of Folder

USING LIBRARY SEARCH OR ADDING TO A LIBRARY:

Your general searches include all your libraries to which you are a member.

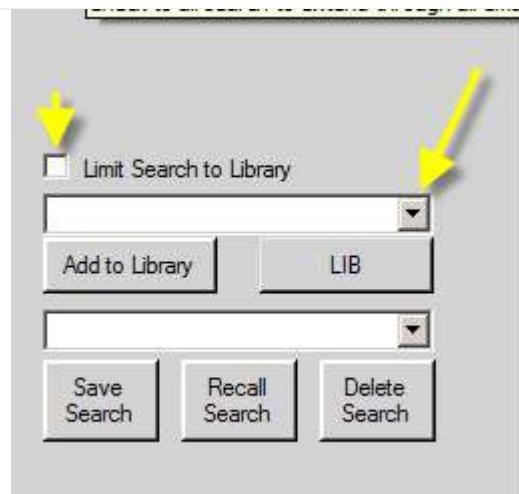


Search on Library: You can limit your search to a particular library. Both of these searches will include only libraries to which you are already a member. To select a library, click on the triangle (where the yellow arrow is pointing) to select the library you wish to search.

Add to Library: First select a library from the pull down menu. Highlight the row or rows of files you wish to add to the library. Click on "Add to Library". A pop-up menu will verify your selection. Click OK. You and library members can then review these files going forward using the Library Items screen in ECM Library.

SHOW SEARCH DETAILS:

If you want to have a better idea what is contained in an email, but don't wish to double click on each email and open up the email in a new window (this is done by double clicking on any row in the list of search returns), then click on show Search Details (see yellow arrow). This will open the details screen, a floating screen, that shows the associated metadata and some of the body for a currently selected email.



Once the details window is open you can scroll up and down a row of returned items on one screen while viewing the details in this details screen. When you are finished, click on the x in the upper right hand part of the window.

[Back to top](#)

EMAIL DATES: SENT, RECEIVED, CREATION – WHAT DO THEY MEAN?

If the email is processed through the Inbox:

Sent On This is when the email was originally sent by the sender.

Received Time This marks when the email was received by the recipient's email 's server.

Creation Time This marks when an email was downloaded from the email server or the last date it was moved or copied into another folder.

If the email is processed through the Outbox/Sent Items:

Sent On This is when the email was originally sent by the sender.

Received Time This is when the email was received by the recipient's email 's server.

Creation Time This marks when an email was created by the sender or moved or copied into another folder.

Note: Email does not track when an email is opened by the recipient.

ASSIGNING EMAILS AS PUBLIC OR AS MASTERS OR TO ANOTHER OWNER

If you wish to assign a category to your emails as public, a master, or to another owner, highlight an email row or rows in the search-return grid and then right click mouse. Select Content Assignment Screen. For more information go to [Content Assignment help.](#)

RESTORING EMAILS

Restoring emails allows you to download selected emails to your computer. By selecting on the restore emails button, you are copying those emails or emails highlighted in the search-return grid to your "Working Directory". ECM Library assigns a default working directory for you. If you wish to change your Working Directory, go to [User Start Up Parameters](#) to change that directory. When you click on the restore button, you will get the following instructions on how to fully restore it back into an Outlook folder:

1. Using Windows Explorer, open the folder containing the .msg files
2. Open Outlook or Outlook Express
3. Highlight the files in the windows folder
4. Click and drag the files into the Outlook folder of your choice.
5. That's it! You're done!
(Your default directory is given below)

GEN SQL – RIGHT HAND MOUSE COMMAND

There are many times when it is of great advantage to be able to see the actual SQL statement that is being produced for any given search, specifically for those Microsoft SQL administrators who understand the logic of this statement. When you select the GEN SQL using the right click of the mouse when hovering over the search command line, the search is produced and placed into the clip board.

This allows you to view the SQL query in an external tool or, on occasion, produce and send ECM Library Support the actual SQL query as part of a troubleshooting process.

[Back to top](#)

frmEmailSearchHelp01.htm

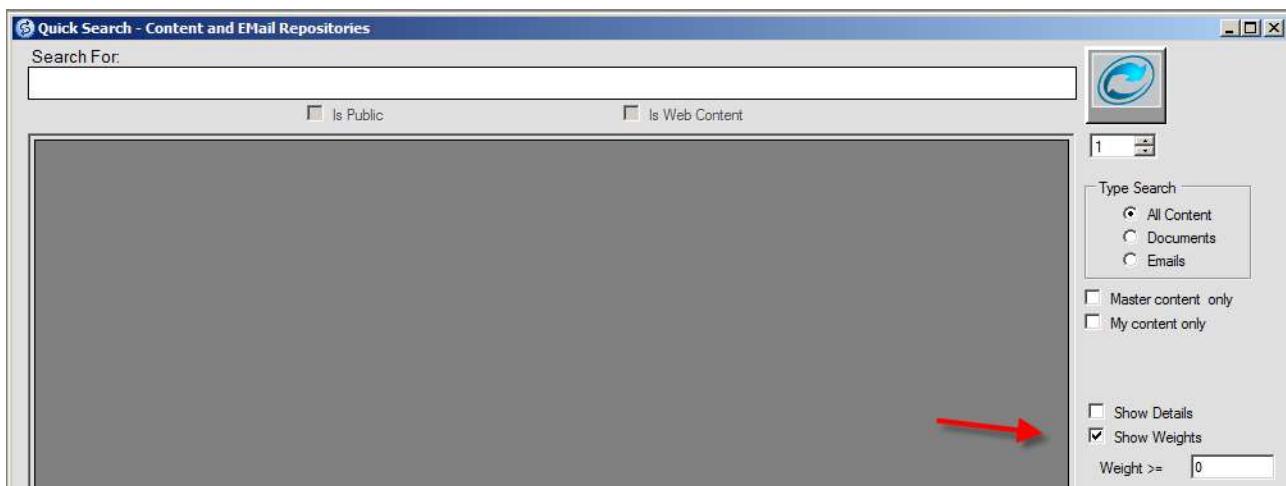
FOR USERS AND GLOBAL SEARCHERS - HOW WEIGHTS WORK:

LINKS TO OTHER HELP PAGES

[ECM Library Master Help Index](#)

ABOUT CONTENT WEIGHTS

Every search can have weighting turned on or turned off. Use weighting with caution: a weighted search takes longer than a non-weighted search. But identifying your search results with weights can help to searches more quickly identify the documents that have a better probability in meeting your search criteria. "Show Weights" are available all on search screens.



Weighting here is shown in the QuickSearch screen

ECM Library's default weight number is 0. If there are no weight numbers entered, you will receive back all content that has a weighting greater than 0. Suggestion: start with a weighting of 100 or more if you expect high number of search results.

Weights allow you to have a better indication of which documents may match your criteria. For example, a document with a weighting of 500 has a high likelihood of having multiple matches for more than one keyword in your search. A weighting of 5 may have just a single use of one word in your search. The search engine assigns its own "guess" value, so be aware that weighted searches will leave out documents that are assigned a "negligible weighting". In other words, if you really need to find every document or email that contains every use of a specific word, we recommend you search without weights. If you are trying to find a concentration of concepts, words or phrases, then weighting will be very helpful.

The search engine will assign a weighted number or value for every matched document. The assigned value is produced by combining the number of occurrences on words (or phrases), the nearness of words, and by comparing word matches to the relative size of a document. When you combine multiple search ideas together, the search engine cannot "guess" what emphasis you personally want to place on certain keywords or search operators. So if you need to put emphasis on a critical word, use only that word in your search and take the highest weighted search matches for that word or phrase.

You can limit your search results by selecting a minimum threshold weight number. But use threshold numbers with caution. Although the same consistent methods are deployed by ECM Library for every weighted search, weighting numbers can appear arbitrary. One time you may find that all you need are the search results with a weighting over "100", but another time it's helpful to use a weighting of "20". Experience in using the search capabilities will allow you to best learn when to assign what threshold number, or when to let everything come back with no weight threshold by just assigning a "0".

When you select emails as part of your search, **emails and its attachments are assigned different weights**. This is because the weighting assignment given to documents when compared to the weighting assignment give to emails **with** attachments is mathematically like comparing "apples to oranges". To ensure that you are getting back what you are looking for, you may see multiple entries of the same email. By looking to the far right in the row (shown below) you will see "FoundInAttachments" column that indicates what the returned row is identifying; the attachment or the email for the weight/ranking.

Id	EmailGuid	RetentionExpiration	isPublic	UserID	SourceTypeCode	NbrAttachments	FoundInAttachment
Folders...	fd956374-382d-4...	10/30/2019 4:55...	N	d8631010-35df-4...	MSG	2	Y
Folders...	fd956374-382d-4...	10/30/2019 4:55...	N	d8631010-35df-4...	MSG	2	Y

FOR ADMINISTRATORS - HOW IS WEIGHT/RANK ARE CALCULATED:

The list below includes some commonly used statistics that are important in calculating rank:

- **Property:** An attribute of a document. This corresponds to a column in SQL Server.
- **Document:** The entity that is returned in queries. In SQL Server this corresponds to a row. A document can have multiple properties, just as a row can have multiple full-text indexed columns.
- **Index:** A single inverted index of one or more documents. This may be entirely in memory or on disk. Many query statistics are relative to the individual index where the match occurred.
- **Catalog:** A collection of indexes treated as one entity for queries. Catalogs are the unit of organization visible to the SQL Server administrator.

- **Word:** The unit of matching in the full-text engine. Streams of text from documents are tokenized into words by language-specific word breakers.
- **Occurrence:** The word offset in a document property as determined by the word breaker. The first word is at occurrence 1, the next at 2, and so on. In order to avoid false positives in phrase and proximity queries, end-of-sentence skips 8 occurrences. End-of-paragraph skips 128 occurrences.
- **Key:** Combination of a property and a word.
- **HitCount:** The number of times the key occurs in the result.
- **Log2:** The highest-order bit set in a 4-byte value. Log base 2 was chosen over any other type of logarithmic computation for performance reasons. It is much faster than computing log base 10 or log base e .

```
unsigned Log2 ( unsigned long s )
{
    for ( unsigned iLog2 = 0; s != 0; iLog2++ )
        s >>= 1;
    return iLog2;
}
```

- **IndexDocumentCount:** Total number of documents in the index.
- **KeyDocumentCount:** Number of documents in the index containing the key.
- **MaxOccurrence:** The largest occurrence stored in an index for a given property in a document.
- **MaxQueryRank:** The maximum rank returned by the engine (1000).

[Back to top](#)

How is Weight Calculated.htm

SHOW CONTENT WEIGHTS

LINKS TO OTHER HELP PAGES

[ECM Library Master Help Index](#)

ABOUT CONTENT WEIGHTS

Show weights, when combined with searching content, produces a weighting factor. The weight is calculated using the contents of the document. Full-text searching has the ability to associate a higher preference for certain terms over others. This is achieved by using the function: "ISABOUT" and the "WEIGHT" keyword. You, as a user will never see or have to

worry about this as ECM Library automatically includes this into the search for you. The higher the weight the greater opportunity for the match to be identified.

Because higher weights indicate a better match, content will be returned in weight order of highest to lowest. A minimum weight can be set to reduce the search to only include documents that meet or exceed your specified weighting criteria.

See [How is Weight Calculated.htm](#) for more information.

Show Content Weights.htm

SHOW WEIGHTS WHEN SEARCHING ON EMAILS

LINKS TO OTHER HELP PAGES

[Master Help Index](#)

ABOUT EMAIL WEIGHTS

Show weights, when combined with searching emails, produces a unique phenomenon. Each search separately identifies the search criteria matching within the emails and then separately by each attachment. The weighting factor that comes back will indicate either the attachment or the email. In order to know what weighting in the first column is being indicated, scroll horizontally over to “foundInAttachments” column. If “Y” the search is returning results from an attachment. If “N” the search is identifying a match in the email. If both the attachment and the email are identified, two separate rows (or sometimes more) will be returned.

ReceivedTime	MsgSize	SUBJECT	OriginalFolder	EmailGuid	RetentionExpiration	isPublic	UserID	NbrAttachments	SourceTypeCode	FoundInAttachment
27/2009 5:13...	147258	ECM Services	Personal Folders ...	cd51d989-bb0c...	12/1/2019 2:11 ...	N	52064f4fe57-4a...	1	MSG	N
2009 2:09 PM	443166	ECM Arch.vsd	Personal Folders ...	db0e0584-7b85...	12/1/2019 2:11 ...	N	52064f4fe57-4a...	1	MSG	N
25/2009 11:4...	21042	RE: ECM Library ...	Personal Folders ...	db8410ee-c29c...	12/15/2019 11:5...	N	52064f4fe57-4a...	0	MSG	N
24/2009 1:31...	255201	ECM Web Servic...	Personal Folders ...	ef89456647114...	12/1/2019 2:11 ...	N	52064f4fe57-4a...	1	MSG	N
3/2009 12:03...	32801	Try this - select E...	Personal Folders ...	20b218c9-a16a...	12/1/2019 2:10 ...	N	52064f4fe57-4a...	1	MSG	N
1/2009 9:31 ...	51240	ecm service exec...	Personal Folders ...	f4ca6dae-2982-4...	12/15/2019 11:5...	N	52064f4fe57-4a...	1	MSG	N
29/2009 9:26...	365579	Pictorial View of t...	Personal Folders ...	fbb2bd73-caf0-4...	12/1/2019 2:10 ...	N	52064f4fe57-4a...	1	MSG	N
2009 8:53 AM	10959	to see the details	Personal Folders ...	32692083-70ab...	12/1/2019 2:10 ...	N	52064f4fe57-4a...	0	MSG	N
1/2009 8:17 ...	19862	Do this	Personal Folders ...	219a4697-4411-...	12/1/2019 2:10 ...	N	52064f4fe57-4a...	1	MSG	N
3/2009 3:37 ...	165560	short slide presen...	Personal Folders ...	f1c6f0bd-bf36-4...	12/15/2019 11:5...	N	52064f4fe57-4a...	1	MSG	N
15/2009 10:1...	18040	Cmds	Personal Folders ...	90164b5c-8c58...	12/1/2019 2:10 ...	N	52064f4fe57-4a...	0	MSG	N
15/2009 3:53...	21503	Types of Licenses	Personal Folders ...	11bb4f40-1280-4...	12/1/2019 2:10 ...	N	52064f4fe57-4a...	1	MSG	Y 
25/2009 11:3...	630871	presentation - to ...	Personal Folders ...	1914bd51-1c7a...	12/15/2019 11:5...	N	52064f4fe57-4a...	1	MSG	Y
4/2009 3:18 ...	926170	Follow up to our ...	Personal Folders ...	39693ef0-3706-4...	12/7/2019 11:18...	N	52064f4fe57-4a...	2	MSG	Y
19/2009 6:49...	340114	ECM Services Ar...	Personal Folders ...	3d47b588-6f78-4...	12/1/2019 2:11 ...	N	52064f4fe57-4a...	1	MSG	Y
5/2009 4:48 ...	450366	TopologyDiagram....	Personal Folders ...	4eecfcfd0-812b-4...	12/1/2019 2:11 ...	N	52064f4fe57-4a...	1	MSG	Y

Any weights that are produced under a score of “1” will not be returned. So keep in mind that using weights will not bring back an exhaustive/inclusive search. Therefore, to ensure that you see all of your search results, please turn off the weighting when you expect that some results may have low weightings.

See [How is Weight Calculated.htm](#) for more information.

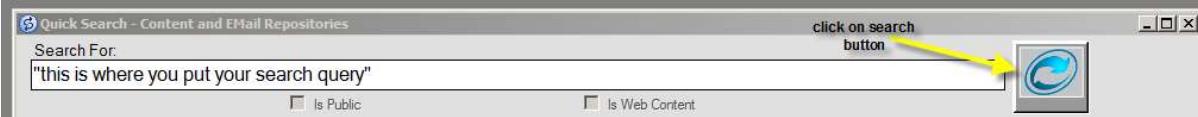
Show Email Weights.htm

SEARCH HELP OVERVIEW

[Search Basics](#)
[Reference to Email Search Screen](#)
[Reference to Content Search](#)
[ECM Library Master Help Index](#)

IMMEDIATELY SEARCH...

Enter in your search keywords immediately in any of the three screens you have and click the button.



For advanced search options, right-mouse click or F10 within the Search Command Line. It will give you options like find this exact phrase, not these words, these words near each other, all inflections on this word etc.

HIGHLIGHTS OF SEARCH FUNCTIONS:

12. Searches are ***not case-sensitive***.
13. Searches are ***spelling sensitive***. Right-mouse click to check spelling (make sure Microsoft Word is first closed. Spelling window may fall to a back window.)
14. "Search for" words are ***interpreted as having "OR's" between words***. (e.g. contract license =contract or license) Use a "+" or an "AND" if you wish the search to limit the search to "ANDs". (e.g. contract AND license)
15. In the search command line, ***right-click mouse or F10 to bring up a search assistant***.
16. For emails, searches look at text for ***emails or any email attachments***. There is a column in the search return grid to tell you if the match was in the email attachment (Y or N). You may have more email attachments than you expect – use the Y/N email attachment column to sort if you don't want to see the attachments.
17. ***Using "weights" to rank*** the relevancy of your search results. The higher the number the higher chance it is what you are looking for. Search results with a very low weighting will not be shown. To see every result, unclick "show weights".
18. To ***cut and paste*** a word, use the right-mouse click.
19. ***Use the RESET button for each next search*** if you want to make sure all your search criteria is deleted for a next search.

20. A **wildcard search** * can be used with an asterisk at the end of partial words. E.g. search* will find any word that begins with search (e.g. searches)
21. Go under Help Menu to turn on or off **help hover text** that can appear as you mouse-over functions.
22. Keep **single quotations ' out** of your searches words – “youll still find what youre looking for”

[Back to top](#)

frmQuickSearchHelp01.htm

QUICK ARCHIVE FORM

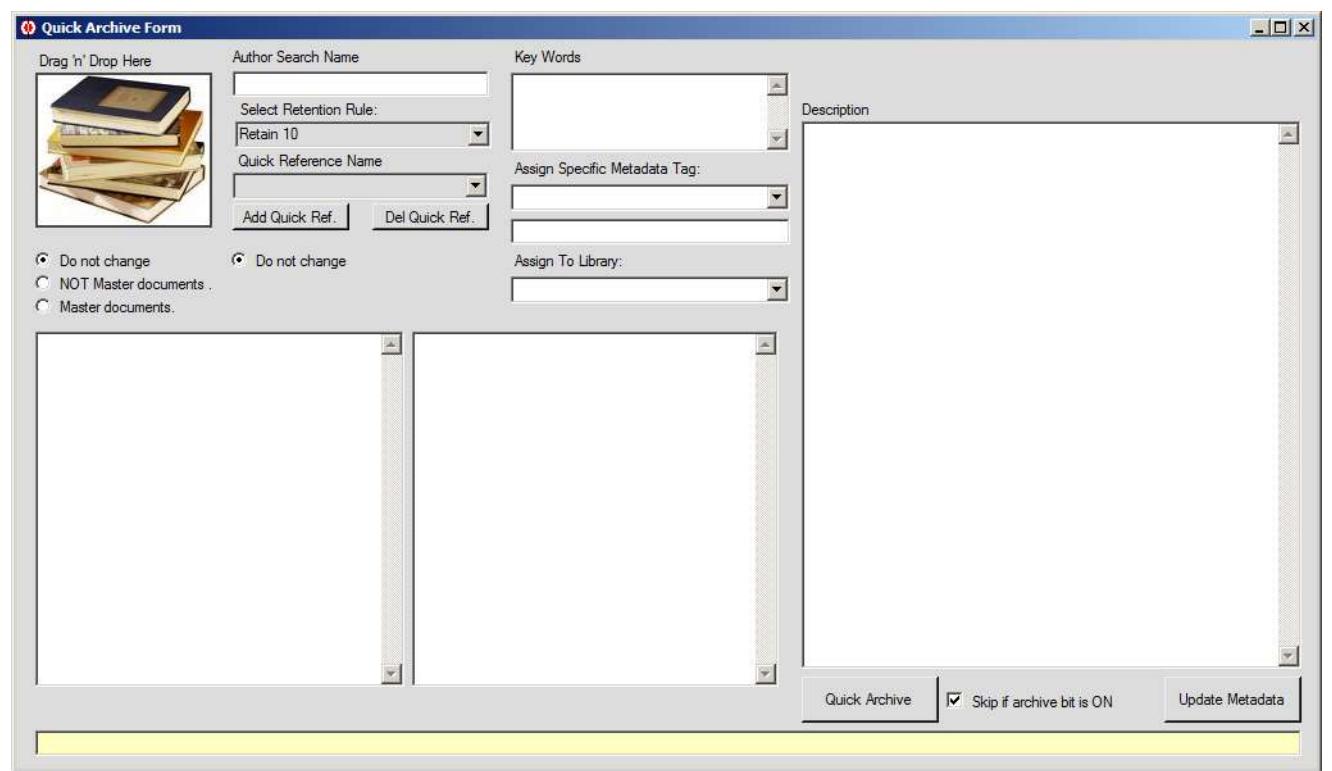
LINKS TO OTHER HELP PAGES

[ECM Library Master Help Index](#)
[Archive Set Up Screen Help](#)

This form allows drag and drop archive capability. For example, if you need to archive a document into the repository and do not wish to set up a directory-based archive from the Archive SetUp Screen, then all you have to do is:

1. Create or select a quick reference name (see tips under **Reference Name**)
2. Optional: fill in metadata (recommended for future reference) which is applied to all files under a reference name
3. Drag and Drop a group of files from another computer window into the upper left-hand stack-of-books screen.

Once you have selected your files using either method, these files will be archived in the **next** archive cycle based on the settings selected on your [Archive Setup](#) (under Tools menu). However, if you wish to archive these files immediately, press the Quick Archive button. This will add the content to the repository immediately and make them available to searchers.



These added files will be automatically archived next time the archiver runs and new updates of each file will continue to be archived each and every time the archiver runs.

Reference Name is the name that is assigned to this group of “Quick Save Content”. Such that, if 10 documents are dragged and dropped into the screen, whatever the Quick Reference Name is will become their grouping. So please try to make this a meaningful name to you. When you come to this screen, all content with a Quick Name can be recalled just by selecting the name in the drop down list.

METADATA FIELDS:

These spaces are available to add optional metadata:

Author Search Name is the name that will be entered into the contents Author-metadata-tag. When a search is performed on a specific author or part of an author’s name, this is the data that will be searched.

Key Words is the list of key words that will be included in any search and can also be searched on as a separate metadata tag.

Description is available to provide any details about the file you may find useful for later reference. The description can be almost as long as you need. For all practical purposes, it is unlimited text. This text can be around a billion bytes – so length of the description is not a consideration. It is just a matter of how much you wish to capture.

QUICK ARCHIVE FORM FUNCTIONS:

Remove Dir button will remove the selected directory from the archive process.

Re-Init Dir button causes the selected directory to be repopulated with all of its entries from within the repository.

Quick Archive causes an immediate archive to occur on the displayed content.

Update Metadata will update the selected Files metadata to that which is displayed on the screen.

Skip if archive bit is ON It is important to remember that quick archive will not archive a file that has its ARCHIVE BIT set to true. If you think that the file you want to archive might have been previously archived by another system, then deselect the skip check box.

[Back to top](#)

frmQuickArchive.htm

OBJECT CHARACTER RECOGNITION (OCR) RESULTS:

LINKS TO OTHER HELP PAGES

[ECM Library Master Help Index](#)

ABOUT THIS SCREEN

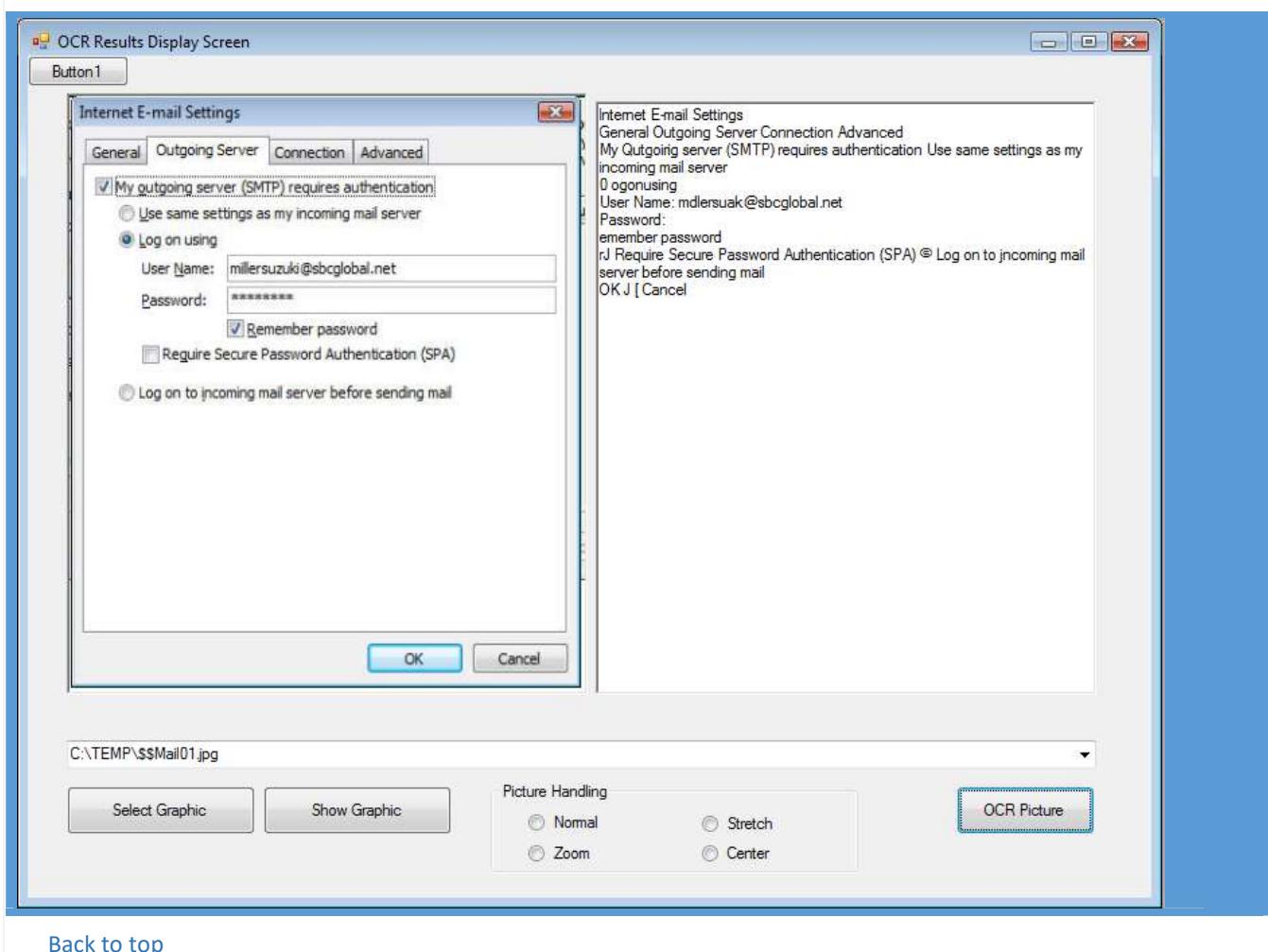
The OCR Results screen is provided so that you can preview the quality of the OCR for a given graphic file.

Your files are OCR'd and then archived through the [Archive Setup Screen](#).

1. Use the "Select Graphic" button to find the target graphic file.
2. Once a graphic file is selected, press "OCR Picture".

This will perform an OCR and display the extracted text in the right screen and the graphic in the left. The text displayed in the right screen is what will be searchable within the repository.

Note: The OCR archival feature is not available on certain PCs that use Windows Vista™ Home Premium. If you experience difficulties under this operating system (e.g. File sharing violation) anything that needs to be OCR'd will need to be completed and archived via another PC.



[Back to top](#)

OCR Results.htm

METADATA

LINKS TO OTHER HELP PAGES

[Master Help Index](#)

This screen is found by using the right-click on the mouse when you have highlighted one or multiple files.

In order to update content metadata, you have to be the owner of the content, a co-owner or an administrator. Otherwise, you will get a status message indicating that all data was not applied. Any content you do not have rights to update will be skipped.

There are two ways to capture metadata. The first tab in this screen, the Short tab, allows you to select individual pieces of metadata from a dropdown list and assign values to them individually. The third tab on this page allows the addition of detailed descriptions and keywords to be added to content. The key words are limited to 4000 characters and the

description can be 1,000,000,000 characters. We hope that is enough to satisfy the majority's need for key word and description.

Metadata Application Rules:

1. Emails and other content can be made public or not public. (Note: being able to set a public setting is determined by your Company ECM Library administrator. Ability to set public settings are "[systems parameters](#)" that are either turned on or off.)
2. Content other than emails can be assigned to be a Master Content item.
3. Email attachments will assume the metadata settings of the owning email.
4. All other metadata can be assigned to all content items.

To use this screen, you must first select a group of content (one or more rows) and then define the metadata you wish to attach to each selected item of content.

The screenshot shows a Windows application window titled "ECM Library Content Management - [frmMetadata]". The menu bar includes "Select", "File", "Tools", "Help", and "Windows". Below the menu is a toolbar with icons for "New", "Open", "Save", "Print", and "Exit". A navigation bar at the top right contains "Short", "Detail", and "Search Tags" buttons. The main content area is titled "Short Form Metadata" and contains a form for updating metadata. It includes fields for "Select Metadata to Update" (with dropdowns for "Author" and "Metadata Type" set to "varchar"), "New Metadata Value to be Assigned" (with a text input field containing "Dale Miller"), and a "CK" column with dropdowns for "PRIVATE" and "char" type. There are several rows of this structure. A note at the bottom left says: "Note: Only data that is selected will be updated. That selected metadata value to be removed. Empty data in the metadata value will cause." An "Apply changes" button is located at the bottom right. At the bottom of the window, there is a status bar with "Status: Archive disabled 7/20/2009 8:37:29 AM", "Warnings: Seats:100 Users:100", and a maximize/minimize button.

Once the metadata is filled out, press the Apply changes button and the new or updated metadata will be assigned to each selected piece of content.

The second screen operates exactly as does the first, only the list can be scrolled to find the desired metadata. Again, make your change; put an "X" or any non-blank character in the CK column, press the Apply changes button and the new or updated metadata will be assigned to each selected piece of content.

ECM Library Content Management - [frmMetadata]

Select File Tools Help Windows

Short Detail Search Tags

Detail Form Metadata
Use this page to do more detailed updates to metadata.

Do not change public/private indicator
 make all selected documents public.
 make all selected documents private.
 Do not change Master Content flag
 Make Master documents.
 NOT Master documents ..

CK	AttributeName	AllowedValues	AttributeDataType	AttributeVal
	Application name	varchar		
	Author	varchar		
	Category	varchar		
	ChangeDate	datetime		
	Comments	varchar		
	Company	varchar		
	Content status	varchar		
	Content type	varchar		
	CRC	VARCHAR		
	CreateDate	datetime		
	Creation date	varchar		
	Document version	varchar		
	FILENAME	varchar		
	FILESIZE	INT		
	Format	varchar		
	FON	varchar		

Note: Select the CK column with any character other than blank to apply the change, then press "Apply Changes" button.

15 Content items metadata updated.

Apply changes

Status Archive disabled 7/20/2009 8:37:29 AM Warnings Seats:100 Users:100

SEARCH TAGS TAB

As shown below, the key words and description will be added to all selected content when the Update button is pressed.

ECM Library Content Management - [frmMetadata]

Select File Tools Help Windows

Short Detail Search Tags

Key Words
xenon ambient chaos math case 0001x02

Description
Winnetka vs. Wilmette vs. Kumar

Update

Status Archive disabled 7/20/2009 8:37:29 AM Warnings Seats:100 Users:100

USER MANAGEMENT – FOR USERS

LINKS TO OTHER HELP PAGES

[Master Help Index](#)

ABOUT THIS SCREEN

Use this screen to manage:

1. Your Password. Enter your new password very carefully – one chance – and hit update.
2. To see your User Name and ID.
3. To refactor all of your content and emails to another user. See below for details.
4. To add a co-owner of all your content and emails. See below for details.

REFACTORING:

It is best to get an administrator to guide you through this function. This is a very powerful change and impacts all of your content you own. Please contact your company administrator for details.

CO-OWNERSHIP:

A co-owner is another individual(s) that is assigned to a user. This gives you someone else to help manage content in the event that you share the same content OR that you are temporarily will not be managing the content (e.g. an extended leave of absence). Co-owners have all rights to modify email and content metadata, public and master settings.

USER MANAGEMENT – FOR ADMINISTRATORS

Use this screen to manage the users contained within the repository. To add a new user, fill in the appropriate information and press the Add button. We recommend that if you want a user to by-pass the ECM Library user log-in and password upon clicking on the ECM Library icon, use the user's same ID as the windows log-in authentication and ECM Library's log-in will not appear.

We recommend the password “password”. The password “password” will create a request to a new user to enter in a new password upon first authentication.

When a new user is added through this screen, they are assigned two libraries automatically, one public and one private. (The public library will be set up if your systems parameter is set to allow public settings. This can be turned off.) This allows a user to immediately share content within their own public library or build a set of content for themselves. Each user also has the ability to set up their own library immediately.

To delete a user, select the user from within the grid and press the Remove button.

If the user has content associated to them, you will not be able to remove them. In this case, you will have to 'Refactor' the user. Refactoring means to reassign all content associated with this user to another. An audit trail is established as a change in ownership must be recorded.

A co-owner is another individual(s) that is assigned to a user. This gives the co-owner the ability to help manage a user's content in the event the user needs help or for some other reason cannot manage their content. Co-owners have all rights to modify email and content metadata, public and master settings.

User Management (frmUser)

UserLoginID	UserName	EmailAddress	UserPassword	Admin
admin	administrator	NA	password	Y
Andrew	Andrew Jackson	NA	GkXH52Yhh038...	U
Bob	Bob Brown	NA	GkXH52Yhh038...	U
Charlene	Charlene Channing	NA	GkXH52Yhh038...	U
Charlie	Charles Comman	NA	GkXH52Yhh038...	U
Emily	Emily Carr	NA	GkXH52Yhh038...	U
Fred	Fred Farrar	NA	GkXH52Yhh038...	U
Isabelle	Isabelle Rossellini	NA	GkXH52Yhh038...	U
James	James Bond	NA	4H6UybEzb8Re...	U
John	John Jackson	NA	GkXH52Yhh038...	A
Lawren	Lawren Harris	NA	GkXH52Yhh038...	U
Liz Gamand	Liz Gamand	gamand.liz@gma...	GkXH52Yhh038...	S
Martha	Martha Manning	NA	GkXH52Yhh038...	U
Nancy	Nancy Drew	NA	GkXH52Yhh038...	U
Peter	Peter Sellers	NA	GkXH52Yhh038...	U

Co-Owners

CoOwnerName	CoOwnerId	RowID
*		

Add Co-Owner admin

If you press the Refactor button, you will:
reassign the OWNERSHIP of all documents owned by
admin TO admin

User Login ID: admin
User Name: administrator
User Email: NA
Password: Active User

Back to top

User Management.htm

REJECTED SENDERS

LINKS TO OTHER HELP PAGES

[Master Help Index](#)

ABOUT THIS SCREEN

There are many times for varied reasons that you, as an email user, do not want to be bothered by emails from spammers, people, advertisers, or any number of other unwanted sources. Use this screen to identify email addresses that you wish not to have entered into your archives.

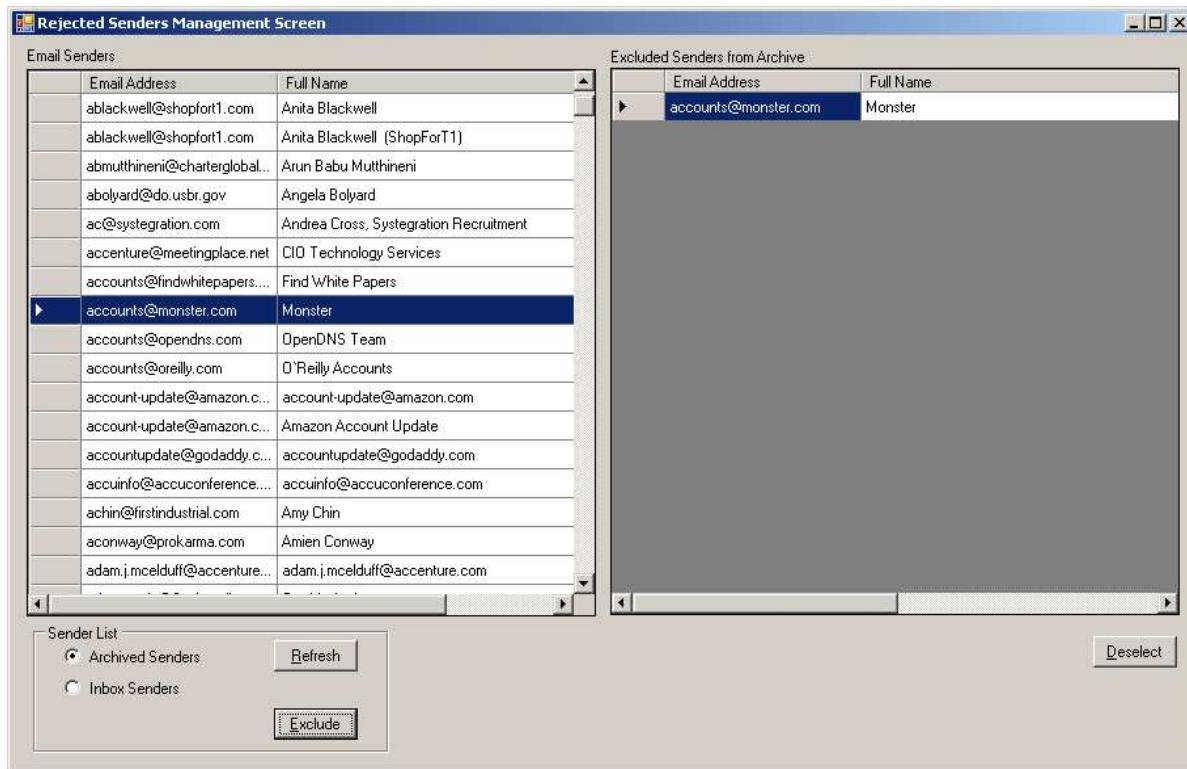
Please remember that this only affects your archive. An administrator can easily override this choice such that your emails will be entered into the repository and become searchable, but the ones identified here will not clutter your personal repository email archives.

To exclude certain addresses:

1. Highlight a row or set of rows from the grid.
2. Click the Exclude button.

This will mark these senders as excluded and enter the email information into the right hand grid. If you desire to reverse the 'exclude' setting, select the sender in the right hand grid and press the Deselect button. This will make this user's email address once again achievable.

All addresses that have been archived will still remain in the archival repository. However, going forward email addresses marked as excluded will not be archived.



The sender list control buttons select where the displayed senders are retrieved.

The Refresh button will repopulate the Email Senders list with fresh data.

[Back to top](#)

frmSenderMgt.htm

MICROSOFT OUTLOOK HELP

LINKS TO OTHER HELP PAGES

[ECM Library Master Help Index](#)

[Quick Help to ECM Library Archive System](#)

[Outlook Security Pop Up – How to Resolve](#)

INFORMATION ON THIS PAGE

[When Microsoft Outlook is re-installed - Caution](#)

[How the Emails are Archived by Folder Name](#)

[Caution on Changing Folder Names in Outlook](#)

[How to open Outlook Express Emails and Exchange Server Emails \(EML files\) in Outlook 2007](#)

WHEN MICROSOFT OUTLOOK IS RE-INSTALLED - CAUTION

ECM Library scans your Outlook folders list so it can identify these folders listed every time ECM Library starts. If there are new names in the folder list, as usual, you will need to identify them and “Activate” them to your archive list before they are archived.

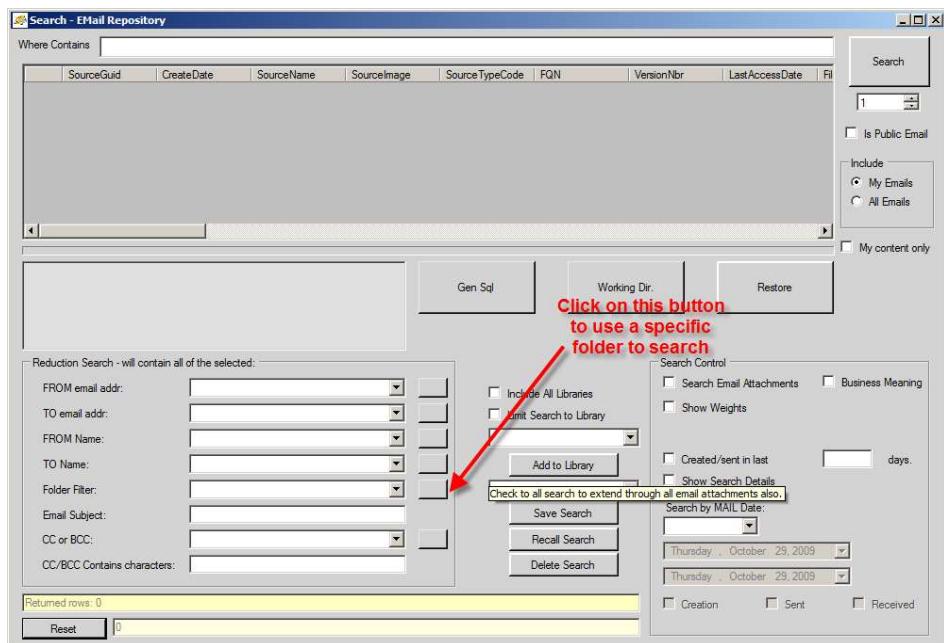
At times, there will be a reason a user will need to re-install Microsoft Outlook. The most common reason will be when an operating system upgrade is made – e.g. XP Pro to Windows 7 or when a transfer is made from one computer onto a new computer. When a change is made to a computer directory email structure, the email PST files will be stored to a different location. If the location is not EXACTLY the same place in the computer directory, ECM Library will not archive from this new location.

Once your Outlook has been installed and emails and folders have been set up, follow these instructions to ensure that ECM Library will archive the changed location of email folders:

1. In the [Archive Set Up Screen](#) highlight all folders in the “Archived” listing (click and use shift-key to highlight all). “Deactivate” these listed folders under “Archived”. This should empty out the listing so there is nothing showing in your list.
2. Click on “Available for Archive”. ECM Library will find the current Outlook email folders.
3. Highlight those folders you wish to archive. Select your archive parameters. “Activate” the changes.

Your archives from the folder structure under the previous ECM Library Archive set up will remain within the ECM Library Repository. If your mail structure within Outlook application is the exactly same as your previous folder structure, “search

filter by folder" in the [ECM Library Search screen](#) will search on both the current and the previous folders "archived" in your computer – they will be merged for search purposes.



HOW THE EMAILS ARE ARCHIVED BY FOLDER NAME

If you use both Exchange to archive your emails **and** Outlook to archive your emails, please note: ECM Library will take the first folder that an email is archived from and will not duplicate it to other folder names. So if the Exchange server archives an email from the Inbox prior to it being archived from Outlook, that email will remain associated with the Inbox vs. some other folder which it is ultimately stored under. This allows there not to be duplicate emails stored in various personal folders.

Similarly, if an email is archived from the Outlook inbox and then consequently moved to another folder, that email will not be archived a second time. It will be associated with the inbox – the first folder where it was found at the time of archive.

CAUTION ON CHANGING FOLDER NAMES IN OUTLOOK

If you archive emails from a specific folder name and later change that folder name in Outlook, you will need to add that revised folder name in ECM Library in the Archive Set Up screen in order to have ECM Library archive from that newly named folder.

HOW TO OPEN OUTLOOK EXPRESS EMAILS AND EXCHANGE SERVER EMAILS (EML FILES) IN OUTLOOK 2007

Microsoft has realized for some time now that the ability to open EML files in Office Outlook is needed in many instances. Outlook has its own proprietary file format and EML is more of an open format used by several different products. Microsoft has offered a solution to their problem.

In order to open EML files using Outlook 2007, a [hot fix](#) is required to be applied to Office 2007 and a change to the [Windows Registry](#). It is a very good idea to [backup the registry](#) before performing this action.

This update is supplied by Microsoft so that the two different types of files can be opened using Office 2007 Outlook.

We have applied this hot fix to Windows XP Service Pack 2, Vista Business and above.

[Back top](#)

Outlookhelp.htm

LIBRARY CREATION AND MANAGEMENT SCREENS

LINKS TO OTHER HELP PAGES

[Master Help Index](#)

INDEX FOR THIS SECTION

[PURPOSE OF A LIBRARY](#)

[USER LIBRARIES](#)

[LIBRARY ITEMS SCREEN](#)

[LIBRARY ASSIGNMENT SCREEN](#)

[FOR ADMINISTRATORS DIRECTORY/LIBRARY OWNER LISTING](#)

OTHER HELPFUL PAGES

[User Defined Groups](#)

PURPOSE OF A LIBRARY

The purpose of a library is to allow groupings of content to be assembled for a specific business use so that content is available for review and reference for a group of users, a team of searchers, or even just for one individual. **Libraries provide a container for any content that has been identified through the search process.** A library can be used for:

- Individual access for important files, such as master documents or contracts
- As an ongoing permanent container of related subject matter e.g. all human resources forms
- Temporary projects. e.g., an attorney can go into a library to easily access all of the documents and emails that pertain to a particular current legal case.

Content can continue to be added to any library as more information is found when searching across the repository.

LIBRARY GENERAL RULES:

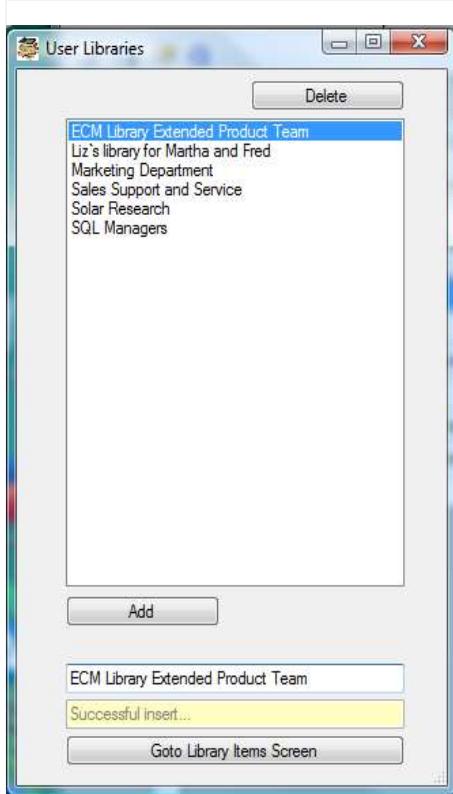
In order to provide for flexibility while still allowing the library owner to maintain control over how the library is used here is how a library is structured:

1. A library owner is the only one who can add or delete members or groups to that library. No library member can make member changes.

2. A member/user of the library can add content to the library, but cannot delete content in that library. Only an owner can delete content.
3. Whenever a member is assigned or deleted from the library, that member is automatically notified by email through ECM Library.
4. An ECM Library member will only see the library listings and their content to which he/she is a member.
5. An administrator cannot see into specific libraries unless the administrator is a member (however administrators can do global searches on all content in the repository).
6. All users automatically search on their content as well as search on all libraries to which they are a member.

Rules	Library Owner	Non-Library Member	Library Member
Search on library items	yes	no	yes
Add or delete library members	yes	no	no
Add library items	yes	no	yes
Delete library items (items remain in repository)	yes	no	no
Add or delete yourself as a member to the library	no	no	no
See the library member individuals	yes	no	No –but sees group members
Add groups to the library	yes - must be a the group owner or a member to see	No	no
See individuals within a group that associated to a library	yes	no	no - unless group member
Assign all content to a library in a directory path using the archive setup screen	yes	no	No
Delete actual repository content ?	no Content can be deleted but only within the library itself – content is NOT deleted in the repository	no	no

[Back to top](#)



USER LIBRARIES

SETTING UP A NEW LIBRARY:

The first step is to create a Library name. Library names must be unique across the company:

1. Enter your name of the library in the bottom white line.
2. Click ADD button to insert the specified library.

You are now ready to add content to your library through ECM Library search and retrieval. Or you can also any time add a member to your library. See [Library Assignment Screen](#) and [User Groups](#).

LIBRARY NAMING RULES:

Please note that your Library name must be unique across your company enterprise, so be as specific as you can in your naming convention. E.g. Pacific Division Customer Service, Business Division Information Technology or SmithTedLibrary. **A library name cannot be changed or modified.**

DELETING AN EXISTING LIBRARY:

Only the Library owner can delete a library. The deleting of libraries is **very** quick and efficient. Content is never deleted in the repository through a library process – only the listing/availability of content within a library.

1. Highlight the library you wish to delete.
2. You will receive a warning message that will say “This will delete the selected Library, user associations, and ALL of the associated content, ARE YOU SURE?”

3. If you are **absolutely** sure you want to delete that specific library, click yes. If your library is deleted, you will not be able to undo this command.

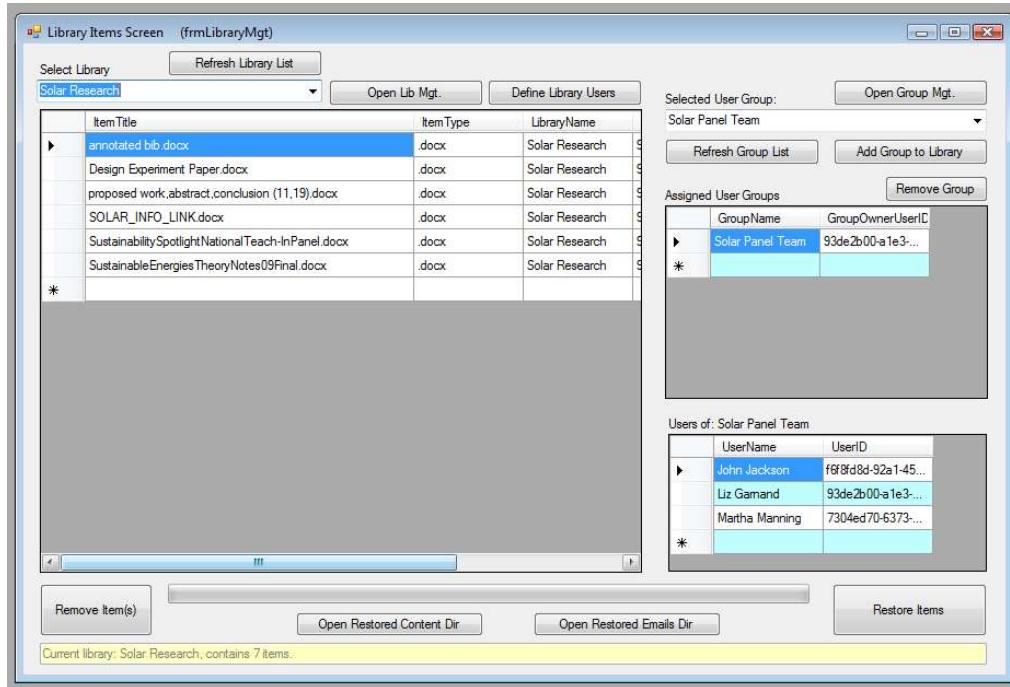
[Back to top](#)

LIBRARY ITEMS SCREEN

A library owner or a library member can see all library items. To open up a library, select a library from the top left drop down menu and then click on “Open Lib Mgt.”

FROM THIS SCREEN LIBRARY MEMBERS CAN:

1. **Review** a library items list. You can sort the list by selecting each column title.
2. **Preview** any library file by double-clicking on the first blank cell in a row. (The selected file then opens to your computer’s default application. E.g. .doc will open up Microsoft Word)
3. **Restore** a file to a directory by highlighting a line (one click on first blank cell in the row) and then selecting the “Restore Items” button on the bottom right hand side of the screen.
4. **See** if any predefined **group(s)** has been added as members to the library. A member can see each group by selecting on a particular Library and viewing the Group name and individuals listed on the bottom hand right window of the screen.



LIBRARY MEMBERS CANNOT SEE:

1. The Library Owner name. (However, the unique User ID number is listed, giving visibility for administrator management.)
2. A complete list of library members: Members cannot see other members who are added on as individuals under “Define Library Users” screen. A member CAN see the group list, so long as they are a group member.

LIBRARY OWNERS CAN SEE AND MANAGE:

1. The complete list of library members and groups.
2. Can delete any files or group of files (by selecting multiple rows in the library list) at any time.
3. Update and add or delete any member or group (but cannot edit a group if they are not the group owner as well).

[Back to top](#)

LIBRARY ASSIGNMENT SCREEN

	UserLoginID	UserName	UserID
▶	Liz Gamand	Liz Gamand	93de2b00-a1e3...
*			

Buttons: Remove, Assign

Status Bar: 1

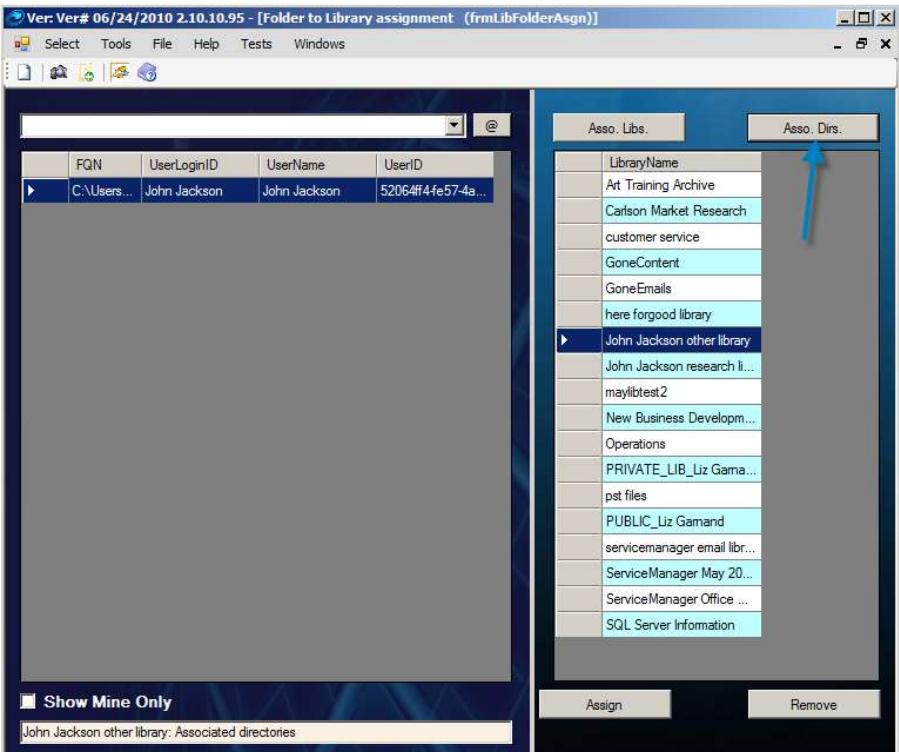
This screen is used for Library owners only and allows Library owners to add or delete individuals to Libraries. To add users follow these steps:

1. To get to this screen on the right, click on the button “Define Library Users” from the [Library Items Screen](#).
2. Select a Library in the top pull down menu.
3. Click on Library Users check box (top) to see who is already a member (owners are automatic members).
4. Deselect the check mark in Library Users check box to see all potential members. Scroll down and select one or more names (using shift or CTRL on your keyboard as you select a row).
5. Click assign. (No need to worry if some users are already in the library if you forget.)
6. The bottom status bar will give you the status on how many were added.

To delete a user:

1. To get to this screen above/right, click on the button “Define Library Users” in the [Library Items Screen](#).
2. Select a Library from the top pull down menu.
3. Click on Library Users check box to see who is already a member (owners are automatic members)
4. Select on the user(s) to remove.
5. Click remove.
7. The bottom status bar will give you the status on how many were removed.

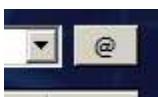
Please note: if a user is also assigned in a group, that user will not be removed from the library. The user would need to be removed from a group list as well to be completely removed from library membership.



FOR ADMINISTRATOR AND USER MANAGEMENT: DIRECTORY/LIBRARY OWNER LISTING

This screen is found under the menu: **Select>Maintenance>Libraries>Libraries/Directory Management**.

By highlighting on a Library name and clicking on Assoc. Dirs (as shown on the right) one can see the Library owner and all associated directories that have been set up for archival.



By clicking on the downward arrow on the top left one can see all directories archived. (Caution: response time may be long as all directories are identified unless you limit your query to a particular word and use a wildcard wrapping around it. E.g. %johnjackson% would bring back only directories that contain johnjackson within the directory path name).

By scrolling through the directories (using the up and down arrow on your keyboard), you'll see the associated libraries for that directory path.

[Back to top](#)

Library Creation and Management Screen.htm

USER DEFINED GROUPS

LINKS TO OTHER HELP PAGES

[Master Help Index](#)

[Library Management Help](#)

PURPOSE OF THE GROUP SCREEN:

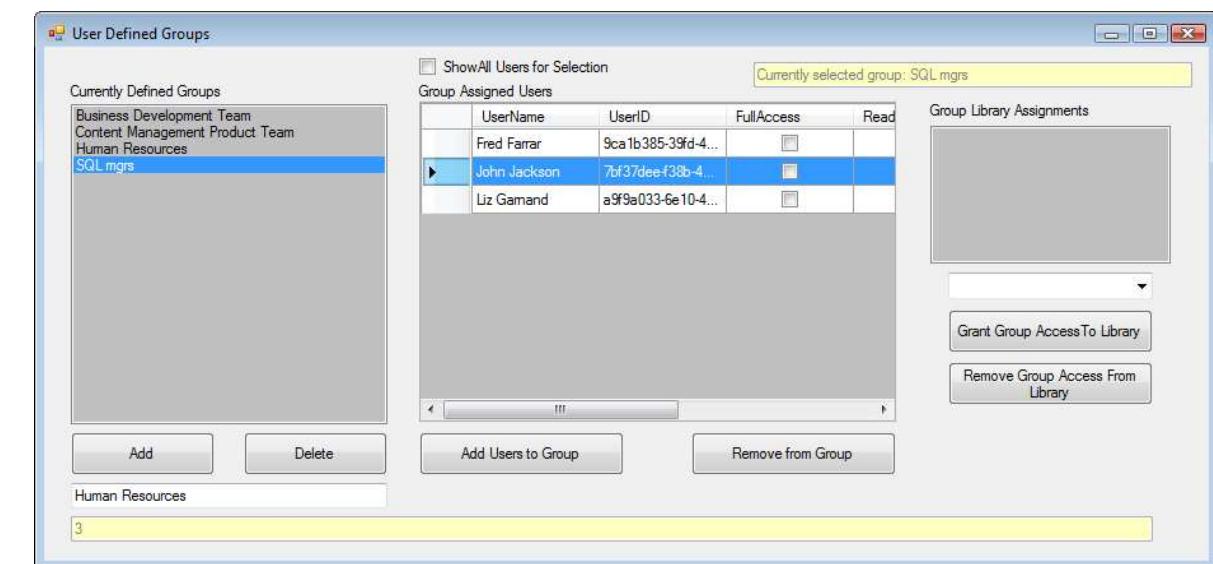
Groups are defined so that access can be granted to content libraries at a group level. This allows one person to organize and keep groups updated (e.g. a department or a project team), and everyone else then does not have to worry about whether or not they have the latest listing of correct team members. One person keeps track of one group!

GROUP RULES:

1. As the owner of a group, you are automatically included as a member of that group.
2. As a group owner, you are the only one who can modify this group's membership.
3. A group name needs to be unique across the enterprise. We recommend a naming convention that will be consistent for your company.
4. If you own a library but you do not own a group, you can still grant library access to that group to view and access your library. You just can't modify that group!
5. Individuals outside of a group can be also added to a library. If an individual is deleted from a library, that individual will not be deleted from the library if they belong to a group that has access to the library.

Rules	Group Owner	Non-Group Member	Group Member
Add, delete modify the group members	yes	no	no
Add or delete yourself as a member to the group	yes	no	no
See the group member individuals	yes	no	yes
Add the group to a library you own	yes	no	yes

The left side of the screen is used to manage groups: they can be added or deleted as needed.



The right hand side of the screen allows you to define the users associated with a group and to define the libraries a group may access.

When "Show All Users for Selection" is selected, all users defined within ECM Library will be displayed. Otherwise, the users associated to the selected group will be shown.

CREATING A GROUP:

1. Create a unique group name in bottom left hand line. Press add. It will give you a message if the group



name has been taken:

2. To add users to a group, select a group from the left, select "Show All users for Selection" and select the users from the displayed Users grid (using shift or CTRL on your keyboard as you select a row).
3. Press the "Add Users to Group" button.

REMOVING USERS FROM A GROUP:

Select users and press the " Remove from Group" button to remove a user from a group.

ADDING GROUPS TO A LIBRARY:

Groups can be added to a library in the [Library Items Screen](#) or in the User Defined Groups Screen (above screen) so long as you are a member. To grant library access to a group, select a group from the left, the select the library from the drop down list, and press Grant Group Access To Library button.

[Back to top](#)

TROUBLE SHOOTING AND REPORTING

OTHER HELP:

- [Other Administrative Table Help](#)
- [ECM Library Master Help Index](#)
- [Menu listings for Various Trouble Testing](#)
- [User Menu listings for Various Trouble Testing](#)

If you experience an error, there are many tools in place to help isolate the error and resolve the issue. You can:

1. “Send Help Request” under Help Menu will create a page that copies your logs and sends them to ECM Library support for analysis. The recipient email address is configurable by the administrator in the App Config file.
2. You administrator has many other tools available to analyze many aspects of the repository, including what has been archived, indexed, and what settings/parameters have been given to various users.
3. For non-search screen functions, sometimes the apparent issue may be because the data has not been refreshed. Try leaving a window and coming back in to refresh your information.

SEARCH ISSUES?

If you are unable to get a search result that you are confident “should be there”, sometimes there can be search human-errors that have occurred. Check to see if:

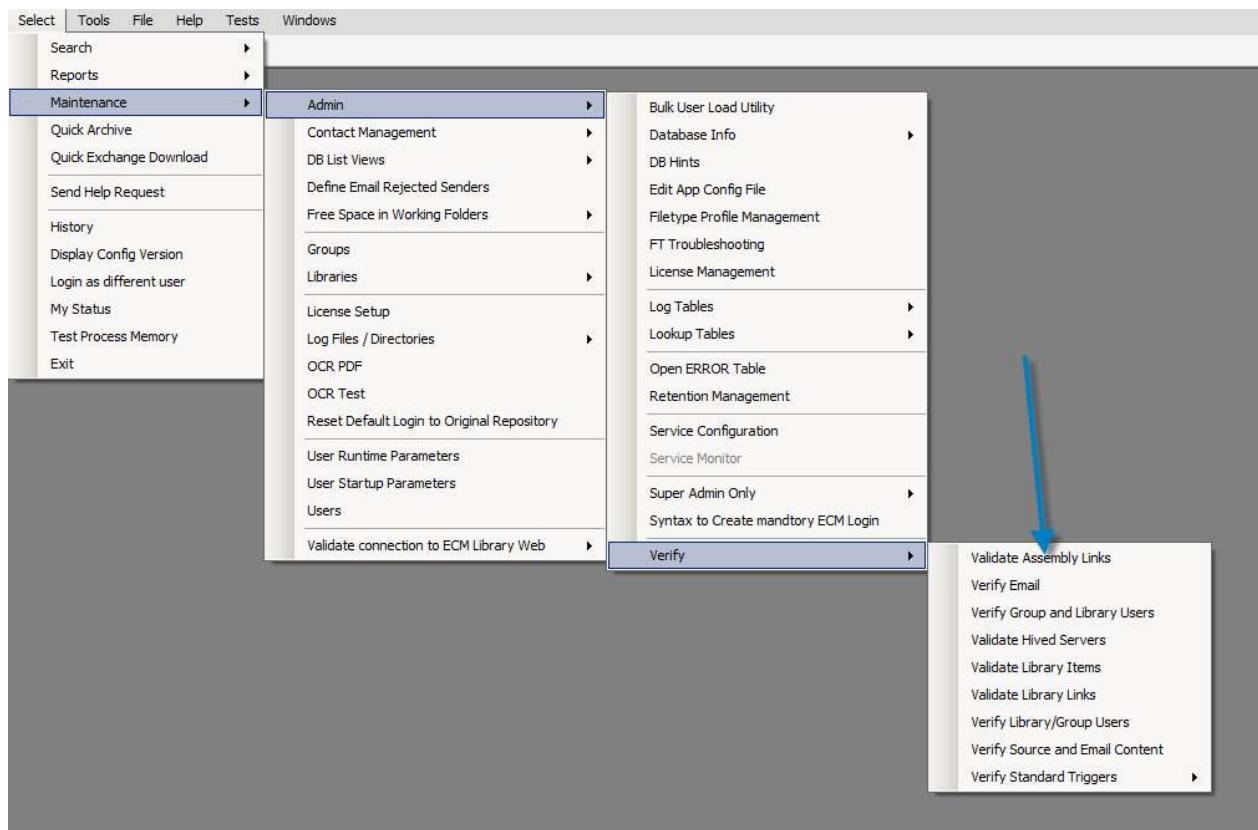
1. Weights are left on from a previous search (weights may not bring back every instance of keyword search)
2. Other search parameters are left on– need to reset screen (bottom left on each search screen)
3. Spelling is not right/exact or need to use an inflection on a word
4. A wildcard was incorrectly used
5. If using a number try quotations or add in a comma and then quotations
6. A directory is not checked in archive set up
7. Subdirectories are not checked in archive set up
8. Archive is not automatically set or done recently
9. Outlook is open during archive – such an archive may miss a block of emails

If you are still not getting the results you expect, and you are preparing to report a possible error, one helpful piece of information is providing your search query to your ECM Library support. To report on your search you used, you can SQL search query language by right click mouse when you are in any search command line and select “GEN SQL”. Then the search query command language into an email. Send the GEN SQL to your administrator or ECM Library support for analysis.

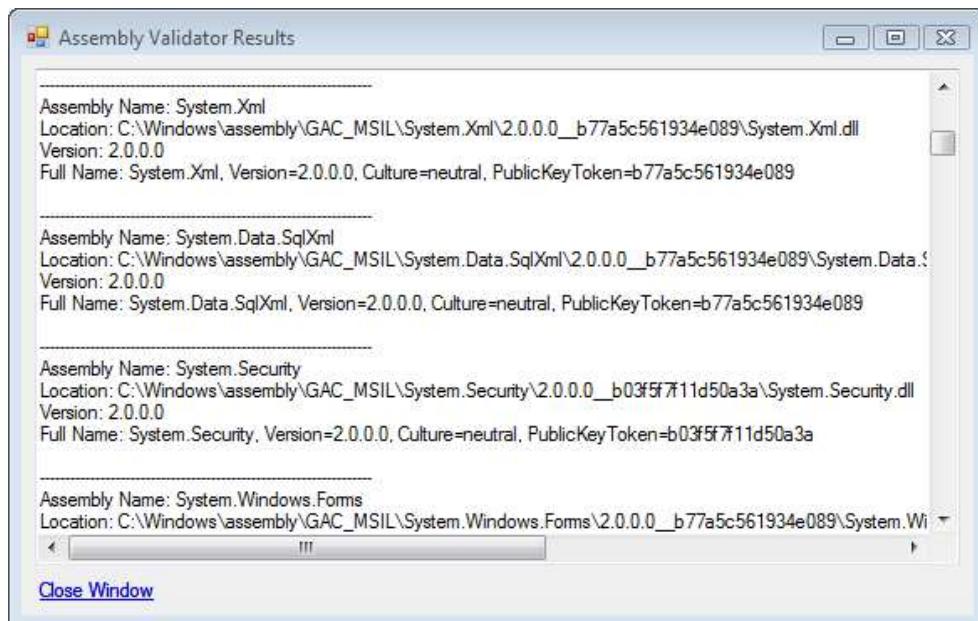
Send Help Request: Send a help request under the Help Menu to resolve any issues you can't resolve on your own.

VALIDATE ASSEMBLY

If you experience any issues when using ECM Library, you may be asked to go to the Assembly Validator Results screen. This can be used to verify what assemblies that are required by ECM Library are present. To navigate to this page you will need to go under one Admin help screen as shown below.



This screen below will list present assemblies.



http://en.wikipedia.org/wiki/.NET_assembly

[Back to top](#)

FOR ADMINISTRATORS: ERROR TRACKING

As an error is selected, its details will appear in the fields below the grid. Press “To File” button to save the grid data into a file. This file can then be reviewed or sent to the ECM Support team for analysis. This data is included automatically as part of a Help Request. The 90 Days button will reduce the data to be only that produced with the last 90 days. It is a good idea to do this before sending the data out for analysis – but ask first as historical data may be needed.

For other options for trouble shooting see the following link [Menu listings for Various Trouble Testing](#)

For all users see the following link for trouble shooting [User Menu listings for Various Trouble Testing](#)

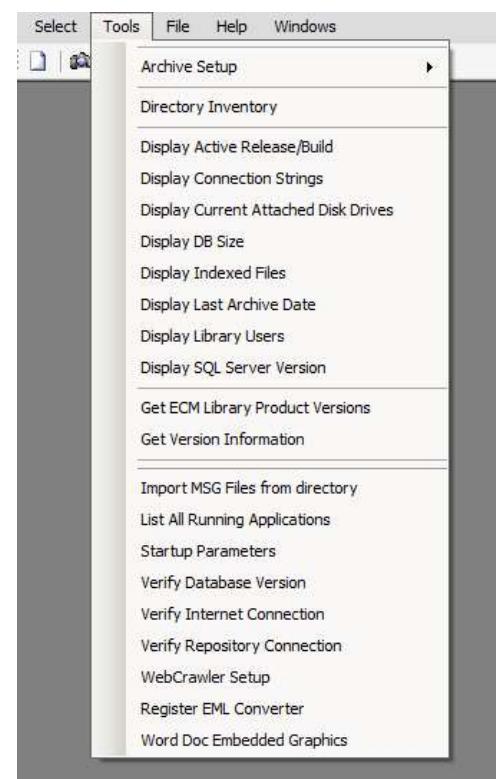
[Back to top](#)

Error Tracking.htm

NAVIGATING THROUGH THE ECM LIBRARY MENU

LINKS TO OTHER HELP PAGES

[Master Help Index](#)



This help page explains the each of these menu items. Almost all of them are available to the user or administrator, with the exceptions noted in the table below.

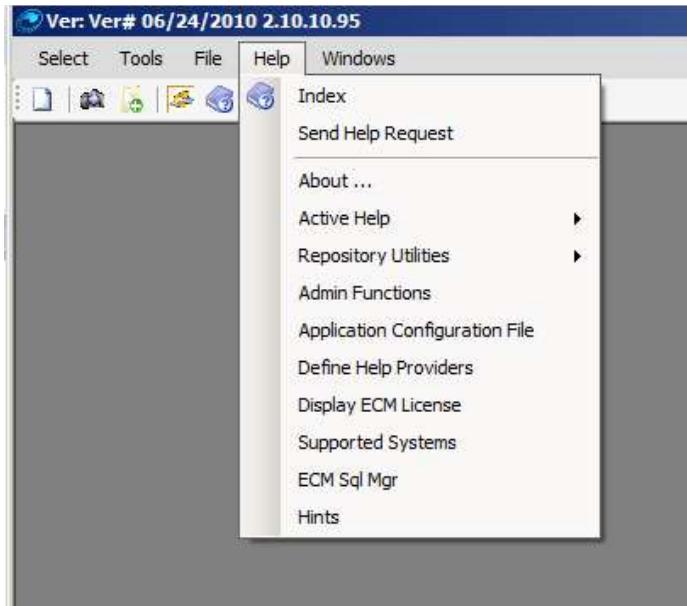
Those shown in turquoise are tools used for troubleshooting during customer support calls to your database administrator or to an ECM Library help desk support.

Those shown in black provide helpful information to a user.

ITEMS LISTED IN ORDER UNDER TOOLS MENU	
1	Directory Inventory
	When pressed, a screen comes up. Click on the downward arrow and then click Inventory. You'll see all the directories you have archived as well as what file types you have included to be archived and/or have been archived. 
2	Display Active Release Build
3	Display Current Connection Strings
4	Display Current Attached Disk Drives
5	Display DB disk size
6	Display Indexed Files
7	Display Last Archive Date

		or completing a full archive through the auto-archiver/scheduler as set up in “ polling set up” on your archive screen.
8	Display Library Users	Lists all library users and all library owners. Administrators see all libraries and owners for the enterprise. Users see those libraries to which they are a member.
9	Display SQL Server Version	This verifies the version of the SQL Server and the Service Pack and build. This is helpful ECM Library help desk support trouble shooting.
10	Get ECM Library Product Versions	Lists out the versions for all of the ECM Library products and their minimum acceptable version to be running for support. This is helpful ECM Library help desk support trouble shooting.
11	Get Version Information	This provides a list all new publishes for purposes during a call with ECM Library help desk support.
12	Import MSG Files from directory	This is a future feature available in 4 th quarter 2010. Imports MSG files into the repository on a predetermined directory for archival. This is done ONLY through ECM Help support online only.
13	List all Running Applications	When clicked you'll see all running applications, services and processes etc. This is to be used as part of trouble-shooting only. The kill button will kill any process running on your computer.
14	Startup Parameters	This will open up the User Start Up Parameters Management screen . This allows a user to get to their parameters.
15	Verify Database Version	This is helpful during talking to ECM Library support to know which repository version number is being used.
16	Verify Internet Connection	This verifies that you can get to the www.ecmlibrary.com website.
17	Verify Repository Connection	This verifies if you can get to the repository or not.
18	Webcrawler Setup	This is available for administrators only. It will not appear unless you are an administrator. Click on F1 on any screen or click here for more information.
19	Register EML Converter	When pressed this will register the EML converter. This is done ONLY through ECM Help support online only.
20	Word Doc Embedded Graphics	This is done through ECM Library Help support only.
21	Test Process Memory	This is done through ECM Library Help support. This screen will tell ECM Library help desk what is running and how memory is allocated.

[Back to top](#)



This help page explains the each of these menu items. Almost all of them are available to the user or administrator, with the exceptions noted in the table below.

Those shown in turquoise are tools used for trouble shooting during customer support calls to your database administrator or to an ECM Library help desk support.

ITEMS LISTED IN ORDER UNDER HELP MENU

Support Systems (under help)	This is done when instructed to use by ECM Library Help support only.
ECM SQL Mgr (under help)	This can be used when directed by ECM Library support or as a database administrator.
Hints	When pressed, it opens up a window that provides queries or information for help desk and admins for the support of ECM Library.

[Back to top](#)

Sub Menu Listings.htm

ECM LIBRARY STEP-BY-STEP INSTRUCTIONS

LINKS TO OTHER HELP PAGES

[Master Help Index](#)

INSTRUCTIONS:

ECM Supported Server Platform

Administrators: The following steps assume that Server Prerequisites have been completed. Please see [Server Prerequisites help page](#) for resource information in setting up the server/repository.

ECM Library Client Supported Platforms

Supported Operating Systems:

- Microsoft Windows XP Pro SP3
- Microsoft Windows Vista Business or above
- Microsoft Window 7 Pro or above

Supported Hardware: 1 GB RAM minimum Recommended: 2 GB RAM & Pentium duo-processor +

Supported Microsoft Office Platform: Microsoft Office 2003 (supported through Oct 2010) and Microsoft Office 2007 (recommended)

Step 1 : [Verify/Download the Prerequisite Microsoft Software](#)

This is applied for each client: the each computer/PC accessing ECM Library repository. You'll need one PC to start with!

Step 2 : After Server Prerequisites (see link at top): Create and set up the new ECM Library databases:

- a) Under Microsoft SQL Manager, create a new database called **ECM.Library**
- b) Under Microsoft SQL Manager, create a new database called **ECM.Thesaurus**
- c) Verify the name of the repository database server is known
- d) Verify your access to the repository database server is granted

[Download the ECM Library database](#)

This is a one-time download to set up the ECM Library server repository. This is a menu driven install for administrators.

If you prefer running the scripts directly in Microsoft SQL Manager, download the scripts [here](#).

Step 3 : [Install ECM Library Client](#)

This is applied to the each computer/PC accessing ECM Library repository once step 1 has been complete.

You'll need to apply a license number. Get an ECM Library license by email if an Internet Connection is not available.

Step 4 : Login and start setting up ECM Library. Your first login is admin and the password is “password”. You’ll be asked to immediately change this. Passwords are case sensitive.

POST-INSTALL STEPS FOR ECM LIBRARY DATABASE ADMINISTRATOR

1. Set aside 2 hours for an administrator training. Contact support@ecmlibrary.com for training coordination times. Over two one hour sessions you will learn how to do the following:
 - i. **Set up the Company Retention Rules.** See [help](#) for this screen for details
 - ii. **Set up Users.** Users may use their computer Log In ID to bypass a log-in procedure each time ECM Library is executed. A [batch upload](#) can be used to set up users also.
 - iii. **Add in other File types to Archive.** See listing of default file types in the system and how to add in other file types to be archived [here](#). To “list installed filters and load any Pending” use the screen referenced on this [help page](#). Keep in mind that just because you can archive something, it doesn’t mean you have set up the indexing for it. You need can use these screens to manage what is archived, and what is indexed that IS archived.
 - iv. **Set up Archive Rules:**
 - If there is a consistent directory structure for your company, set up any appropriate “mandatory directory paths” (See [archive set up](#) help for more information)
 - Set up any [file type groupings](#) or [directory parameter](#) groupings to recommend for user based archives
 - i. **Learn how to Archive** – available through ECM Library support for Admin.
 1. Emails
 2. Directories
 - ii. **Learn introduction on good search strategies** – available through ECM Library support for Admin.

[Back to top](#)

THE APPLICATION CONFIGURATION FILE

OTHER LINKS:

[ECM Library Master Help Index](#)
[Administrative Screens and Help](#)
[AppConfig Help for Administrators](#) - administrative help

SETTING UP APPCONFIG FILE AT THE END OF A DOWNLOAD

When you receive a new publish from ECM Library, after the new publish has downloaded you may be asked this question:



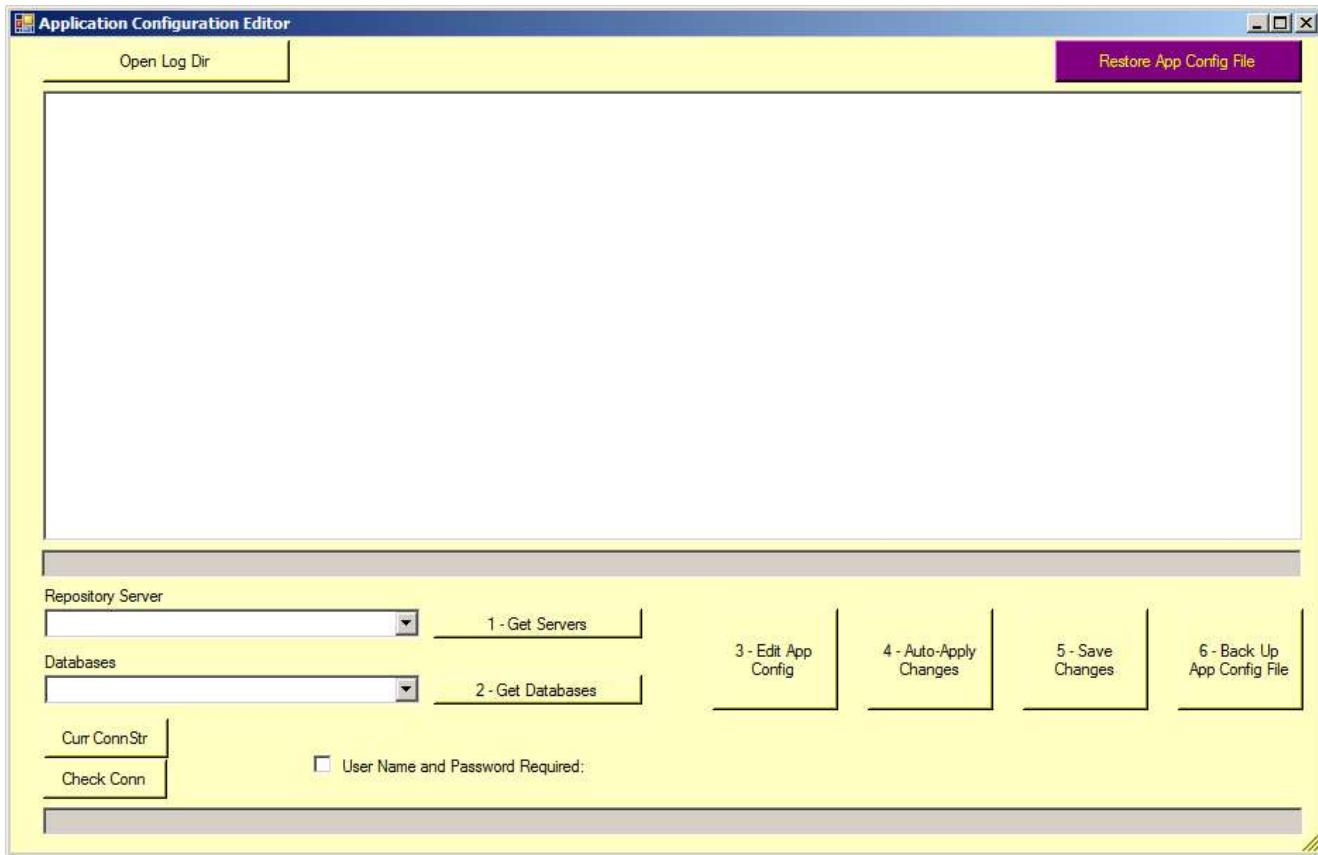
Choose yes if your company administrator has not told you otherwise. Chances are there have been no changes to your configuration to connect to the server and most times you just click yes.

However, for the first time downloading ECM Library you may need to go to the right button. Here's the sequence of events that will follow:

First: You'll get this warning message. Read it and click OK. (Your company administrator will tell you if you should use the purple button.)



This window below will appear next. Click on Step 1, as indicated, to identify your network Servers. This may take a minute. Next pull down the list using the arrow under "Repository Server". Click on the ECM Library server name that your company administrator has given you.

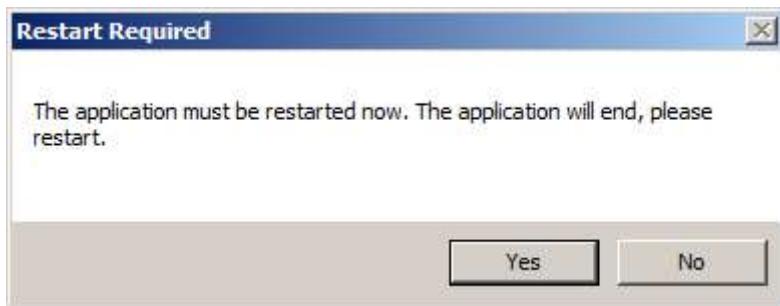


Next #2 is optional – get databases. It helps verify your connections for trouble shooting purposes.

Next Continue clicking on each numbered button once the status (bottom left of screen) shows you changes are applied. #3 will bring in the standard application configuration script. You do not have to type in anything into this complex script – just follow the steps. #4 inserts the name of your computer so the server can connect to your computer. # 5 saves the changes and #6 backs up your computer's unique settings. At this point you can close the window by clicking on the X in the upper right hand corner.

Some company servers are set up to connect after user name and password authentication. If that's the case, before you click on 4, 5 and 6, click on the small window box beside user name and password and enter in the name. Password must be entered in twice to verify correct entry.

Next upon closing the window, you will receive this message below. Press yes if you wish to use the application immediately.



Next click on your new ECM Library desktop icon shown below.



ECM Library will come on the screen once it has connected to the server.

[Back to ECM Library Client Install Set up Instructions](#)

[To the top](#)

Application Configuration File.htm

ECM LIBRARY REPOSITORY DOWNLOAD LINKS

ECM Library Repository is the proprietary database where the archival of content, emails, email attachments, libraries, groups and user settings, and the like are stored. The Repository architecture is specific to ECM Library and uses a customer-purchased Microsoft SQL Server 2005 or 2012 license. The Repository receives and indexes unstructured content using any and all of ECM Library archival capabilities, including the ECM Library Service Manager, ECM Library SharePoint, ECM Library Web Crawler and ECM Library Client.

ON THIS PAGE:

[Microsoft SQL Server](#)

[iFilter Download Links](#)

[About Laptop Installs](#)

MICROSOFT [SQL SERVER](#) DOWNLOAD LINKS

If Microsoft SQL Server is not already installed at your site, you will need to install either Microsoft SQL Server 2005 or 2012, either Standard or Enterprise or Express for small organizations. ECM Library requires full text indexing on any version of Microsoft SQL Server.

SQL Server 2012 Express: [SQL Server 2012 Download Site](#)

If you wish to use the free version of SQL Server, "SQL Express", we recommend "SQL Server 2012 Express" using "Runtime with Advanced Services" as these are required for ECM Library to run properly. ...

SQL Server Management Studio: [Download Management Studio](#)

SQL Server 2012 SP1: [Download Service Pack 1 Site](#)

Microsoft SQL Server 2012 Feature Pack April 2009: [2012 Download Site](#)

Visual Studio 2012 and SP1 [Visual Studio 2012 Service Pack 1 Download Site](#)
(if you have 2012 installed have not applied the SP)

IFILTER DOWNLOAD LINKS

ECM Library has a proprietary indexing mechanism, the ECM Library Neural Index, which creates an index upon the full text index and standard indexes created by a database. ECM Library also provides a set of utility functions to keep the database indexes tuned and performing. However, the full text indexes have to be created and attached to the database so that full text searches can be performed. To do this requires the use of iFilters on each specific file type. The SQL Server Full-Text search requires iFilters to exist on the SQL Server. For some Microsoft file types, iFilters are automatically available through SQL Server; others need to be installed.

See this ECM Library link for more information: [Filterupdates.htm](#)

Microsoft Office 2007

This download will install and register IFilters with the Windows Indexing Service and includes IFilters for the following formats: .docx, .docm, .pptx, .pptm, .xlsx, .xlsm, .xlsb, .zip, .one, .vdx, .vsd, .vss, .vst, .vdx, .vsx, and .vtx. (This filter is NOT installed with SQL Server downloads) Please follow this link for more download details:

<http://www.microsoft.com/downloads/details.aspx?FamilyId=60C92A37-719C-4077-B5C6-CAC34F4227CC&displaylang=en>

To register and set up the Microsoft Filter Pack iFilter for both SQL Server 2005 and SQL Server 2012 follow these instructions:

<http://support.microsoft.com/default.aspx?scid=kb;en-us;945934>

PDF IFILTERS

Foxit:

We recommend FoxIT. FoxIT's 64-bit is inexpensive and works faster and better on both the 32 and 64 bit machines. (e.g. benchmark test posted on MSN site [click here.](#)) Got to this site to choose the 32 bit or the 64 bit version:

<HTTP://WWW.FOXITSOFTWARE.COM/PDF/IFILTER/>

Adobe:

Adobe currently bundles a 32-bit PDF iFilter with Adobe Acrobat® 9 as well as free Adobe Reader® 9 software.

[PDF iFilter \(32-Bit\)](#)

Adobe 32 bit Filter direct link:

<http://www.adobe.com/support/downloads/detail.jsp?ftpID=2611>

For the 64 Bit go here:

http://www.foxitsoftware.com/pdf/ifilter/try_buy.php

For 64 Bit servers our experience is the Adobe filter will not be compatible so we don't recommend Adobe. For Foxit desktop versions, you'll need to click on Foxit Free Trial and enter in name, email address etc. You'll be sent an email to get the download link. For server versions you can choose a 30 day trial or pay \$699 and up.

OTHER FILTERS

[CAB File iFilter](#)

[Wmv / Wma iFilter](#)

[Word Perfect iFilter](#)
[Word Perfect \(64-Bit\) iFilter](#)
[AutoCad DWG Filter](#)
[RAR Filter](#)

Various Other Providers: <http://ifilter.org/Links.htm>
<http://www.ifiltershop.com/products.html>

Free Filters <http://www.citeknet.com/>

PREREQUISITES FOR LAPTOP DEMO INSTALLATION:

For those who wish to have ECM Library on a laptop as a trial or as for demonstration use, please request specific instructions from [ECM Library Support](#) to support you on a smooth install.

For trial or demo purposes, there is a free version of SQL Server 2012 Express that has a limit of 4 gigabytes. [SQL Server 2012 Express with Advanced Services](#) for a laptop demo version can be found at this link:

[SQL Server 2012 Express and Prerequisites](#)

The main critical area that must be done when installing SQL Server 2012 Express is to verify that Full Text indexing exists on your database by running the following:

select fulltextserviceproperty('isfulltextinstalled')

A '1' indicates it is, a '0' indicates it is not. ECM Library requires full text indexing.

All other prerequisites for both the Client software and Filters need to be also installed.

[Back to top](#)

PreReqs/default.htm

ECM LIBRARY CLIENT MANUAL DOWNLOAD OF PREREQUISITES

OTHER LINKS:

[Administrative Screens and Help](#)
[ECM Library Master Help Index](#)

INSTALLING PREREQUISITES:

ECM Library has powerful intelligence about managing where information is processed –the server vs. your computer – and how to make processing time as efficient as possible. These install steps are done once, and then you will start to take pleasure in the quick responsiveness of this application, so when you want to find something, you can find it immediately!

ECM LIBRARY PREREQUISITES AND APPROVED COMPONENTS:

- Windows Server 2012 thru Windows Server 2012 R2
- SQL Server 2012 R2 thru SQL Server 2014
 - Full-text indexing option required
 - File store option enabled
 - Enterprise version or
 - Standard or
 - Web
 - NOTE: Each of the versions should be evaluated for your needs and the amount of user activity.
- IIS 6.0 and beyond
- Browsers
 - Internet Explorer version 6.0 and beyond
 - FireFox
 - EDGE ([not currently available](#))
 - Chrome (prior to 42, Chrome 42 blocks Java, Silverlight, and other plugins by default now) Please see: [Chrome Deprecation](#)
- Silverlight 4.x and above
- .Net 4.5
- WCF 3.0 and beyond
- Windows Operating Systems
 - Windows 8.x
 - Windows 7.x
 - Vista (not recommended)
 - Windows 10 (not currently available)

OLDER INSTALLS THAT ARE DEPRECATED:

Extra Prerequisite for XP Pro: If you are running on XP Pro, ECM Library requires you to be on Service Pack 3 (SP 3).

Prior to Install: verify your computer properties first to see which Service Pack you currently have installed, and if your computer runs a 32 bit or a 64 bit operating system. To do so, right click mouse on your computer and check properties.

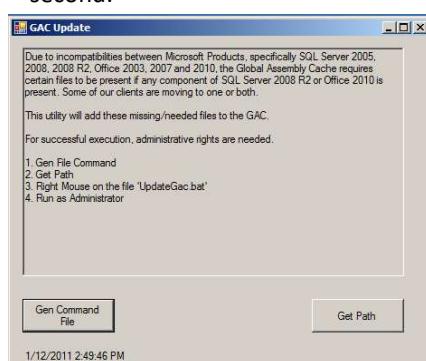


Please do these prerequisites in the exact order below:

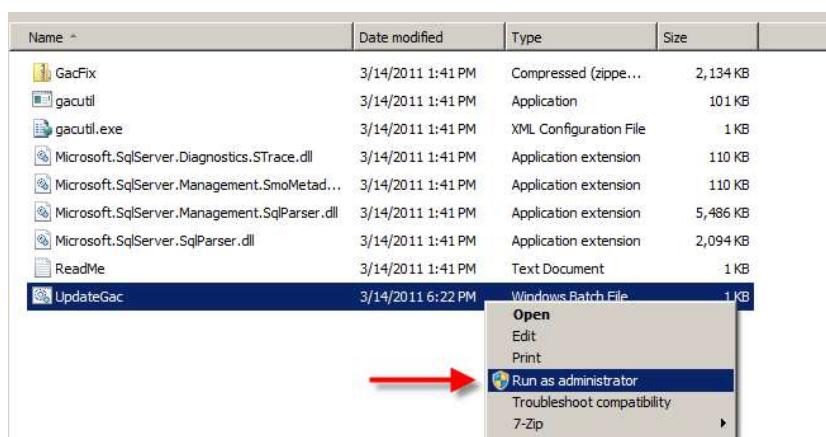
First open up Internet Explorer.

We recommend Internet Explorer for any Installs.

15. [Update to the GAC \(Global Assembly Cache\)](#) As of January 12, 2011, this quick install fixes a new issue arising from incompatibilities communicating with “SQL Server 2012 and 2012 R2” until Microsoft provides a smoother transition. It is still needed for every computer/all users. Just follow the short 4-step instructions by clicking on the left button first, then the right button second.



For the fourth step it requests you to Run as Administrator. Highlight the updateGac.bat at the bottom of the list and right click - select “Run as Administrator” as shown below.

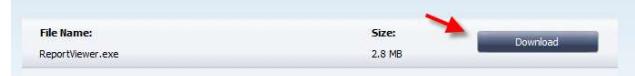


16. Windows Installer 4.5

In case of forced reboot just continue with next step after you log back in.

Windows6.0-KB942288-v2-ia64.msu	for 64A bit computers	3.4 MB	Download
Windows6.0-KB942288-v2-x64.msu	for 64 bit computers	2.9 MB	Download
Windows6.0-KB942288-v2-x86.msu	for 32 bit computers	1.7 MB	Download
WindowsServer2003-KB942288-v4-ia64.exe		24.6 MB	Download
WindowsServer2003-KB942288-v4-x64.exe		4.5 MB	Download
WindowsServer2003-KB942288-v4-x86.exe		2.9 MB	Download
WindowsXP-KB942288-v3-x86.exe	for 32 bit XP computers	22 MB	Download

17. Microsoft Report Viewer 2012



18. http://www.ecmlibrary.com/download/redemption_for_email/redemption_redist.zip

This program should be downloaded if you are archiving any emails.

19. These next downloads need to be installed in this exact order:

Note: If any problems with the following links below are experienced, go to this link and install the following in this order
[Microsoft SQL Server 2012 Feature Pack](#)

i. Microsoft SQL Server System CLR Types

For X86 (32-Bit) [Click here](#) to download

For X64 (64-Bit) [Click here](#) to download

For ia64 (IA64-Bit) [Click here](#) to download

j. Microsoft Core XML Services (MSXML) 6.0

Note: If a message box saying that a newer version is already installed appears, great! You need not worry about completing this install. Cancel out.

[Click here](#): On this page you need to scroll down and find the appropriate download for your computer. ia64 is for IA64-Bit machine, x64 is for a 64-Bit machine, and x86 is for a 32-Bit machine.

Files in This Download

The links in this section correspond to separate files available in this download. Download the files most appropriate for you.

File Name:	File Size	
msxml6_ia64.msi	3.6 MB	Download
msxml6_x64.msi	2.5 MB	Download
msxml6_x86.msi	1.5 MB	Download

[↑ Top of page](#)

k. Microsoft SQL Server 2012 Management Objects (SMO)

For X86 (32-Bit) [Click here](#) to download

For X64 (64-Bit) [Click here](#) to download

For ia64 (IA64-Bit) [Click here](#) to download

I. Microsoft Sync Framework

For X86 (32-Bit) [Click here](#) to download

For X64 (64-Bit) [Click here](#) to download

For ia64 (IA64-Bit) [Click here](#) to download

- 20. New SQL Server 2012 Management Objects (SMO) by Microsoft.** This is only needed for those customers whose server uses SQL Server 2012 R2. If you're not sure, just take it.

[X86 Package](#)

(SharedManagementObjects.msi)

[X64 Package](#)

(SharedManagementObjects.msi)

[IA64 Package](#)

(SharedManagementObjects.msi)

- 21. Check to make sure you have MODI installed.** This is done by looking under your Microsoft Office programs as shown. If it has not been installed your ability to perform object character recognition – search on text in a graphic – will not work. If you do not have this function, ask your IT support desk to install it for you.



NEXT

When these are completed, congratulations – you are ready to install ECM Library! [Click here](#) to go to ECM Library client download.

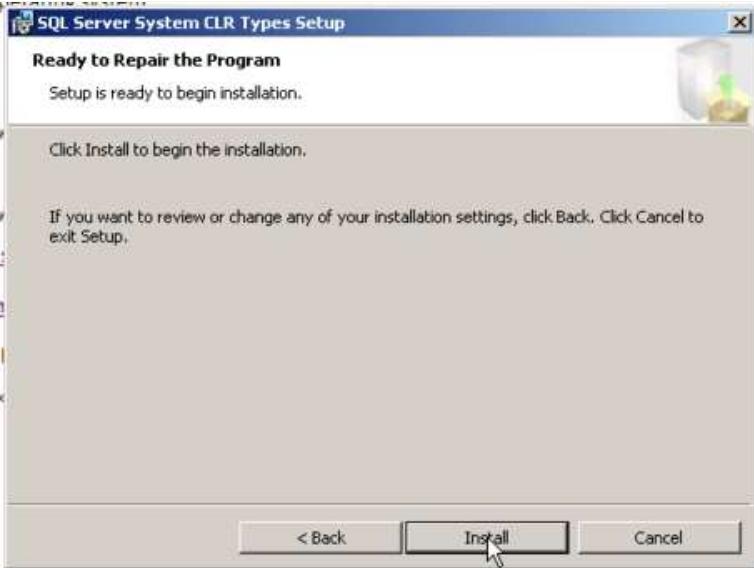
NEXT

If you are going to archive from your computer [Click here](#) to go to ECM Library Archiver download.

ERROR MESSAGES:

If you receive a message like this, it most likely means that you already have this software installed on your computer. You can cancel and then go onto the next manual install:





[Back to top](#)

manualprereqlisting.htm

FOR SQL ADMINISTRATORS: CHECKING FILTER SETTINGS AND FILE TYPES AVAILABLE FOR ARCHIVE

OTHER LINKS:

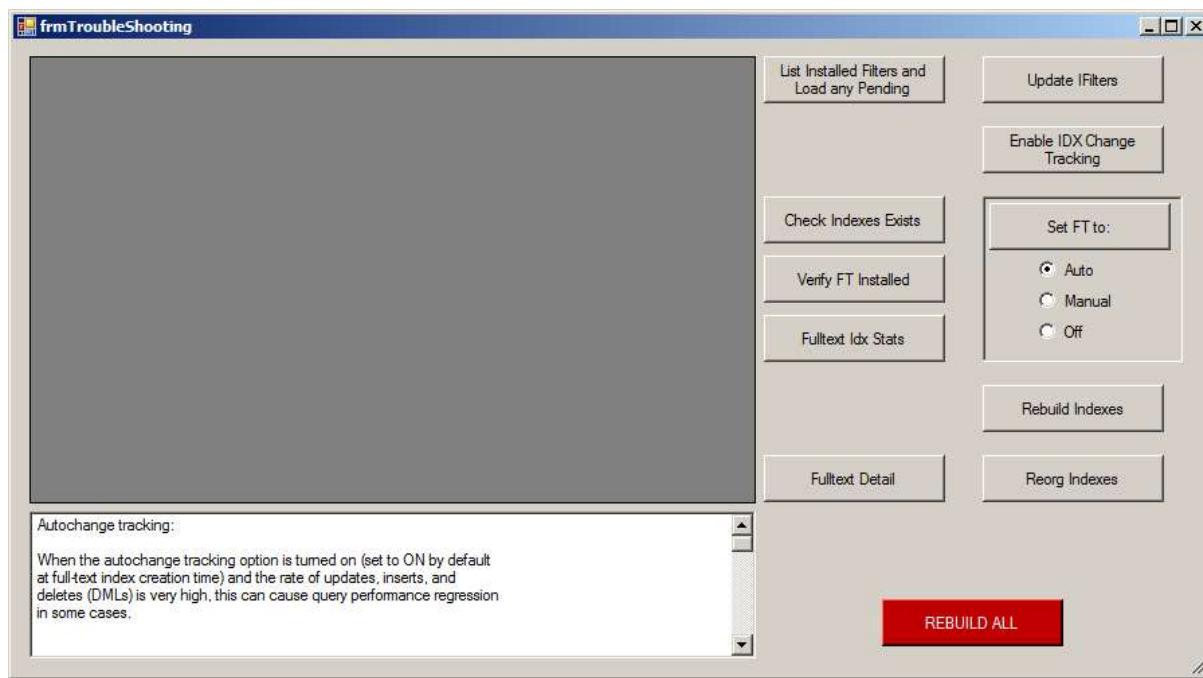
[Administrative Screens and Help](#)
[Filter Download Resources](#)
[ECM Library Master Help Index](#)

WHAT FILE TYPES WILL BE ARCHIVED:

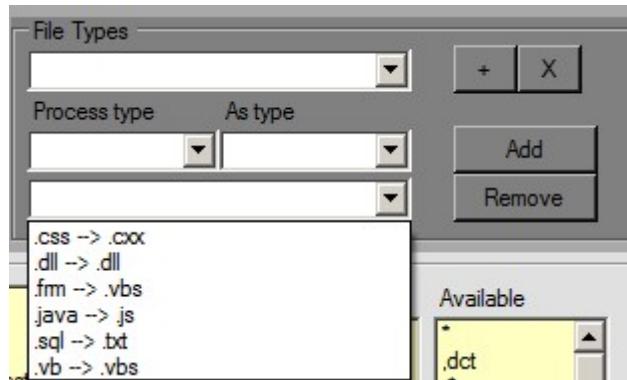
See listing of default file types in the system and how to add in other file types to be archived [here](#). These file types will show up in the main archive set up screen. Keep in mind that just because you can archive something, it doesn't mean you have set up the indexing for it. You need to use these screens to manage what is archived, and what is indexed that IS archived.

MANAGING INDEXES AND THE ECM LIBRARY REPOSITORY:

This screen is very helpful to decipher what filters you already have installed on the server. Just click on "List Installed filters and Load any Pending" and you will see the list. You will find the Full Text Troubleshooting screen available as "FT Troubleshooting" under the administrative menu.



If you are missing filters, you can choose to download filters (please see this link for [iFilter download references](#)) or, if you have knowledge of the nature of a filetype, you can choose to process a certain file type as another type that is used by an iFilter. See screen shot below as examples in the pull down menu (under Tools menu and then [Archive Setup](#)) on the upper left hand side of the main archive screen.



FT TROUBLESHOOTING SCREEN'S OTHER FUNCTIONS

This screen can be used as an alternative to Microsoft SQL Server Manager Studio for maintaining the server. Simply follow each button from top to bottom starting on the left side and working down the second column of the the right hand side. A note of caution: if the reporting buttons when pressed indicate that the index needs to be rebuilt OR you have loaded in new filters, please note that the rebuilding of indexes will take a long time. We strongly suggest you do any changes during evenings or weekends.

See [SQL Manager functions available](#) on this help screen.

[Back to top](#)

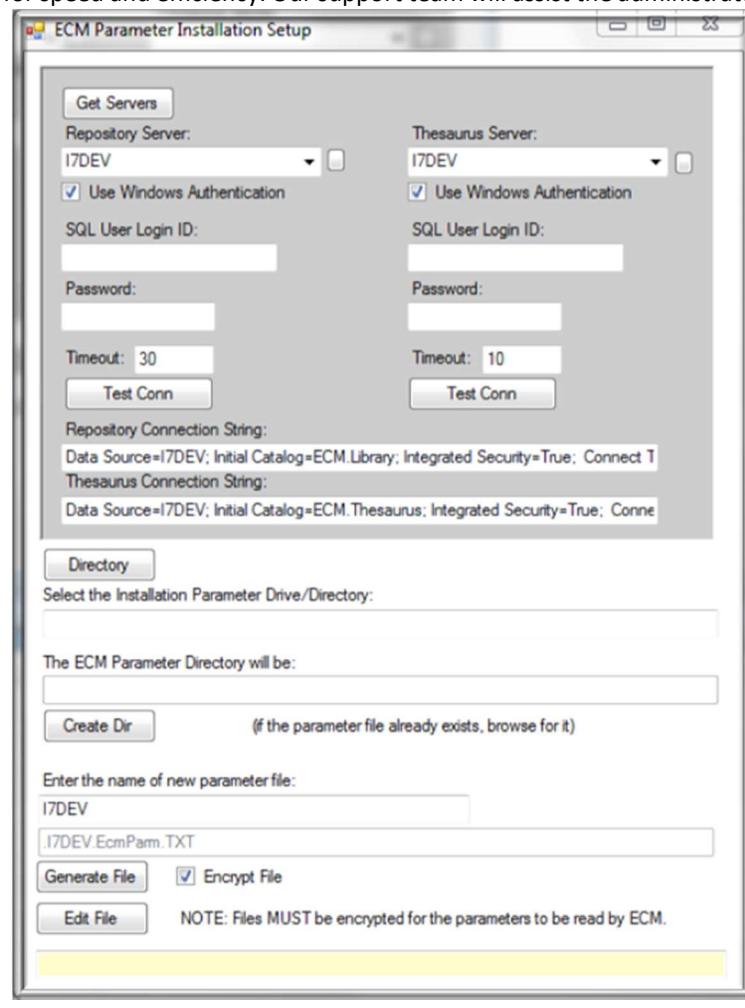
ECM LIBRARY PARAMETER INSTALLATION SETUP

OTHER LINKS:

- [Administrative Screens and Help](#)
- [Table Functions](#)
- [ECM Library Master Help Index](#)

When installing ECM Library for dozens, hundreds, or even thousands of users, the process can be shortened tremendously. The first step is to create the initial ECM Library repository. The SQL DBA will do this in most likely less than an hour.

Once the ECM Library Repository exists, the clients (users) need to be installed. This is done either from the ECM Library download location or from an internal intranet location. The latter is highly recommended for speed and efficiency. Our support team will assist the administrator in downloading and setting up the local installation package.



The first installation needs to be done by an administrator. This way, he or she can define all of the required email folders and directories that each user will be required to archive for search purposes.

After that, the administrator can use the ECM Library Parameter Configuration Utility to establish the connections to the ECM Library Repository and Thesaurus. The administrator then defines the installation URL and the parameter settings and emails it to one or all that are to install the product.

Once this task is completed, the client(s) can install the full product simply by clicking on the supplied URL. Installing thousands of clients per day is easily accomplished in this manner – limited only by the speed of the in-house network.

THE STEPS:

The “Get Servers” button is there only to refresh the available list

of SQL Servers. When the utility opens, all SQL Servers that can be seen across the network are in the drop downs. Just because a SQL Server is not in the drop downs, does not mean you cannot access it. The name can be manually entered and the associated parameters filled in.

1. Supply the Repository Server for both the repository and the thesaurus. Select an item from the drop down or type in a name.
2. Select to use windows authentication or not
 - a. If so, fill in the user
 - b. Fill in the appropriate password
3. Fill in the desired timeout for query execution
4. Test the Connection before proceeding
5. Press the “Directory” button and select a directory where the parameter file will reside
6. Press the “Create Directory” button as this will create the required sub-directory
7. The default name of the parameter file will be shown. It can be changed, but we recommend you use the generated name.
8. Press the “Generate File” button. This will create the parameter file.
 - a. Check or uncheck the “Encrypt File” check box
 - b. A parameter file must be encrypted
 - c. For debug purposes, when the Encrypt File check box is left unchecked, a plain text file will be created. Otherwise, the file will be encrypted.
 - d. Again, the file must be saved as encrypted for ECM Library to use it.
9. Press the “Edit File” button and verify that the file exists as expected.

[Back to top](#)

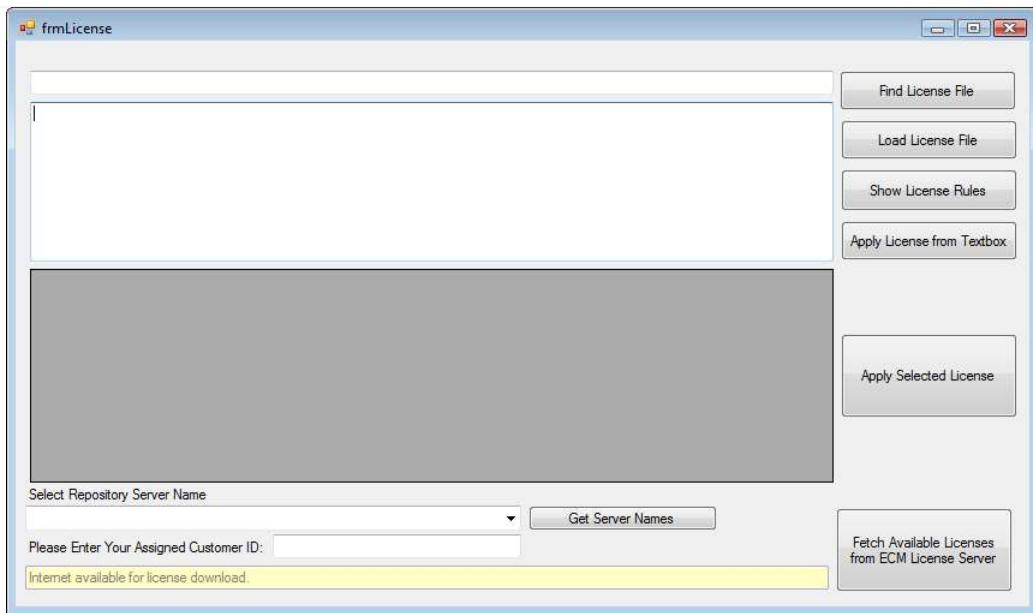
parameterinstall.htm

FOR ADMINISTRATORS: LICENSE MANAGEMENT SCREEN

OTHER LINKS:

- [Administrative Screens and Help](#)
- [Table Functions](#)
- [ECM Library Master Help Index](#)

This is the screen where an administrator goes to load a new license file or paste a new license that was sent by email. It also can be done through a server-based process. Administrators have access to the license screen. If there is a reason for a user to apply the license, the administrator will need to have the access password from ECM Library customer support.



OPTION A: SERVER-PROCESSED LICENSE:

All you need to apply your license is your customer ID number (provided through ECM Library customer support) and internet access. Steps are:

1. Click on "Get Server Names". Choose the appropriate server to which you wish to apply your license.
2. Type in your assigned customer ID
3. Click on "Fetch Available Licenses from ECM License Server".

That's it. You should now see your license generated. It will verify that your license is working with a window that will open up showing your License Rules.

OPTION B: EMAIL-SENT LICENSE:

If you have received your license from ECM Library customer support through an email, follow these steps:

1. Copy (Ctrl C) a license that has been emailed as an encrypted text string from ECM Library customer support.
2. Take the encrypted string and paste it into the large field to the left of the button
3. Press "Apply License from Textbox".

The license will be applied just as if it were a file. If your customer information appears when you press on "Show License Rules" then your license has been correctly applied.

TO VIEW THE CURRENT LICENSE RULES:

Show License Rules This displays the agreement represented through your license file.

Find a license file Opens a file dialog and allows you to locate a license file.

Load License File After the file is located, this opens and loads the file into ECM Library.

[Back to top](#)

BULK USER LOAD UTILITY

LINKS TO OTHER HELP PAGES

[ECM Library Master Help Index](#)
[Administrative Screens and Help](#)

This is the screen that allows an administrator to bulk load hundreds, even thousands of users into the ECM Library repository in just a few minutes.

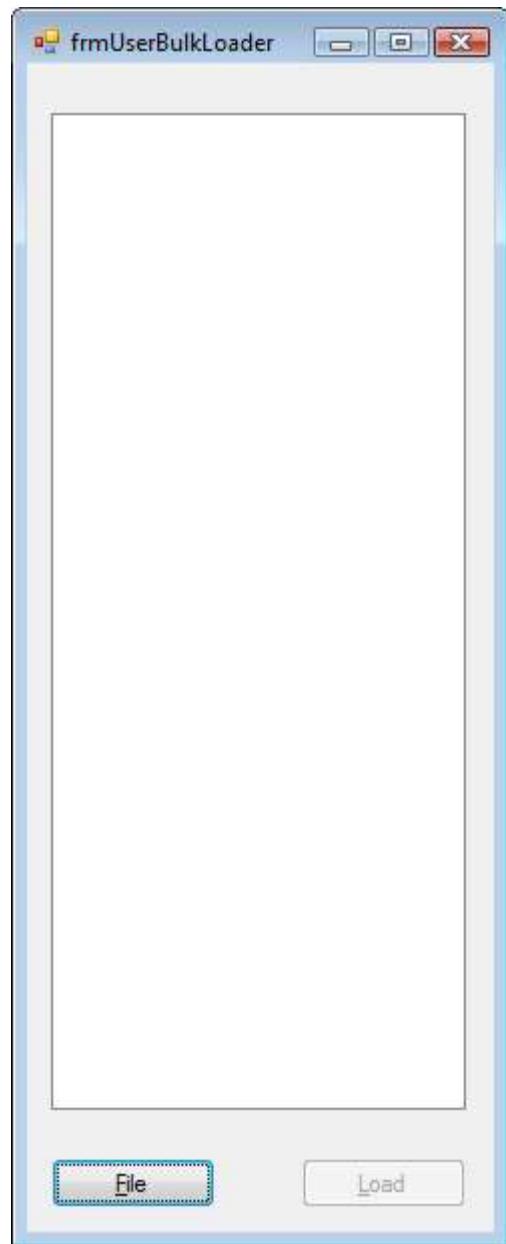
The import file must be laid out according to this specification:

- There will be 3 tab separated fields in the input file: the User's Name, Login ID and EMAIL Address. The file structure will be:
 - UserName (tab) LoginID (tab) EmailAddress (crlf)
 - Repeat the above once for each user to be uploaded into the system. The LoginID must be unique.

The loader will set a new user's password to "password", active to "Y", and Admin to "N". As many users as the licensing agreement provides can be loaded this way. There is one initial account, ADMIN that is defaulted when the application is first installed. We highly recommend that this USERID be immediately secured. (This is done by the user logging in for the first time. The user will then be asked to change his/her password before using ECM Library.)

As users are loaded, they will appear in the list box.

[Back to top](#)



Bulk User Load Utility.htm

EMAIL ARCHIVE SCREEN

OTHER LINKS:

[Administrative Screens and Help](#)

[Table Functions](#)

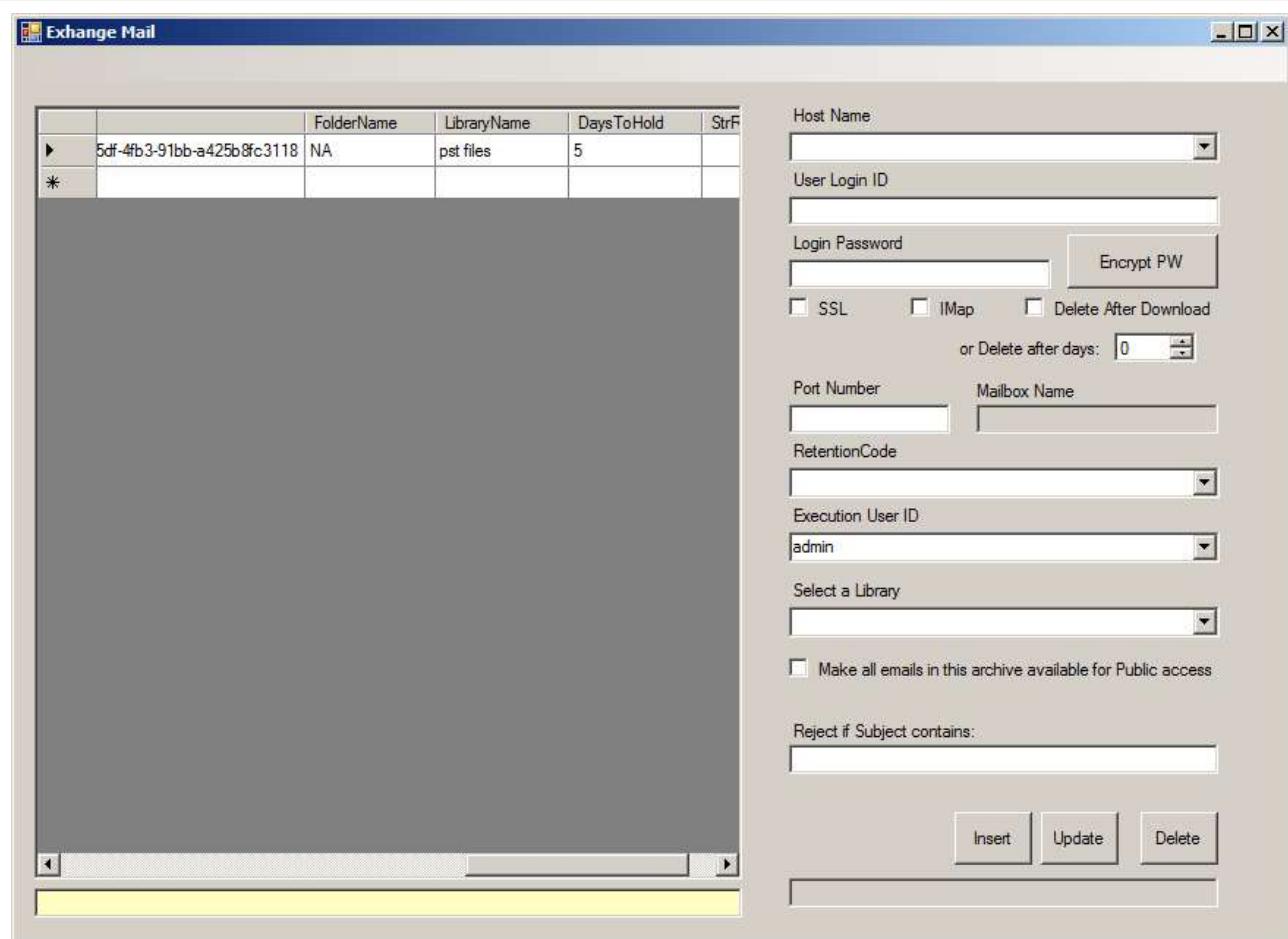
[ECM Library Master Help Index](#)

FOR EXCHANGE SERVERS:

In order to capture email before it goes to the user or just to capture it in an automated fashion so no email is left behind, the ability to capture directly from an exchange server mailbox is provided here. This method provides a journaling concept without the overhead of journaling. The exchange administrator can direct emails from anyone's email folder at either reception or transmission time. ECM Library can download from one master exchange folder or if desired, every individual email folder on the server.

For a master folder or for individual folders:

1. Enter the exchange host's name or IP address.
2. Enter the login ID.
3. Enter the password and verify correctness.
4. If it is an SSL connection, check the SSL box.
5. If it is an IMAP connection, check the IMAP box.
6. If you wish to delete the email out of the folder as soon as it is successfully received, check the Delete After Download.
7. If the port number is not the standard default, enter the port number.
8. Select the retention code.
9. If the execution requires a specific user ID to run successfully, enter it
10. Select a Library name to associate this Folder/Email account. This can be a private library that only you can see, or you can make available to other users. See [Library help](#) for details.
11. As an option, you can stop emails from being archived that have certain keywords within the subject line.
Use a comma between each word that you want to reject. Any emails in this account will not be archived if that word is found in the subject line. Those emails will be deleted from the journaling folder so they don't accumulate.
12. Press Insert or Update accordingly.



To remove a mailbox, select the desired mailbox in the grid and press delete.

FOR POP EMAIL ARCHIVE:

This screen is used if you choose to archive each user's email directly from an exchange server. In order to fill out this screen, you will be required to know the host name, each user login and password, email settings and ECM Library User ID (available as pull down item). Once the first user's profile information has been identified, select insert. For the next user, you can populate the same email settings using the previous user's profile by selecting a completed user setting in the grid. This way only the User ID, password and ECM Library User ID need to be changed next.

We recommend encrypt the password for security reasons by selecting "Encrypt PW".

After completing each user entry, select "Insert" to complete.

[Back to top](#)

ADMIN FUNCTIONS

LINKS TO OTHER HELP PAGES

[ECM Library Master Help Index](#)

[Quick Help to ECM Library Archive System](#)

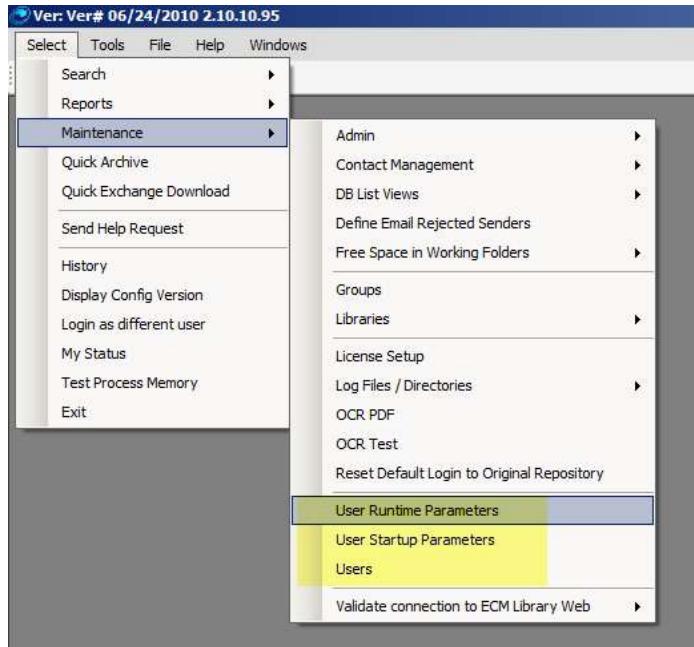
[Help on Various Sub Menu Listings under Select Tools File Help Windows](#)

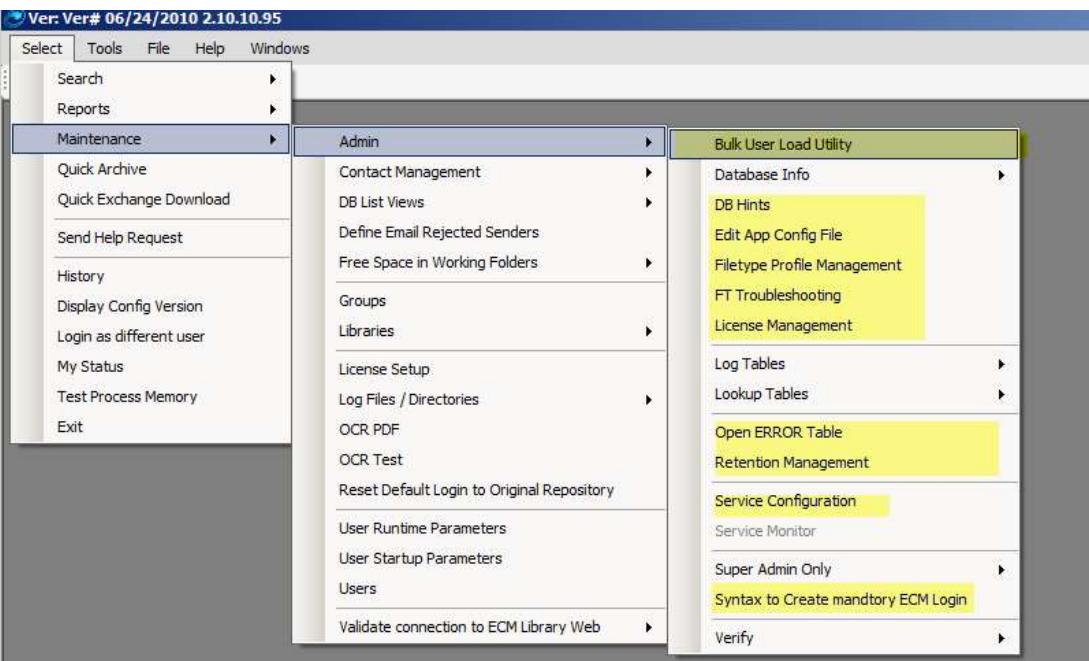
The following shows the screens used to manage the functioning of ECM Library for administrators. The first listing of “administrative” screens under “Maintenance” can be seen by all users. All those screens listed under “Admin” can only be seen by Administrators. This help page provides you with the links for each administrative screen.

[User Runtime Parameters](#)

[User Startup Parameters](#)

[Users](#)

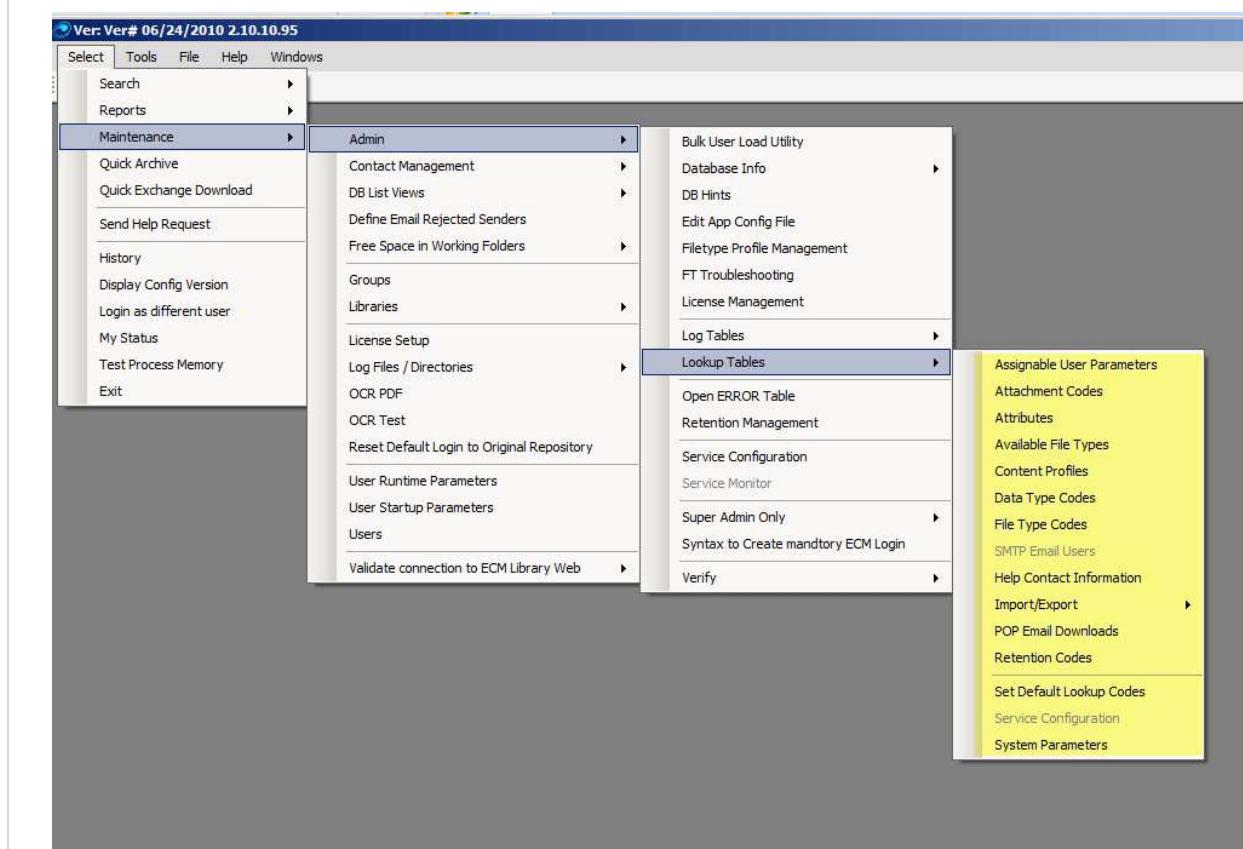


		
1	<u>Bulk User Load Utility</u>	Used to bulk load hundreds, even thousands of users into the ECM Library repository in just a few minutes.
2	<u>DB Hints</u>	
3	<u>Edit App Config File</u>	This allows an administrator to open up the configuration script that connects the client to the server.
4	<u>Filetype Profile Management</u>	This allows an administrator to create specialized groupings of file types, define its grouped name and have it appear as an option in the archive set up screen .
5	<u>FT Troubleshooting</u>	This screen serves as an alternative to using Microsoft SQL Manager for maintaining filters, indexes and general performance. Filters can be loaded, updated and verified. Indexes can be rebuilt and reorganized.
6	<u>License Management</u>	This is the screen where an administrator goes to load a new updated license.
7	<u>Open Error Table</u>	This table is a quick reference to errors or failures that have occurred in the last 90 days or whatever systems parameter has been set to record these errors. This can be used as a highlight of errors to report to database administrators or to ECM Library Support. Error logs use standard wording for DBAs. However it is recommended to NOT use this report solely and look at the temp directory log files for a more complete reporting.
8	<u>Retention Management</u>	This screen is used to establish the retention rules for specific content.

9	Service Configuration	This screen presents the systems parameters specifically for ECM Library Auto Archiver. It also shows the last archive date specific to Auto Archiver.
10	Syntax to Create Mandatory ECM Login	This screen provides the correct SQL execution statements to create a systems admin, server admin and dbcreator to access ECM Library database through SQL Manager. Script is created in clipboard.

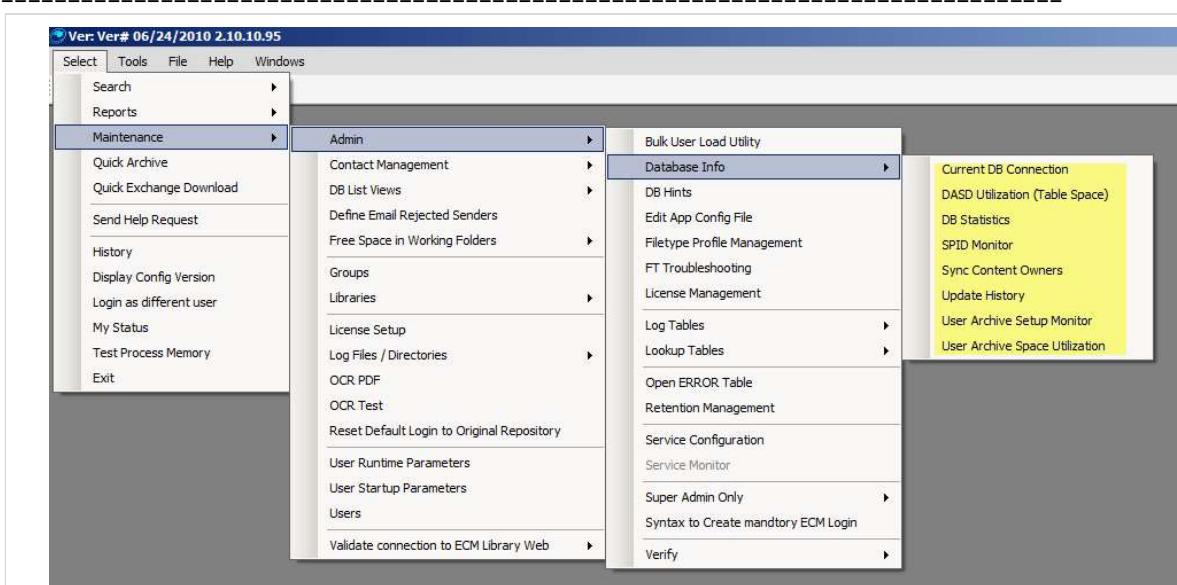
=====

[Look Up Tables](#) – this help page gives more information on many of the lookup tables:



1	Assignable User Parameters	8	SMTP Email Users
2	Attachment Codes	9	System Parameters
3	Attributes	10	Help Contact Information Gives the ECM Library Support contacts and numbers
4	Available File Types	11	Import/Export
5	Content Profiles	12	Pop Email Downloads

6	Data Type Codes	13	Retention Codes
7	File Type Codes This lists industry definitions of 1000s of filetype extensions, with some extensions having multiple "conflicting" definitions.	14	User Runtime Parameters

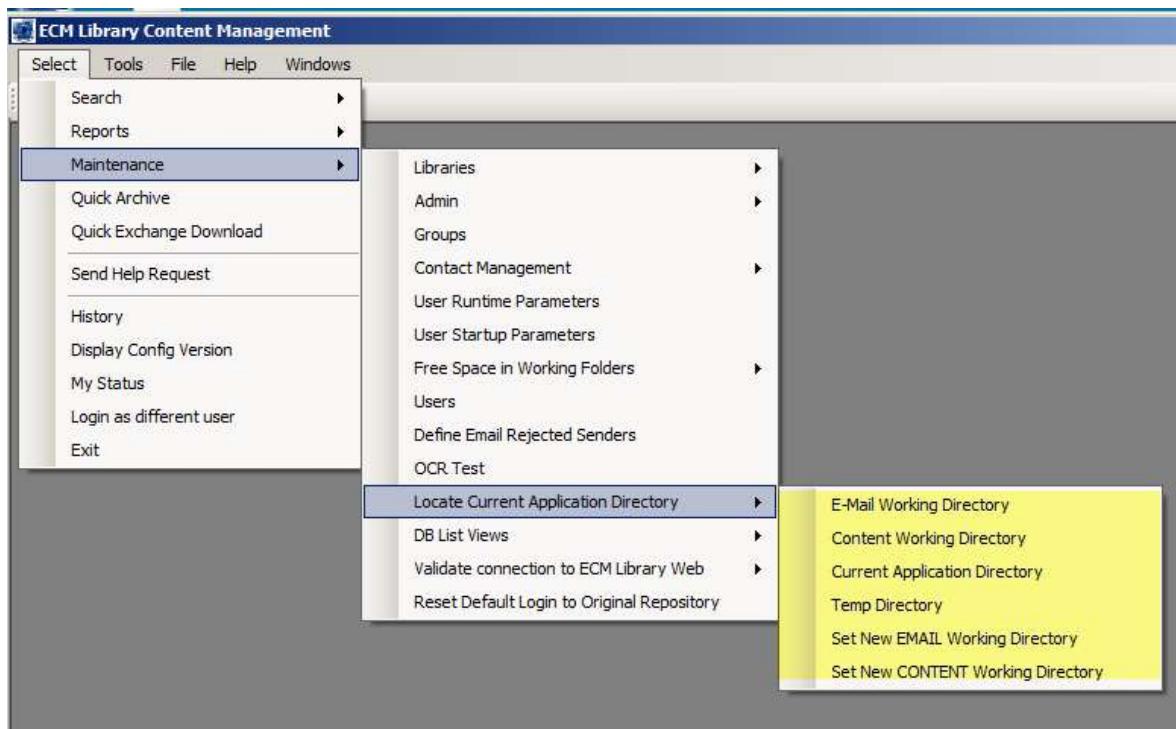


1	The Current DB Connection	This provides your current user connection information such as your computer, what you are connected to, security setting is true or false, and timeout in seconds.
2	DASD Utilization	This will give you high level parameter counts and space utilizations.
3	Db Statistics	These three reports show: a. Total file size and space used in a database and free space available. b. Table names, with rows, size and index size and unused space c. A summary total of database size and index size by database name.
4	SPID Monitor	This is like a task manager for SQL Server. Use with caution and only if you are fully knowledgeable as a SQL Manager.
5	Synch Content Owners	This revalidates the association between content and owners.
6	User Content Storage Utilization	This gives you quick ability to view into each user's space allocation by File type. This is especially helpful if you suspect that certain files are being archived that are not intended for ECM Library.
7	User Archive Setup Monitor	This tells you what directories were specifically archived by each user or all users. You can also disable inappropriate directories from being archived. The user cannot enable that particular directory to be archived without an admin re-enabling that directory.
8	User Archive Space Utilization	By selecting on the downward arrow, then highlighting a selected user, the space utilization by file type and records will be reported. This can be done also by all users.

LOCATE CURRENT APPLICATION DIRECTORY - USER AND ADMIN

- Email Working Directory
- Content Working Directory
- Current Application Directory
- Temp Directory

All of these directories can be set using the [User Parameters](#) screen. But, defaults are automatically assigned if these are not changed by the user. The path to find these directories can be long and complex. This is why these selections exist. Simply select the directory of interest and the path will automatically be loaded into the clipboard for easy use.



Documents – there is a directory needed to work with the restoration and viewing of content other than emails. These documents are placed in this directory. This directory is supplied by the system as a default or can be defined by an administrator or user. At times, it is advisable to clean this directory out. Selecting this item will remove items within this directory.

Emails – there is a directory needed to work with the restoration and viewing of emails. These emails are placed in this directory. This directory is supplied by the system as a default or can be defined by an administrator or user. At times, it is advisable to clean this directory out. Selecting this item will remove the items within this directory.

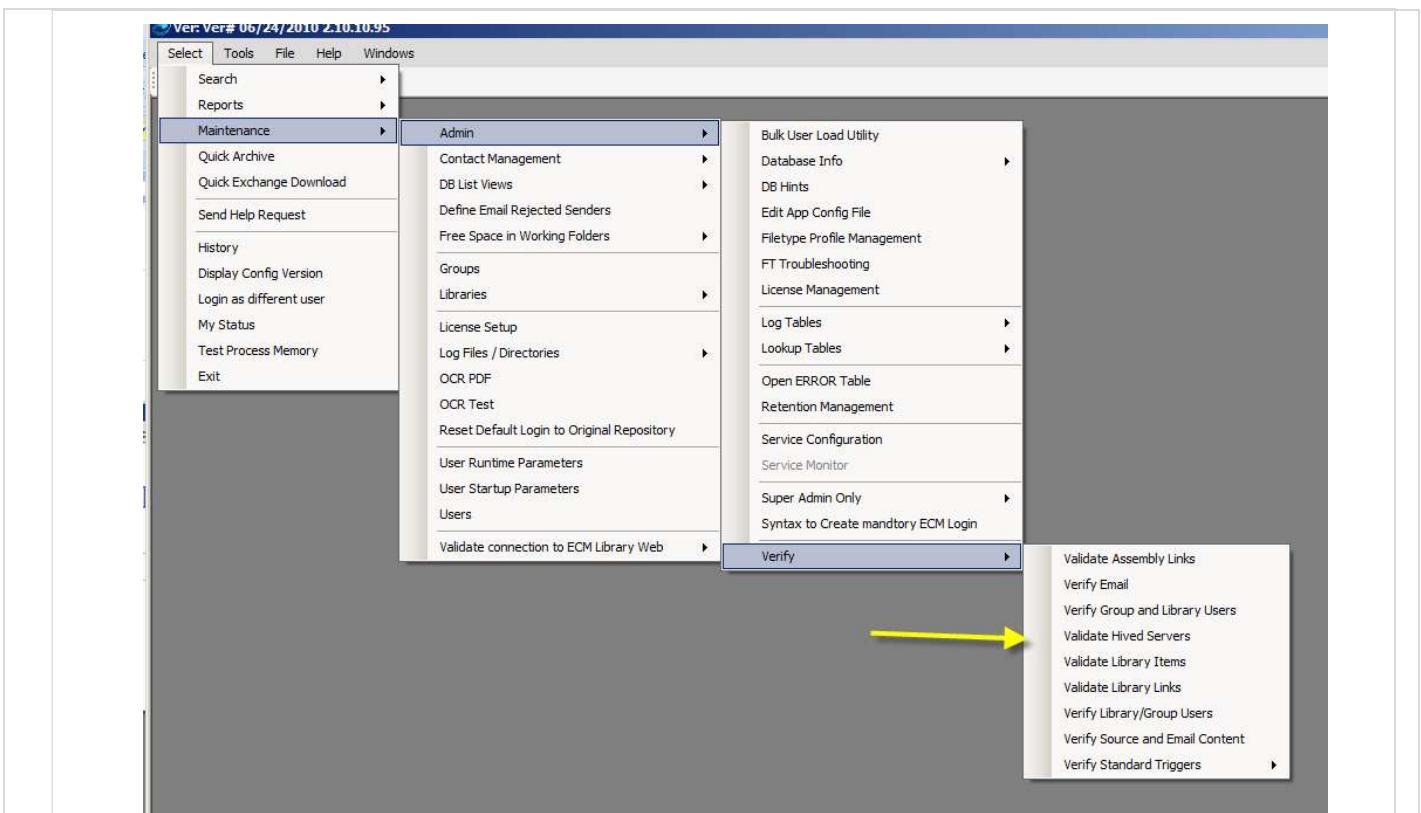
Temporary – there is a directory needed to store temporary work files, documents, images, etc. These items are placed in this directory. This directory is supplied by the system as a default or can be defined by an administrator or user. At times, it is advisable to clean this directory out. Selecting this item will remove the items within this directory.

=====

The screenshot shows a software interface with a menu bar at the top. The menu bar includes 'Select', 'Tools', 'File', 'Help', and 'Windows'. Below the menu bar is a vertical toolbar with various options like 'Search', 'Reports', 'Maintenance', etc. The 'Maintenance' option is currently selected. A secondary dropdown menu is open under 'Maintenance', listing items such as 'Admin', 'Contact Management', 'DB List Views', 'Define Email Rejected Senders', etc. Three specific items in this list are highlighted with yellow boxes: 'List All Public Documents', 'List My Documents', and 'List all Master Documents'.

DB LIST VIEWS: This works at the User level as well at a global view for administrators.

List All Public Documents	Presents a list of all public documents within the repository that have been set by the user, or will show all public documents at the administrator level.
List My Documents	Presents a list of all of the documents within the repository owned by the currently logged in user.
List all Master Documents	Presents a list of all master documents within the repository that has access privileges by a user or by an administrator.



VERIFY COMMANDS: This is available only for administrators. **The primary use of these items are for verification during trouble shooting procedures with ECM Library Help Desk.**

Validate assembly links	There are certain assemblies that need to run ECM Library. If anything gets corrupt then ECM Library may have issues. During help process ECM Library support may ask an administrator to click on this button to see if anything is amiss.
Verify email	Once clicked, this button will remove corrupt emails from the server. It will also re-verify the count of email attachments. You may need run this when you think you have corrupt images in your email or when you believe the count of email attachments is incorrect. This is to be used as part of trouble-shooting only.
Verify group and library users	This makes sure that there are no orphan groups or users associated with libraries. Orphan items can occur, for example when a delete command is used and the system crashes due to power outages. This is to be used as part of trouble-shooting only.
Verify Hived Servers	This verifies that the hived servers and ensures that the master controller and links exists to the master controller, and if not will notify the administrator of broken links. This is used only if your enterprise uses the Hive Architecture.
Validate Library Items	This button once clicked makes sure that all library items exist; there are no orphan items. Orphan items can occur, for example when a delete command is used and the system crashes due to power outages. This is to be used as part of trouble-shooting only.
Validate Library Links	This button once clicked makes sure that all library links exist; there are no orphan items exist. Orphan items can occur, for example when a delete command is used and the system crashes due to power outages. This is to be used as part of trouble-shooting only.

Verify Library/Group Users	This button once clicked makes sure that all groups exist; that are no orphan items exist. Orphan items can occur, for example when a delete command is used and the system crashes due to power outages. This is to be used as part of trouble-shooting only.
Verify Source and Email Content	This button once clicked makes sure that all source and emails exist; that no orphan items exist. Orphan items can occur, for example when a delete command is used and the system crashes due to power outages. This is to be used as part of trouble-shooting only.
Verify Standard Triggers	Standard triggers are those that have to exist within the database tables. This is important within a hive architecture environment. This is used during troubleshooting, or for maintenance.

[Back to top](#)

Admin Functions.htm

ECM LIBRARY EXCHANGE SERVER ARCHIVER

MICROSOFT EXCHANGE SERVER 2007 JOURNALING INTERFACE

Exchange Server 2007, has many changes at the architectural level when compared to Exchange 2003. ECM Library will only support 2007 so as to avoid always playing catch-up. These changes maximize the features available, one of them being journaling.

As a reminder, journaling is the ability to record all messages flowing in and out of an organization.

It is a very useful feature because there are many legal and regulatory requirements, such as the Sarbanes Oxley Act, SEC Rule 17A-4 and many more, that need a journaling solution.

The journaling method used in Exchange Server 2003 can be used in Exchange Server 2007, but now journaling can be used at the Hub Transport Server role. Due to the characteristic of any message exchanged between users passing through the Hub Transport Server role, new functionality such as journaling mail-enabled contacts, mail-enabled groups, recording user messages with a single journal rule without setting the changes in each mailbox database is provided.

In Exchange Server 2003, journaling took place directly in the mailbox store because there was no hub transport role.

In Exchange Server 2007 we can choose either to have the same option (allowing a Journal mailbox to receive all message traffic from a mailbox database) or to support a number of Mailbox databases. ***We can also create a separate mailbox database to store the mailbox which will receive the journaling. This is the only option ECM Library will support. ECM Library can download a copy of the emails in this exchange folder or it can download and remove the emails in this folder. The latter reducing the chance of running out of storage space on the Exchange Server. Then***

,when uploaded in to the repository, the downloaded emails will be removed from the ECM Library Exchange Interface Directory.

This is the best way as a company's Exchange Server administrator can set up the "Master Mail Folder", or whatever they call it and we can download directly from that folder into ECM Library. It is fast, takes about 15 minutes to put it in place and then it just sits on a workstation or server and runs. It is "set it up once" and it is done. All emails throughout the enterprise can be captured and archived before any user sees them. When we say this is the only option we will support, we sincerely mean, "This is the only option we will support out of the box. Others on an as needed, as negotiated, and a contracted basis."

However, ECM Library, unlike most, will support going straight after a POP Server or Exchange Server email download. This will not allow a journaling scenario, but will also allow for administrators and certain select users to set ECM Library such that it does a direct read from the server for an individual user. Thus, it bypasses the need for an outlook interface and is by no means confined in its ability to capture emails.

In Exchange Server 2003, journaling took place directly in the mailbox store because there was no hub transport role.

In Exchange Server 2007 we can choose either to have the same option (allowing a Journal mailbox to receive all message traffic from a mailbox database) or to support a number of Mailbox databases. We can also create a separate mailbox database to store the mailbox which will receive the journaling.

In the following example, we are going to configure a mailbox database in Exchange Server 2007 to record all user messages that have been sent and received within the same database to be redirected to a specific mailbox.

To configure Journaling for a specific mailbox database, follow these steps:

1. Open the **Exchange Management Console**.
2. Expand **Server Configuration**, and then click on **Mailbox Database**.
3. In the **Toolbox Actions** of selected **Mailbox Database** click on **Properties** (Figure 01).



Figure 01: Exchange Management Console – Requesting Properties of Mailbox Database

4. In the **Mailbox Database Properties** page, go to the **General** tab and then select the **Journal Recipient** checkbox (Figure 02).



Figure 02: Mailbox Database Properties Page

5. Before checking **Journal Recipient**, click on **Browse** and choose which mailbox will get all messages from the mailbox database. For the purposes of this article, this user is called **Journal** (Figure 03), click **OK** to finish.

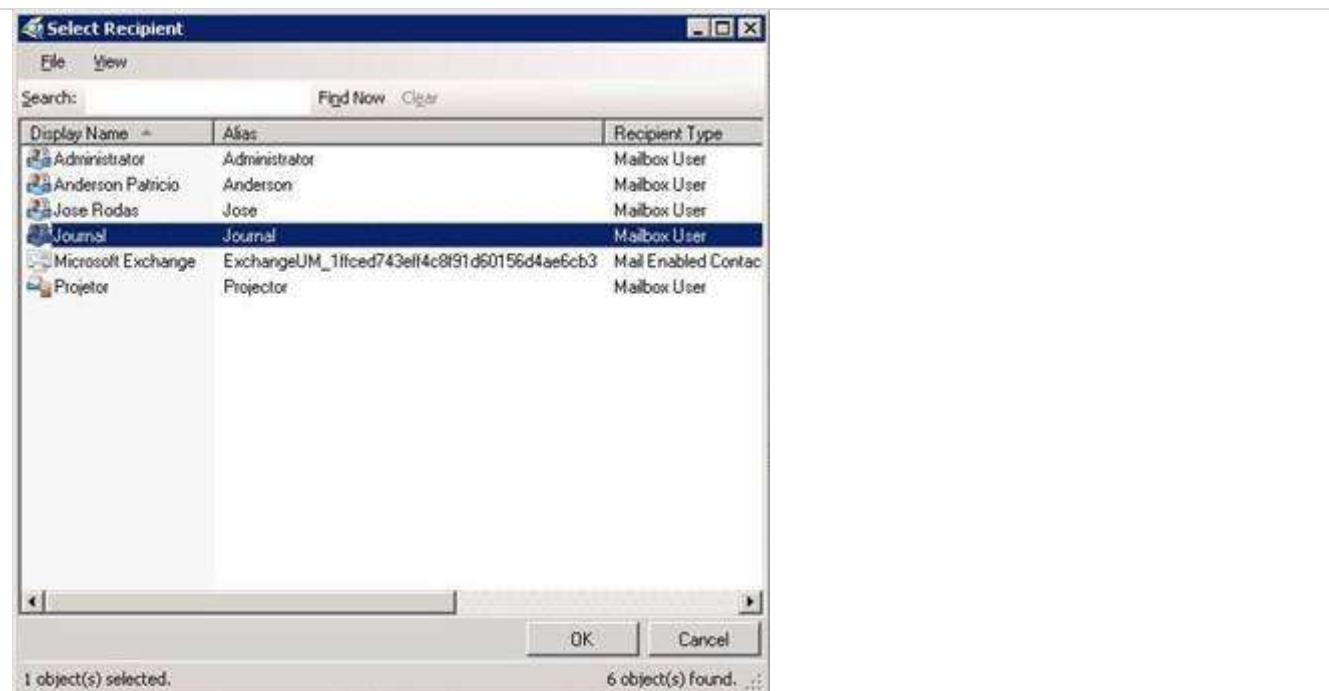


Figure 03: Selecting the user who will receive all messages of selected Mailbox Database

6. This is the final screen of journaling settings at mailbox database level; now, all the messages by existing users in the mailbox database, will be copied to the mailbox called **Journal** (Figure 04).

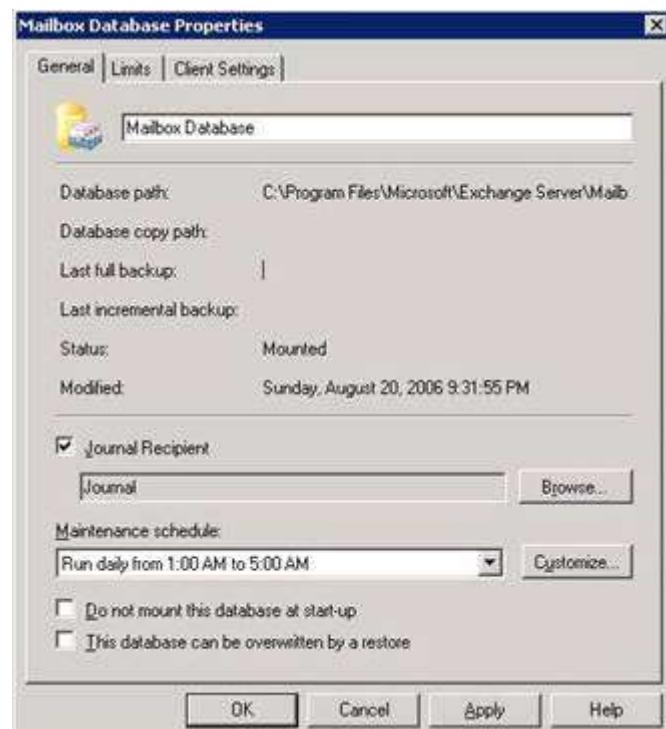


Figure 04: Mailbox Database with Journal Recipient enabled and set to Journal recipient

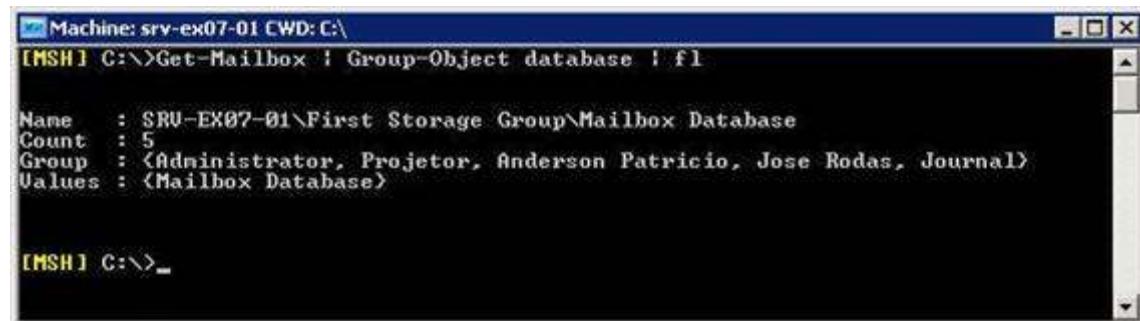
From now on, all the messages from all users that have mailboxes in this mailbox database will be recorded in the mailbox named **Journal**.

TESTING THE TRADITIONAL WAY OF JOURNALING

To check which users will be affected by our configuration, we should run a cmdlet. To do this, go to the MSH console and type the following:

```
Get-Mailbox | Group-Object database | fl
```

The output of this command will be a list of all mailbox databases with the respective users as shown in Figure 05.



```
[Machine: srv-ex07-01 CWD: C:\]
[MSH] C:\>Get-Mailbox | Group-Object database | fl

Name      : SRV-EX07-01\First Storage Group\Mailbox Database
Count     : 5
Group     : {Administrator, Projeto, Anderson Patricio, Jose Rodas, Journal}
Values    : {Mailbox Database}

[MSH] C:\>_
```

Figure 05: Viewing users by Mailbox Database

Now, we will test this feature by sending a message from the user *Anderson Patricio* to *Jose Rodas*.

Once this message is sent, we will have to check the Journal mailbox and analyze if the message was recorded. We can see all the recipient information and the real message will appear as an attachment.

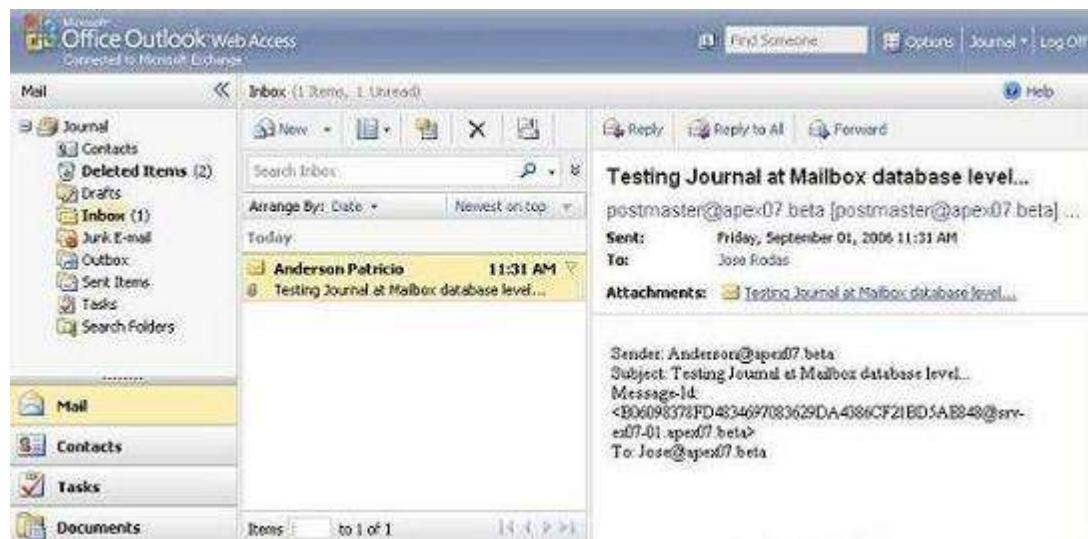


Figure 06: Viewing the message sent by User the user in the Journal Mailbox

OVERVIEW – EXCHANGE SERVER 2007 JOURNALING RULES

Exchange Server 2007 uses Hub Transport to journal messages, so it is valid for the entire organization because all the information on Hub transport server is kept and replicated on Active Directory. The process of message journaling has three main components:

- **Journal agent:** This is an agent that can be configured to journal e-mail messages that are sent or received by recipients in an Exchange 2007 organization.
- **Journaling Mailboxes:** This is a mailbox that is only used for collecting journal reports (messages).
- **Journal Reports:** This is the message that Microsoft Exchange generates when a message matches an existent journal rule and then is submitted to the journaling mailbox.

The journaling process is very simple. All the messages that pass through the Hub transport are inspected, and if they match the defined criteria that was configured in the journal rule, a journal report will be created and delivered to the Journaling Mailbox as shown in Figure 07.

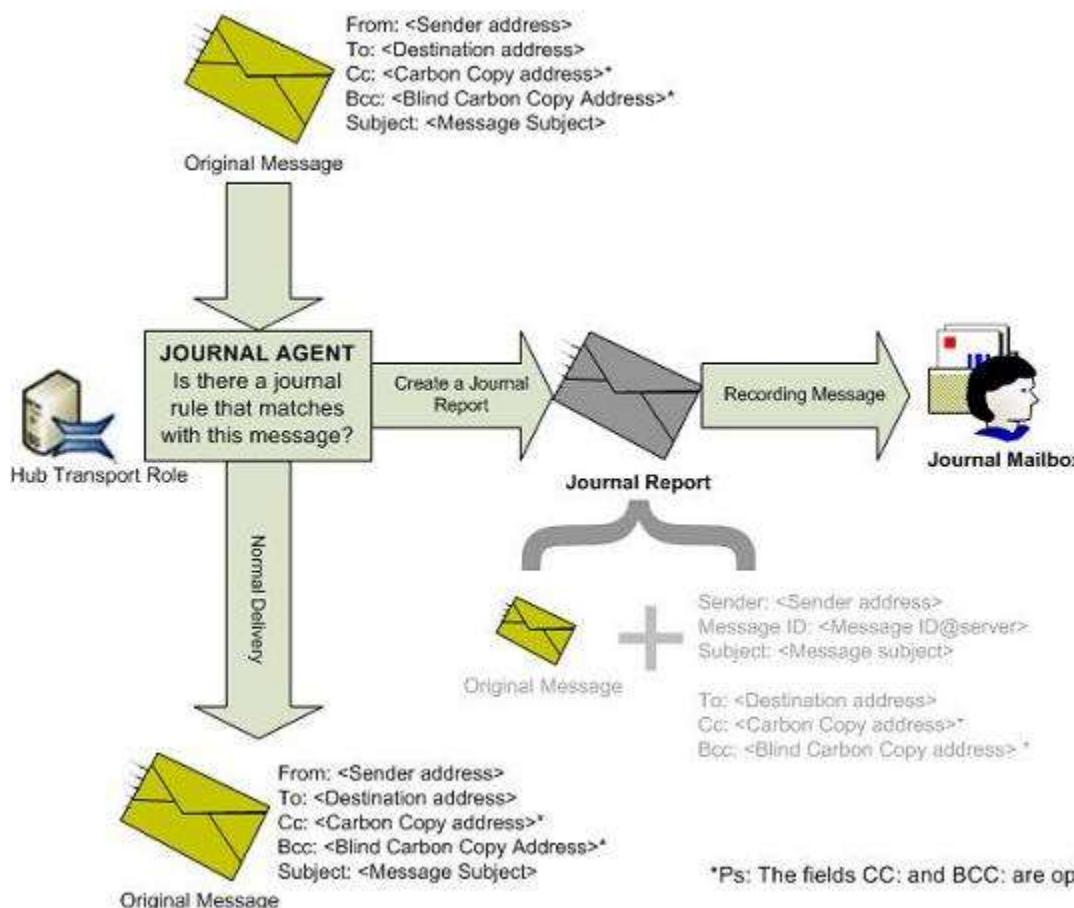


Figure 07: Process of journaling in Exchange Server 2007

USING THE NEW EXCHANGE SERVER 2007 FEATURE

In this section, we will start using the new Exchange Server 2007 feature: the Journaling Rules. Consider the following scenario: we will record all messages sent and received from user **Jose Rodas** in the mailbox **Journal**.

TO CREATE A JOURNAL RULE, FOLLOW THESE STEPS:

1. Open the **Exchange Management Console**, expand **Organization Configuration**, click **Hub Transport**, and select **New Journaling Rule** on the Toolbox Actions (Figure 08).

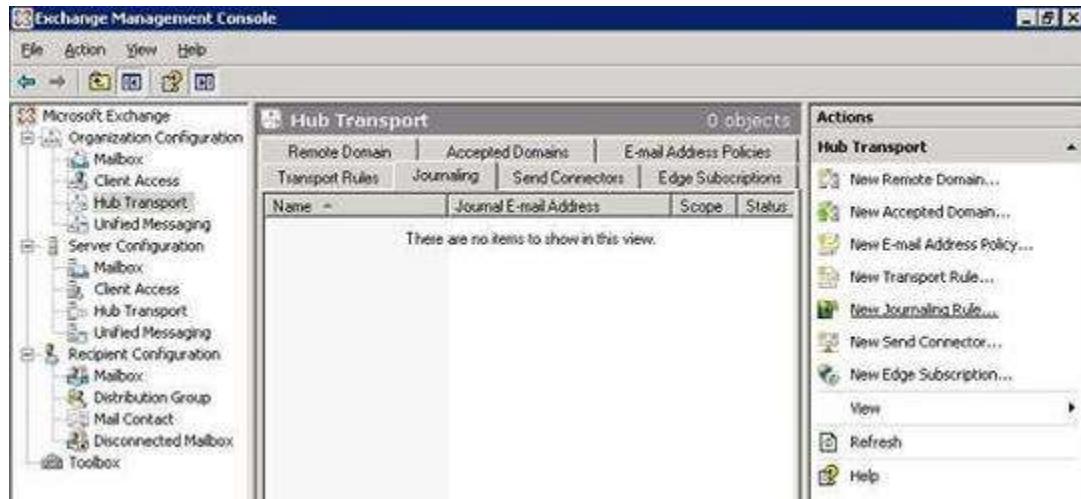


Figure 08: Creating the new journaling rule

2. On the **New Journaling Rule** page, type a name on the **Rule name** field. This name can have up to 245 characters.
3. In the **Journal e-mail address** field, select the recipient that will get all the message traffic for this rule.
4. In **Scope** we can choose one of these options:
 - Global**: All messages (Internal and External)
 - External**: Only external messages
 - Internal**: Only internal messages
5. In the **Journal e-mail for recipient** field select the user who you want a record of his/her messages. For the purpose of our example, we have made a journal rule for all messages sent and received for the user `jose@apex07.beta`.

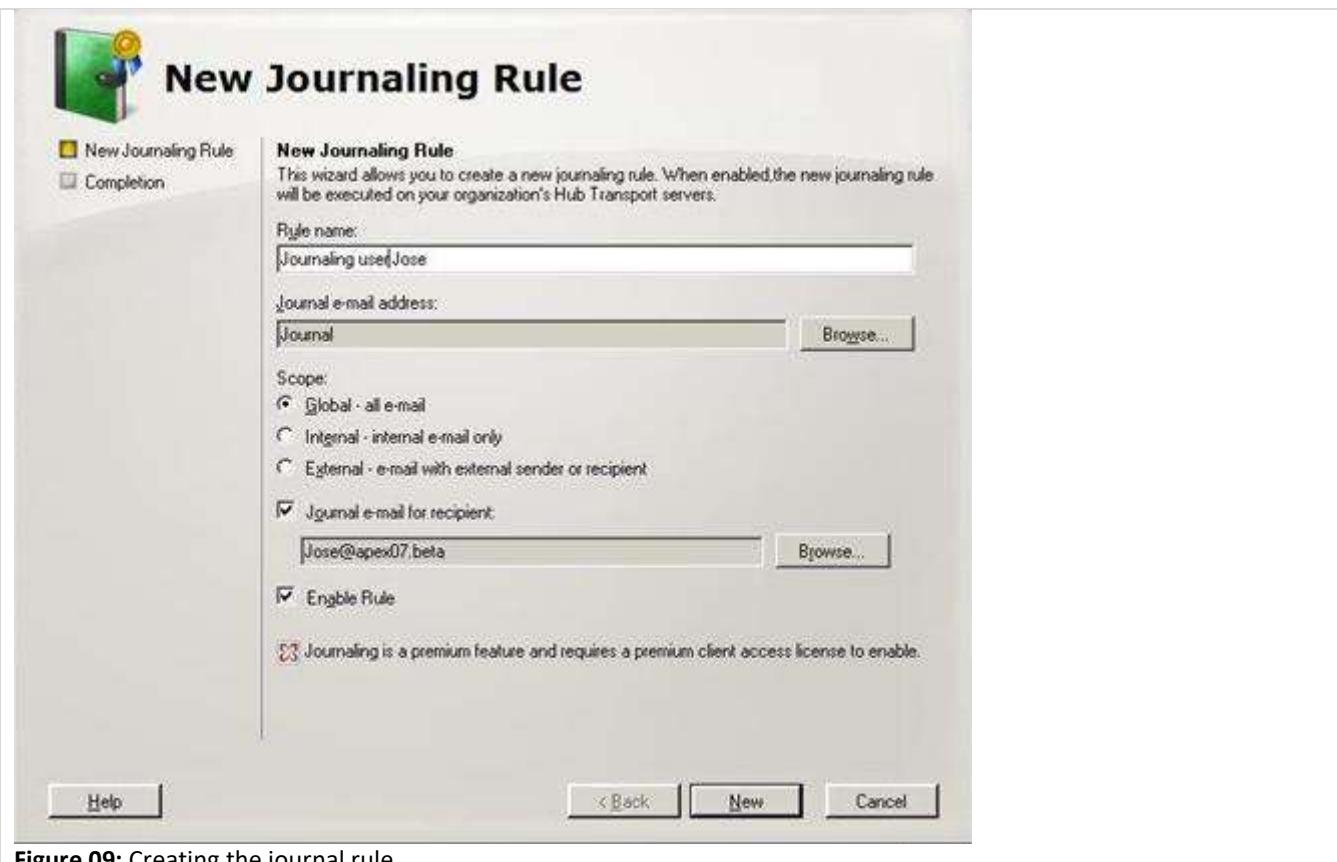


Figure 09: Creating the journal rule

6. On the **Completion** page, the result of the rule creation will appear on the screen with the cmdlet used to create the rule. Click **Finish** to exit (Figure 09).

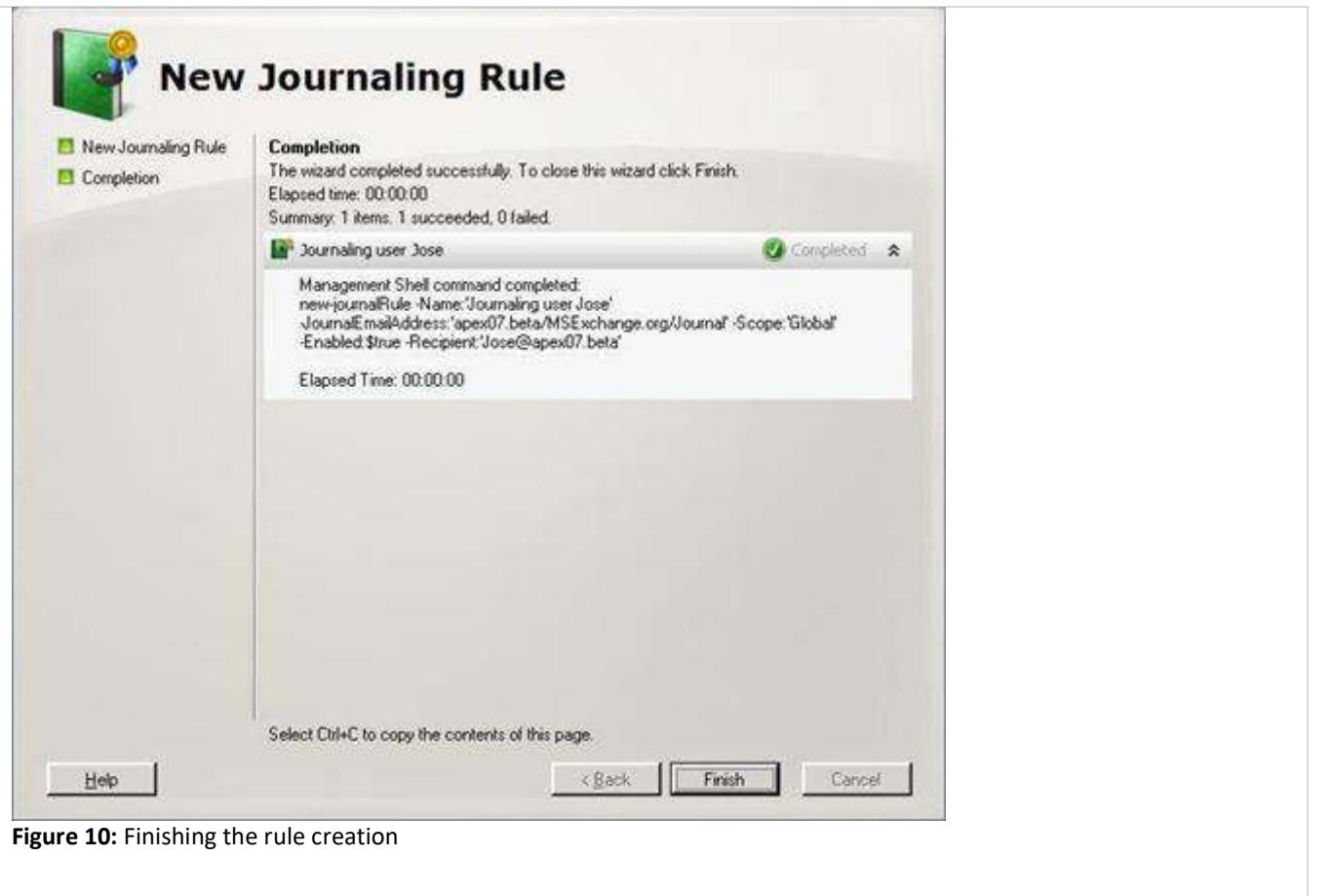


Figure 10: Finishing the rule creation

Testing the Journaling Rule...

We will send a test message from the user *Anderson Patricio* to the user *Jose Rodas*. The expected result is to get the message in our recently configured Journal Mailbox (Figure 11).

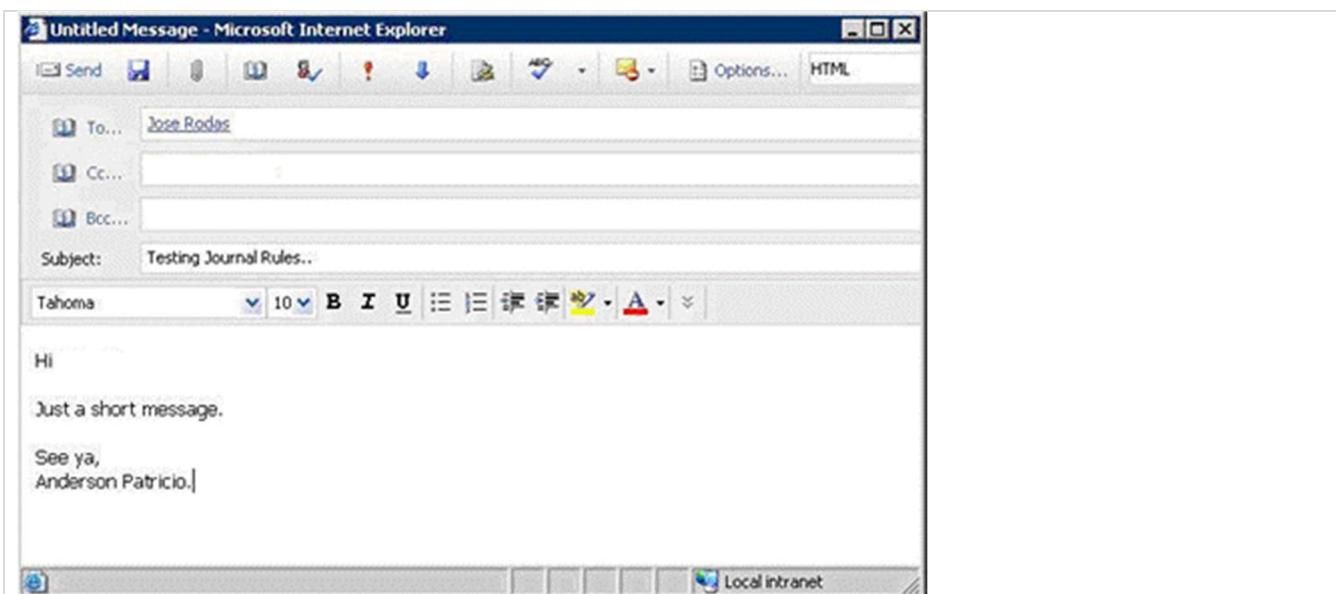


Figure 11: User Anderson Patricio sends a test message to Jose Rodas to test a recently created Journaling Rule

Now, we can access the Journal mailbox and check if the journal rule is working correctly (Figure 12).

A screenshot of Microsoft Outlook Web Access. The left sidebar shows a navigation tree with 'Mail' selected, under which 'Journal' is expanded, showing 'Deleted Items (1)', 'Drafts', 'Inbox (1)', 'Junk E-mail', 'Outbox', 'Sent Items', 'Tasks', and 'Search Folders'. The main pane displays an inbox with one item: 'Anderson Patricio' at '10:28 PM' with the subject 'Testing Journal Rules...'. Below the inbox, detailed message information is shown: 'Sender: Anderson@apex07 beta', 'Subject: Testing Journal Rules...', 'Message-Id: <0009378FD483467803629DA4086CF31C3EACB@srv-e07-01.apex07 beta>', and 'To: Jose@apex07 beta'. The bottom of the screen shows a footer with 'Items: 1 of 1'.

Figure 12: Viewing the message recorded in Microsoft Outlook Web Access

At this point, we see that the journaling rule is working as expected. It was completed with just a rule in the Hub Transport role at Organizational level.

HOW CAN I MAKE A JOURNALING RULE FOR THE WHOLE ORGANIZATION?

In many cases, the journaling feature is required for all the members of an organization because of legal requirements, as we described in the beginning of this article. Using Journaling Rules makes this process easier, storing all the users' messages in the same, or another, mailbox database than the one that actually stores the mailboxes by just creating a rule.

The creation process is just the same, the only difference is that we do not need to choose anything on *Journal e-mail for recipient* so all the organization's mail traffic will be stored in the Journal mailbox (Figure 13).



Figure 13: Creating a Journaling Rule for all users

PROBLEM RESOLUTION: JOURNALING VS. TRANSPORT RULES

In some cases, we could get a conflict between Transport Rules and Journal Rules.

In order to better understand this difference, we will use the following example. There is a transport rule that blocks all the messages between users Anderson Patricio and Jose Rodas (Ethical Wall), but the administrator is required to record all the messages before they are dropped.

By default, the Transport Agent rules are executed first then Journaling Rules. So, in this situation, it will not be possible to journal when you have a transport rule that deletes some messages. The order of agent transport in Exchange 2007 is shown in the figure below (Figure 14).

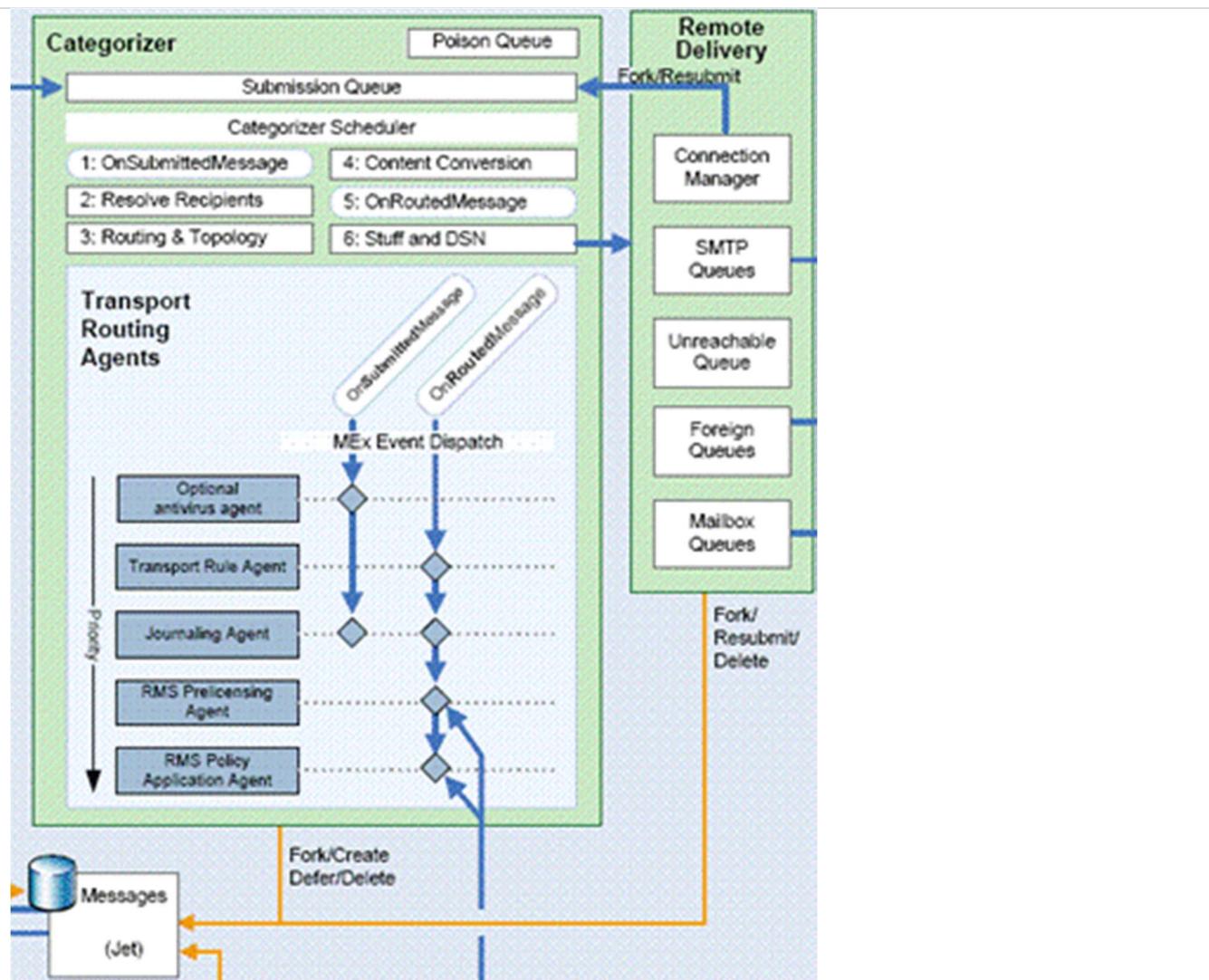


Figure 14: Some of Hub Transport Architecture. The full version can be found [here](#) (image courtesy of Microsoft)

So, as stated earlier, the default order does not let us record blocked messages on Transport Rules, so let's check the order through a cmdlet called **Get-TransportAgent** in the Exchange Management Shell (Figure 15).

To check the orders that are assigned, type the following in an MSH Console:

```
Get-TransportAgent
```

Identity	Enabled	Priority
Transport Rule Agent	True	1
Journaling Agent	True	2
AD RMS Policy Application Agent	False	3
AD RMS Prelicensing Agent	False	4

Figure 15: Checking the TransportAgent order priority

In this example, our scenario will not work as expected, in other words, the blocked message will not be recorded in the mailbox Journal.

To solve this, we will have to change the transport agents order with the Set-TransportAgent cmdlet.

The full syntax to solve this is:

Set-TransportAgent <Transport-Agent-Name> -Priority:<Number> (Figure 16).

Identity	Enabled	Priority
Journaling Agent	True	1
Transport Rule Agent	True	2
AD RMS Policy Application Agent	False	3
AD RMS Prelicensing Agent	False	4

Figure 16: Changing Agents priority and visualizing them after changes

With this change, our scenario works as expected. The Journaling Agent has a higher priority than the Transport Rule Agent. This means that even blocked messages will be recorded in the Journal mailbox. We have it all and there is little chance for something to get by the archive process.

SUMMARY

The two different methods:

- The first being similar to Exchange Server 2003 (mailbox database). {not preferred and not supported at this time}
- The second, using journaling rules, which is a feature that is available in Exchange Server 2007.

It is clear that this new method of journaling is easier and more advanced than the method used in previous versions of Exchange Server.

We also determined that using the TransportAgent is much better as orders in the Hub Transport Role of Exchange Server 2007 using cmdlets in the Exchange Management Console. **All setup by the corporate administrators** and allowing ECM Library top interface in a fast and smooth manner.

[Back to top](#)

ECM Library Exchange Server Journaling Interface.htm



ARTICLE I. JOURNALING WITH MICROSOFT EXCHANGE SERVER 2003

Microsoft Corporation

Published: December 12, 2006

Author: Exchange Server Documentation Team

(A) ABSTRACT

This guide discusses how the enhancements to the Journaling feature in Microsoft Exchange Server 2003 Service Pack 1 (SP1) (and Exchange 2000 Server SP3, with the envelope journaling software update) makes messaging data more manageable for a broader compliance solution.

Comments? Send feedback to exchdocs@microsoft.com.

ARTICLE II. CONTENTS

Journaling with Exchange Server	137
What Is Covered in This Guide?	137
What Is Not Covered in This Guide?	137
Who Should Read This guide?	138
What Is Journaling?.....	138
Why Journal?.....	138
Compliance Solution Framework.....	139
Overview of Exchange Server 2003 Journaling	139
Types of Journaling	139
Where Journaling Does Not Work	140
Journal Data Format	140
How Exchange Server 2003 Envelope Journaling Works	140
Example: Journaling for a Single Mailbox Database	141
Example: Journaling for Two Mailbox Databases	142
Example: Journaling for Two Mailbox Databases with Distribution List Expansion.....	143
Envelope Message	145
Recipient Data Gathering.....	146
Conclusions About How Envelope Journaling Works.....	147
Planning an Exchange Server 2003 Journaling Deployment	147
Journaling Effect on User Mailbox Servers	148
Planning for Journal Recipient Mailbox Servers.....	148
Organizing Journal Recipient Mailboxes.....	148
Active Directory and Journaling	149
Heuristic Attribute	150
msExchMessageJournalRecipient Attribute	150
How to Deploy Exchange Server 2003 Journaling as Part of a Compliance Solution.....	150
Before You Begin.....	151
Procedure.....	151
For More Information	152
How to Create a Custom SMTP Recipient for Exchange Server 2003 Journaling.....	152

Before You Begin.....	152
Procedure.....	152
How to Set a Server-Side Rule for Journal Recipient Mailboxes	153
Before You Begin.....	153
Procedure.....	153
How to Configure Mailbox Manager to Clean the Journal Recipient Mailbox.....	154
Before You Begin.....	154
Procedure.....	154
How to Schedule Mailbox Manager to Run Recipient Policies	155
Before You Begin.....	155
Procedure.....	155
For More Information	155
How to Enable Exchange Journaling	155
Before You Begin.....	156
Procedure.....	156
For More Information	156
How to Enable Standard Journaling.....	156
Before You Begin.....	156
Procedure.....	156
For More Information	156
How to Enable Envelope Journaling.....	157
Before You Begin.....	157
Procedure.....	157
For More Information	157
How to Manually Enable Envelope Journaling.....	157
Procedure.....	157
Copyright.....	158

ARTICLE III. JOURNALING WITH EXCHANGE SERVER

Regulatory compliance is an important issue for most companies in the financial and health care industries. For example, corporate officers in some financial sectors are responsible for the claims made by their employees to their customers. In the context of an enterprise messaging environment where large amounts of information are exchanged on a daily basis, supervising data is a complex but required task. However, e-mail is only one type of data that is regulated and is, therefore, one data source that a full-compliance solution has to manage. Microsoft® Exchange Server 2003 Service Pack 1 (SP1) (and Exchange 2000 Server SP3, with the envelope journaling software update) includes enhancements to the Journaling feature that help make messaging data more manageable for a broader compliance solution.

 **Note:**

Download [Journaling with Microsoft Exchange Server 2003](#) to print or read offline.

SECTION 3.01 WHAT IS COVERED IN THIS GUIDE?

This guide describes how journaling works in Exchange 2003 SP1 and in Exchange 2000 SP3 with the envelope journaling software update. This guide describes how to make messaging data available for a compliance solution, taking into account performance, scalability, and management. Specifically, this document answers the following questions:

- What is Exchange journaling?
- Why is journaling required in some industries?
- What is a compliance solution framework, and how does Exchange journaling fit in that framework?
- What is Exchange envelope journaling, and how does it work?
- How does enabling Exchange journaling affect my messaging environment?
- How many more servers will I need to enable Exchange journaling in my environment?
- How do I enable journaling?
- How do I manage journaling in my messaging environment?

SECTION 3.02 WHAT IS NOT COVERED IN THIS GUIDE?

This guide is intended to provide a broad introduction to the journaling capabilities of Exchange 2003 and how to enable journaling to fit in your overall compliance solution framework.

The following topics are not covered in this guide.

- Using Exchange journaling to provide an end-to-end journaling solution in small organizations. This guide is written primarily for enterprise deployments where a third-party compliance solution service manages journal data.
- Developing supplementary software to create an end-to-end Exchange journaling solution for large enterprises.
- Journaling across Exchange organizations.
- Journaling for Exchange 2000 Instant Messaging Service.

- Journaling for Microsoft Exchange 2000 Chat Service.

SECTION 3.03 WHO SHOULD READ THIS GUIDE?

This guide is written for the messaging architect and implementer. If you are responsible for implementing a data journaling solution in your organization, you should read this guide.

ARTICLE IV. WHAT IS JOURNALING?

Journaling is the ability to record all communications in an organization. E-mail communications are one of many different communication mechanisms that you may be required to journal. Therefore, journaling in Exchange has been developed to enable the messaging administrator to feed messaging data into a larger journaling solution, while using minimum overhead.

It is important to understand the difference between journaling and archiving. Journaling is the ability to record all communications; alternatively, archiving refers to reducing the strain of storing data by backing it up, removing it from its native environment, and storing it elsewhere. That said, you may use Exchange journaling as a tool in your e-mail retention or archival strategy.

ARTICLE V. WHY JOURNAL?

Because of new regulations, many organizations in the financial services, insurance, and healthcare industries must maintain records of communication that occur when employees perform daily business tasks.

Although journaling may not be required by a specific regulation, the terms of a regulation may force journaling as one way to comply. For example, corporate officers in some financial sectors are responsible for the claims made by their employees to their customers. To verify that the claims are accurate, the officer may set up a system where managers review some part of employee-to-client communications regularly. Every quarter, the managers, after verifying compliance, approve their employees' conduct. After all managers report approval to the corporate officer, the corporate officer reports compliance, on behalf of the company, to the regulating body. In this example, e-mail might be one of the employee-to-client communications that managers must review; therefore, all e-mail sent by client-facing employees is journalized. Other client communication mechanisms may include faxes and telephone conversations, which also must be recorded. Therefore, the ability to journal all classes of data in an enterprise is an important piece of the IT architecture.

The following is a list of some of the more well-known U.S. regulations with requirements that may rely on journaling technology. For more information about these regulations, see [Supporting Regulatory Compliance with Exchange Server 2003](#).

- Sarbanes-Oxley Act
- SEC Rule 17A-4
- NASD 3110 and 3111
- Gramm-Leach-Bliley Act (Financial Institution Privacy Protection Act of 2001, Financial Institution Privacy Protection Act of 2003)
- Healthcare Insurance Portability and Accountability Act of 1996 (HIPAA)
- Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001 (Patriot Act)

ARTICLE VI. COMPLIANCE SOLUTION FRAMEWORK

Making sure that e-mail in your company is journalized is a broad requirement. How you comply with this request is defined by the specific regulation that your company must follow and the advice of your legal counsel. For example, complying with a regulation that requires supervision of employee claims differs from a regulation that requires retention of all company officer communications. In either case, you must understand how your messaging data fits in your company's broader journaling solution.

Compliance solution framework refers to the IT infrastructure that your organization has implemented to comply with the specific regulations that apply to your industry. This framework includes journaling of specific data classes, such as document storage solutions, messaging systems, fax systems, and telephone communications. Another piece of this framework is storing and managing the data after it is captured. Finally, the framework may need to provide for searching, sorting, and otherwise manipulating the stored data.

Because of each company's unique criteria, including the existing IT infrastructure, the organization of the enterprise, and the regulation with which your company must comply, the compliance solution framework is a custom solution. For that reason, Exchange journaling is flexible in how the messaging data is delivered into the compliance solution framework.

There are many vendors and third-party partners that Microsoft works with to provide a full journaling solution. For more information about these vendors, see [Supporting Regulatory Compliance with Exchange Server 2003](#).

ARTICLE VII. OVERVIEW OF EXCHANGE SERVER 2003 JOURNALING

As regulations for recording business communication have evolved, so has the journaling feature in Exchange. This section briefly describes the different types of Exchange journaling and explains some of the messaging data that is not journalized by Exchange. Journal data (message) format is also discussed.

SECTION 7.01 TYPES OF JOURNALING

There are three different types of journaling that you can enable in Exchange Server 2003.

- **Message-only journaling** Message-only journaling creates a copy of all messages and the corresponding P2 message header data to and from users on a mailbox database and sends the message copy to a specified mailbox. The P2 message header contains only the message recipient data that the sender declared to the recipients. If an external message is received from the Internet, Exchange journals the P1 message headers. The P1 message header is the address information that is used by message transfer agents (MTAs) to route mail. By default, when message-only journaling is enabled, Exchange does not account for blind carbon copy (Bcc) recipients, recipients from transport forwarding rules, or recipients from distribution group expansions.
- **Bcc journaling** Bcc journaling is message-only journaling with the added ability to capture the Bcc recipients. When Bcc journaling is enabled, Exchange captures all recipients (including Bcc recipients) that are known at the originating server. If this recipient list includes hidden distribution lists, query-based distribution lists, or distribution lists that are expanded on another server, the recipients for these lists will not be included in the journalized mail. This functionality is enabled by setting a registry key. For more information about setting this registry

key, see Microsoft® Knowledge Base article 810999, "[XADM: Bcc Information Is Lost for Journalized Messages in Exchange 2000](#)."

- **Envelope journaling** Envelope journaling differs from message-only journaling and Bcc journaling because it permits you to archive transport envelope information (P1 message headers). This includes information about the recipients who actually received the message, including Bcc recipients and recipients from distribution groups. Envelope journaling delivers messages that are flagged to be archived by using an envelope message that contains a journal report together with the original message. The original message is delivered as an attachment. The body of the journal report contains the transport envelope data of the archived message.

Although three different journaling methods exist, the majority of regulations that require journaling will likely require envelope journaling for compliance. Therefore, unless specifically noted, all discussions about journaling in this guide refer to envelope journaling in an Exchange Server 2003 environment (or Exchange 2000 SP3 with the envelope journaling software update).

SECTION 7.02 WHERE JOURNALING DOES NOT WORK

Exchange does not journal the following scenarios and data-types:

- **Posts to public folders** Journaling cannot be enabled on public folder stores.
- **Mail sent to external distribution lists** All mail that is sent to and from internal or external distribution lists is journalized. However, the enumerated recipient list of an expanded distribution list can only be written to the envelope journal if the distribution group is internal. Therefore, recipients on a distribution list that is external to the Exchange organization are not enumerated.

SECTION 7.03 JOURNAL DATA FORMAT

Journaling is enabled at the mailbox store level. To enable journaling, you must enter a mailbox where the journalized messages are sent. When the message is delivered to the journal recipient mailbox and journalized, the format of the message is MAPI. Depending on the requirements of your compliance solution framework, MAPI format may be acceptable. However, most of the time, Multipurpose Internet Mail Extensions (MIME) is the preferred format, because it is standardized, widely understood, structured, and able to be streamed.

Sometimes, when a third party provides the storing and sorting functions of the compliance solution framework, sending Exchange data in the MIME format over Simple Mail Transfer Protocol (SMTP) is preferred. This is done by forwarding the messages from the journal recipient mailbox to the SMTP address by using a Microsoft Office Outlook® server-side rule.

In other cases, journalized messages can be retrieved from the journal recipient mailbox by using Post Office Protocol version 3 (POP3) or Internet Message Access Protocol version 4rev1 (IMAP4). This also provides a MIME format for the message.

The reason you cannot forward journalized messages directly from the mailbox database where journaling is enabled is because some of the envelope data (for example, Bcc recipients and expanded distribution list recipients) is added by the Exchange Information Store service upon delivery to the journaling mailbox. Therefore, if you journal all mail directly to SMTP, Bcc and expanded distribution list recipient data is lost.

ARTICLE VIII. HOW EXCHANGE SERVER 2003 ENVELOPE JOURNALING WORKS

As mentioned earlier, message-only journaling sends a copy of a message to the journaling mailbox every time a user in a journal-enabled mailbox database sends or receives a message. This is not suitable for most regulations that require journaling because of compliance.

Envelope journaling provides a much more useful service because it records data about all recipients that a message is delivered to. One way to understand how envelope journaling works is in the context of distribution groups. Most distribution lists change, and query-based distribution lists are specifically created based on the fact that lists change. Therefore, just knowing that a message was sent to a specific distribution list is not sufficient to comply with most of the regulations mentioned earlier in this guide. To comply, you must show who actually received a particular message, regardless of whether they were on the Bcc line, or were a member of a distribution group that has since changed.

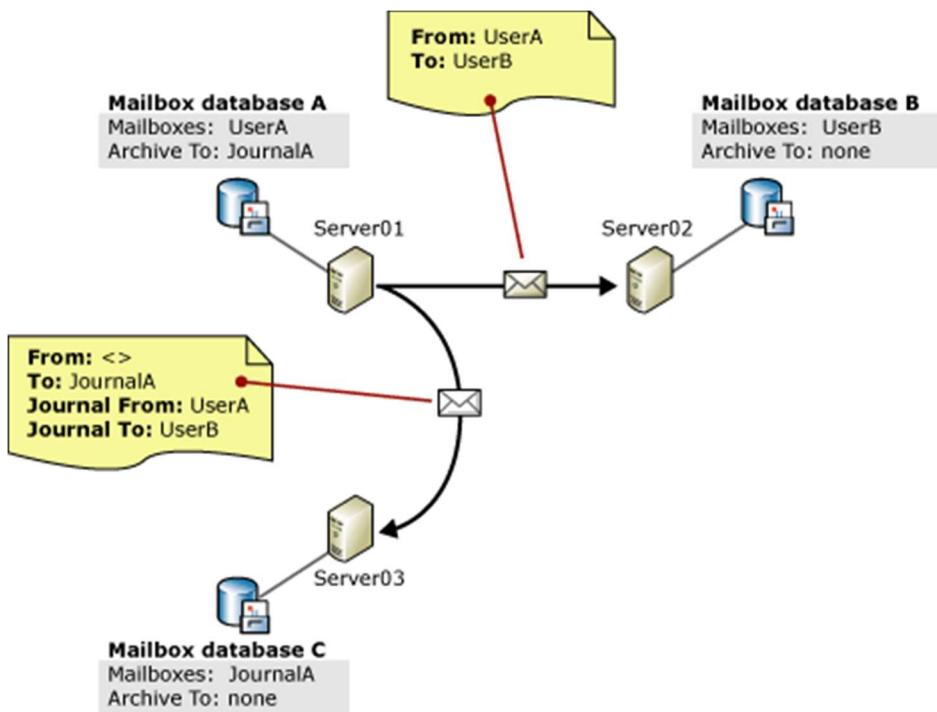
To provide this level of data, Exchange provides the "envelope" or P1 headers for a particular message. The envelope data is the actual recipient list that Exchange generates as a message is in transit that enables a message to reach all recipients. Unlike the P2 headers (the recipients as declared by the sender in a particular piece of received mail), the envelope data changes as it travels to the many destinations; these changes occur because of distribution list expansion and hidden distribution list behavior.

To enable envelope journaling, you must enable message-only journaling and configure a setting in Active Directory® directory service. Message-only journaling is enabled by selecting a check box on the property page for the mailbox store that you want to journal and specifying a journal recipient mailbox for all journalized data. The setting in Active Directory is a global setting that turns on envelope journaling for the Exchange organization. After you configure the setting in Active Directory, whenever journaling is enabled on a mailbox database, it will be envelope journaling.

ARTICLE IX. EXAMPLE: JOURNALING FOR A SINGLE MAILBOX DATABASE

The following figure illustrates how journaling works for a single mailbox database.

Example of journaling for a single mailbox database example



In this example, UserA has a mailbox on Server01 in Mailbox database A, where journaling is enabled. UserA sends a message to UserB. UserB's mailbox is on Server02, in Mailbox database B, where journaling is not enabled. Server03 is a mailbox server that hosts only one mailbox: JournalA. Server03 is a dedicated journal recipient mailbox server.

Exchange performs several actions before a message leaves the sender's Exchange server. First, Exchange sets a journaling property on the message that identifies it as a journalized message. This property travels with the message to its various destinations in the Exchange organization.

 **Note:**

In envelope journaling, all types of messages except journal messages themselves are journalized. This includes delivery status notifications, read receipts, meeting requests, and out of office replies. Message-only journaling does not journal Delivery Status Notifications (DSN) or read receipts.

Next, Exchange adds a list of journal recipient mailboxes to the journaling property. So, in this example, the journaling property contains an entry that specifies the JournalA recipient mailbox with the corresponding recipient, UserA.

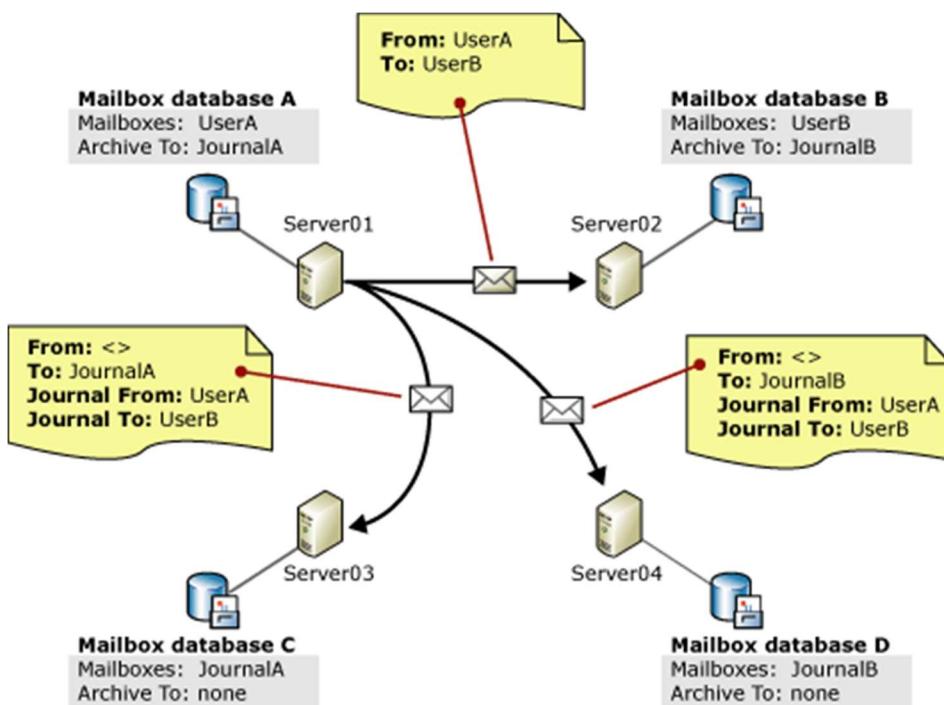
Finally, as a normal part of the send operation, Exchange looks up the recipient's address information. Exchange specifically uses the recipient's "home" mailbox database attribute as the destination. If the home mailbox database attribute includes a journaling mailbox address, the recipient also must be journalized, and the recipient's journal mailbox and the recipient information are added to the journal property on the message. In this example, because UserA is the only user who is marked for journaling, no other recipient mailboxes or recipients are added to the journaling property.

When the message is sent to UserB, a message is also sent to JournalA for journaling. When Server02 receives the message, it recognizes the mail as a message that requires journaling, reads the journaling property (which specifies that UserA journal message has been recorded and sent), and delivers the message to UserB's mailbox. When Server03 receives the message, it creates an envelope message that specifies UserA as the sender and UserB as the recipient, attaches the original message to the envelope message, and delivers it to JournalA's mailbox.

ARTICLE X. EXAMPLE: JOURNALING FOR TWO MAILBOX DATABASES

When journaling is enabled for more than one mailbox database and more than one journal recipient mailbox server is used, the message flow becomes more complicated.

Example of journaling for two mailbox databases



In this example, the mailbox database on Server02 is enabled for journaling. However, the journal recipient mailbox for Mailbox database B is on a new Exchange server, Server04.

Before Exchange sends UserA's message to UserB, it looks up UserB's recipient information in Active Directory. UserB's Mailbox database B is marked as enabled for journaling. Therefore, Exchange lists UserB's journal recipient mailbox in the journaling property on the message together with UserA's journal recipient mailbox.

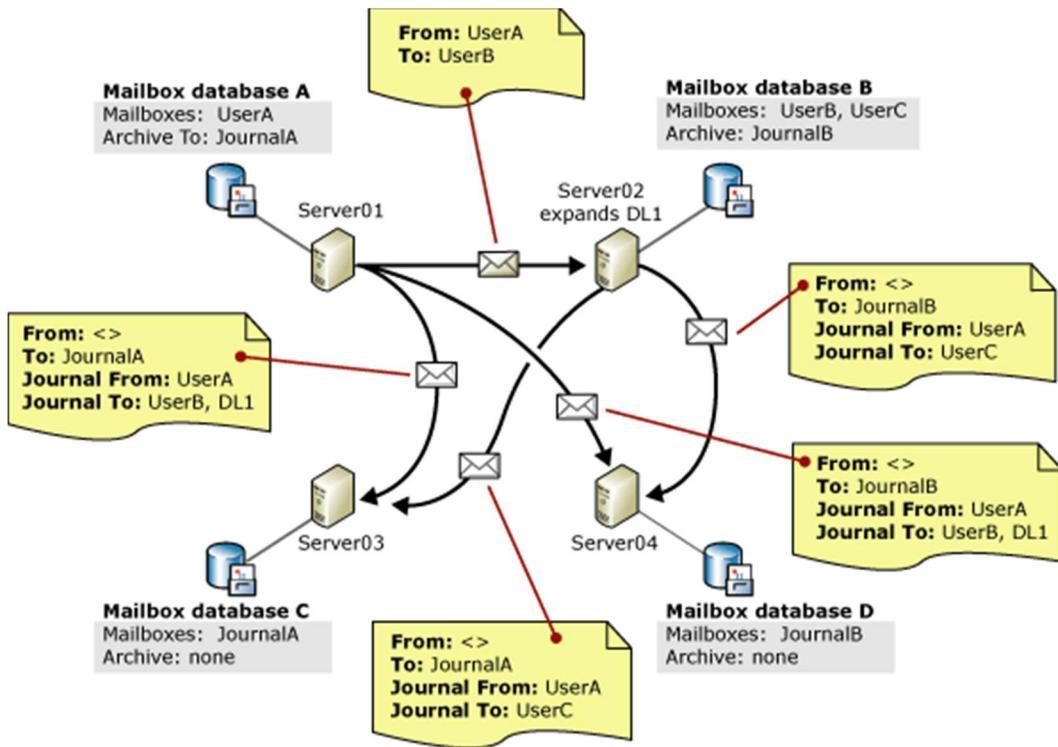
Therefore, when UserA sends a message to User B, Server01 sends three messages:

- **A message to JournalA on Server03** The journal property on the message specifies UserA as the sender of the attached message to UserB. Server03 attaches this message to the envelope message that it creates for submission to the JournalA mailbox.
- **A message to JournalB on Server04** The journal property on the message specifies UserB as the recipient of the attached message from UserA. Server04 attaches this message to the envelope message that it creates for submission to the JournalB mailbox.
- **A message to UserB on Server02** The message is marked with the journaling property specifying that a journal message has been sent for UserB; therefore, Server02 does not send a journal message for UserB.

ARTICLE XI. EXAMPLE: JOURNALING FOR TWO MAILBOX DATABASES WITH DISTRIBUTION LIST EXPANSION

This example builds on the two earlier examples by adding a distribution list that is expanded on a different server than the server where the message originates. This example also explains other details about how journaling in Exchange works.

Example of journaling for two mailbox databases with distribution list expansion



In this example, UserA sends a message to UserB and the distribution list, DL1. DL1 contains one member, UserC. All users have mailboxes that are journalized. The expansion server for DL1 is on Server02.

As in the earlier examples, Exchange looks up recipient information in Active Directory before sending the message. UserB is recognized and marked as a journalized recipient in the message journaling property. Because the distribution list is expanded on Server02, Server01 cannot determine who is on the distribution list and therefore cannot determine whether the recipients on the list are journalized.

Server01 sends three messages:

- A message to JournalA on Server03** The journal property on the message specifies UserA as the sender of the attached message to UserB. Server03 attaches this message to the envelope message that it creates for submission to the JournalA mailbox.
- A message to JournalB on Server04** The journal property on the message specifies UserB as the recipient of the attached message from UserA. Server04 attaches this message to the envelope message that it creates for submission to the JournalB mailbox.
- A message to UserB on Server02** The message is marked with the journaling property specifying that a journal message has been sent for UserA and UserB; therefore, Server02 does not send a journal message for UserB.

When Server02 receives the message, the journaling property on the message will indicate that it is a journalized message. As the expansion server for the distribution list, DL1, Server02 sends a message to the JournalA recipient mailbox; the message journal property specifies UserC as a recipient. Additionally, because UserC is on Mailbox database B, which is also journalized, Server02 also sends a message to the JournalB recipient mailbox, where Server04 creates an envelope message that specifies UserC as the recipient of a message from UserA.

This example shows that multiple journal messages are frequently sent for a single message. Each of these envelope messages has a different message ID, but the attached message (the original message being journalized) has the same message ID, which is also added to the body of the envelope message. Additionally, if UserB and UserC were on different mailbox stores on Server02, with different journal recipient mailboxes, Server02 would send two messages to the two different journal recipient mailboxes.

 **Note:**

Because the sender is identified in the journal properties on the message, Server02 does not have to calculate this as it would in the case where a message is delivered to a hidden distribution list. (Hidden distribution list expansion causes the P1 sender to be changed every time the message is received by a different server.)

ARTICLE XII. ENVELOPE MESSAGE

The journal messages that are sent to the journaling mailboxes are MAPI messages (the body of which is the original message sent by the sender). These MAPI messages contain the journaling property, which also contains all the recipient information for the message. The journaling mailbox requests that the Exchange Store service package an envelope message that contains all this data. The resulting message is similar to a non-delivery report (NDR) message. The body contains Exchange-generated data (in this case the sender, the original message ID, and a list of recipients), and the original message is attached.

Sample journal message



Until the journal message is created by the Exchange server that hosts the journal recipient mailbox, envelope data is attached as a property to the message instead of copied as embedded content. Attaching the envelope data as a property is done so that existing mailbox servers do not have to manage the additional transaction volume that the Exchange Store service creates when constructing journal reports

locally at the point of data gathering. Instead, the mailbox servers that host the journal mailboxes assume the responsibility for constructing journal reports at delivery time.

ARTICLE XIII. RECIPIENT DATA GATHERING

To understand envelope journaling, you must understand how recipient data is gathered and the types of recipients that are gathered. When envelope journaling is enabled, Exchange gathers the P1 recipient data for every recipient that a message will be delivered to. This includes data for:

- All recipients that are added to a message because of a distribution list expansion or another recipient forwarding rule.
- A distribution list recipient that is being forwarded to another server for expansion, including the distribution list recipient itself.
- Recipients that are forwarded to an SMTP virtual server configured as an alternative server. (Recipients that are forwarded to an alternative server are those that would otherwise cause an NDR because of having addresses that are not found in the directory but fall under an authoritative domain from the recipient policy configuration.)

This does not include data for:

- Recipients that cause an NDR.
- Distribution list recipients that were expanded locally and subsequently removed from the recipient list.
- Journal recipients.

Included recipients

- Mailbox and public folder recipients
- Contacts
- One-offs: recipients that are not included in the global address list
- Alternative recipients
- Distribution lists and query-based distribution list members
- Unexpanded distribution lists and query-based distribution lists being forwarded for expansion
- Alternative server recipients

Excluded recipients

- Distribution list and query-based distribution list names. Although excluded from the actual envelope report, if distribution list and query-based distribution list names were entered on the To or Cc line of the original mail, they will be included in the message that is attached to the envelope message. However, if the distribution list or query-based distribution list is configured to expand on a separate server from the sender's server, the envelope message derived from the sender's server will include the name of the distribution list or the query-based distribution list. In this case, a separate envelope message is derived from the expansion server, as described earlier in this guide.
- Journal recipients.

When multiple address types are available, the address is selected in preferential order by type as follows:

1. SMTP
2. X.400
3. Other, or Custom Address
4. LDAP distinguished name
5. Legacy DN

ARTICLE XIV. CONCLUSIONS ABOUT HOW ENVELOPE JOURNALING WORKS

Based on the behavior explained in this guide, there are two significant pieces of functionality that journaling provides, as long as the message is sent within an organization:

- The journal recipient for the sender's mailbox database will receive a complete record of all recipients who receive a copy of a message sent by that sender. The record may arrive through multiple journal reports, but all recipients will be covered. This is because the sender is always at the root of the distribution tree.
- The journal recipient for a recipient's mailbox database will receive at least a partial record that mentions every recipient in that mailbox database for all messages received by recipients in that mailbox database. That record may arrive through multiple separate journal reports.

Because of these pieces of functionality, the archive can answer the following questions:

- **For a particular piece of mail sent by someone in the organization, who received it?**
By checking the journal mailbox for the sender's mailbox database for all journal reports containing that message, you can obtain the complete record of all recipients by aggregating the reported recipients from those reports. This covers all recipients in the organization, in addition to contacts and one-offs outside the organization.
- **For a particular piece of mail received by someone in the organization, who else received it?**

If the message was sent from in the organization, it is quickest to check the sender's mailbox database archive because it will always contain the complete recipient record for sent mail. For mail received from an external sender, the only way to uncover all internal recipients is through an exhaustive search of all journal mailboxes for mailbox databases in the organization. If any recipient received the message, there will be a journal report reflecting that in his or her archive mailbox.

ARTICLE XV. PLANNING AN EXCHANGE SERVER 2003 JOURNALING DEPLOYMENT

Widespread journaling will have an impact on the performance of Exchange. Therefore, it is likely that you will have to deploy more hardware to maintain the current level of messaging service in your organization. Because every organization is different and compliance solution frameworks vary greatly, this section provides only high-level recommendations about performance analysis for server and topology sizing. It is recommended that final decisions be made from information gathered in a lab environment that is as similar as possible to your production environment.

Most of the CPU and disk input/output (I/O) consumed by journaling is the result of an increased burden on the store process on the journalized mailbox databases and on the servers hosting the journal recipient mailboxes.

Therefore, from a performance and server load perspective, there are two classes of server you have to size: the user mailbox servers that you want to journalize and the mailbox servers that host the journal mailboxes.

The following sections about planning discuss how to size these two classes of servers. First however, a brief discussion of how the surrounding infrastructure will be affected is necessary.

The main impact on infrastructure is the increase in network traffic because of enabling journaling. The impact is directly proportional to the number of users who are being journalized and how much mail is sent between mailbox databases in the organization. For example, if only a small part of users are journalized to satisfy the requirements of the Sarbanes-Oxley regulation, network impact will be much less than if an entire division is journalized to satisfy the requirements of the Sec 17a regulation. As for the impact on mail sent between mailbox databases, mail sent from a user to another user on the same journalized mailbox database generates only a single message to a journal recipient mailbox. However, if a journalized user sends mail to a journalized user on a different mailbox database with a different journal recipient, two messages are sent to two different journal recipient mailboxes. Therefore, mailing habits and how you group users on the mailbox databases in your organization affects the overall network load after journaling is enabled.

ARTICLE XVI. JOURNALING EFFECT ON USER MAILBOX SERVERS

When journaling is enabled in a mailbox database and a user who has a mailbox on that mailbox database sends a message, the server generates two messages: one for the recipients and one for the journal recipient. When a message is submitted to a journalized mailbox database, the mailbox database processes the message as it typically would to deliver it, but it also creates a message for the journaling recipient. When a journalized mailbox database receives a message, most of the time, the message has been journalized already. In the receive case, extra processing (beyond reading the journaling property) is required only when the receiving server is the expansion server for the distribution list or when the distribution list is hidden or query-based.

Therefore, you can estimate the effect of journaling on a mailbox database by assuming that the enabled mailbox database can process approximately half of the messages being sent, as long as all other conditions, such as CPU power, bandwidth, storage space, and disk speed, remain constant.



Note:
This approximation is just a starting figure for planning purposes. Only complete testing in a lab environment that closely resembles your production environment can approximate a more accurate evaluation.

ARTICLE XVII. PLANNING FOR JOURNAL RECIPIENT MAILBOX SERVERS

For most enterprises that must comply with regulation, hundreds of thousands of messages will be sent to the journal recipient mailboxes on a daily basis. These messages are then likely forwarded, or downloaded to a third-party storage solution offsite. Therefore, it is highly recommended that you house the journal recipient mailboxes on servers that are separate from the regular user mailboxes. This section discusses how to organize the journaling mailboxes and other standard considerations for server sizing.

SECTION 17.01 ORGANIZING JOURNAL RECIPIENT MAILBOXES

When it comes to organizing the journal recipient mailboxes, you must answer the following questions:

- How many journal recipient mailboxes are required?

- How much storage is required for each journal recipient mailbox?
- How should the journal recipient mailboxes be configured on the hard disks?

As with all sizing estimates, test estimates in a lab before you implement solutions in your production environment. To estimate how many journaling mailboxes you will require, look at the load on the mailbox servers. In some organizations, mailbox servers are clustered and run at high resource usage levels (80 percent or more). In other organizations, mailbox servers are run below 30 percent load. If your resource usage levels run high, in a lab setting, add a journal recipient mailbox for every three to five mailbox servers. If your resource usage levels run on the lower end, start with one journaling recipient mailbox for every seven to nine mailbox servers.

From an organizational perspective, it may be easier to manage fewer journal recipient mailboxes if you do not plan to hire a third-party to store and organize the data for you. Generally, however, minimizing the number of journal recipient mailboxes is a good practice for reasons already mentioned in this guide (bandwidth, management, performance).

For storage size, there are a number of factors to consider. The list below discusses these factors, but the biggest factor is how much mail is used in the organization. For a simple place to start testing, assume that for each mailbox database that is journalized, you need two to three times the storage space on the corresponding journal recipient mailbox. However, because the messages in the journal mailboxes are largely "transient," meaning that the messages that reside there are quickly forwarded or downloaded and then deleted, you may be able to run closer to a one-to-one storage ratio with the user mailboxes.

Some factors that will affect the storage requirements and performance characteristics of the journal recipient mailbox include:

- **Envelope message overhead** There is a small overhead for each journalized message, because the envelope journal message includes a plain text report with the original message attached. Unless there are thousands of recipients listed for a particular message, the plain text report adds less than 1 kilobyte (KB) of overhead, in addition to the original message.
- **Multiple journalized messages** If expansion servers are used for a distribution list or alternative recipients are added as a message flows through your system, there will be multiple instances of the same journal message that each report different recipients. Calculating the overhead that this produces is difficult because it depends on whether your organization uses expansion servers or hidden distribution lists and the habits users have for sending their mail.
- **Storage group configuration** As much as possible, minimize the number of storage groups per mailbox database.

As for configuration of the hard disk, follow the general recommendations specified in the [Exchange Server 2003 Performance and Scalability Guide](#). Additionally, the [Exchange Server 2003 High Availability Guide](#) provides detailed server sizing recommendations.

Again, only complete testing in a lab and careful monitoring in production will provide accurate sizing data.

ARTICLE XVIII. ACTIVE DIRECTORY AND JOURNALING

Although there is no performance impact or special considerations about the impact of journaling on Active Directory®, it is important to understand how journaling uses Active Directory. As with almost all user and configuration data on which Exchange relies, journaling configuration data is stored in Active Directory. There are two relevant Active Directory attributes:

- **heuristic** This attribute enables envelope journaling at the Exchange organizational level.
- **msExchMessageJournalRecipient** This attribute specifies the journal mailbox for the particular mailbox store.

Both of these attributes are read and cached by Directory Service Access (DSAccess), which is the local directory cache on each Exchange server. DSAccess is updated every 15 minutes; therefore, any configuration change you make to these attributes takes no more than 15 minutes to update on the local Exchange computer (you must also take into account replication for multiple domains).

SECTION 18.01 HEURISTIC ATTRIBUTE

The heuristic attribute is an attribute on the Exchange organization name object (`Configuration\Services\Microsoft Exchange\Organization Name`). Two values are recognized by Exchange journaling for this attribute: null, and the integer value, 512. If this attribute is not set (null), mailbox databases that are journal-enabled perform message-only journaling. After this value is set (integer value, 512), all mailbox databases in the Exchange organization that are journal-enabled perform envelope journaling. For more information about setting this attribute, see [How to Manually Enable Envelope Journaling](#).

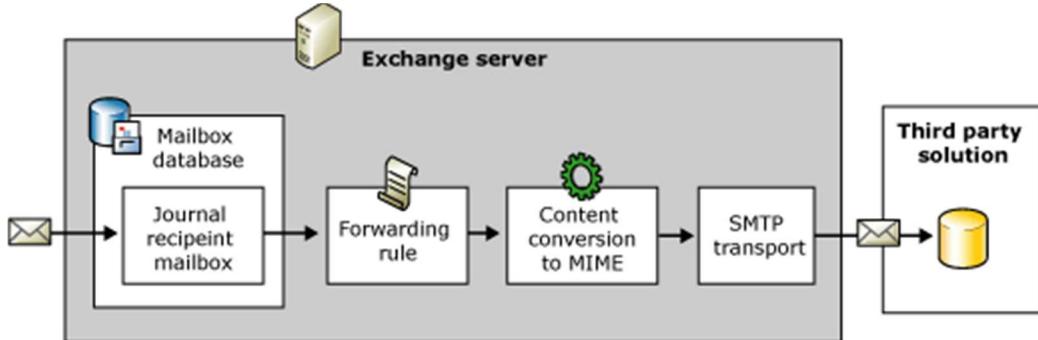
SECTION 18.02 MSEXCHMESSAGEJOURNALRECIPIENT ATTRIBUTE

The `msExchMessageJournalRecipient` attribute is set when journaling is enabled on a mailbox database. This attribute is a mailbox database attribute and holds the distinguished name of the journaling mailbox. If the value is null, journaling is not enabled on that mailbox database. For information about enabling a mailbox database for journaling, see [How to Enable Exchange Journaling](#).

ARTICLE XIX. HOW TO DEPLOY EXCHANGE SERVER 2003 JOURNALING AS PART OF A COMPLIANCE SOLUTION

This procedure assumes that your organization pushes Exchange journalized data to a custom-built or third-party compliance solution framework as shown in the following figure. It is assumed that the Exchange data is provided to a data storage solution in a structured format, such as MIME.

A journalized message is pushed to a third-party compliance storage solution



For large compliance solutions where hundreds of thousands of messages (or more) are journalized daily, it is highly recommended that you hire a third-party service to manage the massive volume of journaling data. A service that specializes in archiving journalized data for the purposes of regulatory compliance will be prepared to receive, parse, sort, and index the journal data by using an SMTP connection from your enterprise.

SECTION 19.01 BEFORE YOU BEGIN

Providing Exchange journaling data to a third-party service requires extra management and specific configurations. Specifically, you must configure the journaling mailboxes to be sent to the compliance storage solution and then deleted before the local journaling mailbox is full. Special configuration of the server-side forwarding rule and the SMTP connector that provides the transport path to the compliance storage solution is also required to maintain fidelity of the messages.

Note:

This procedure assumes that your organization plans to "push" journalized data to a third-party compliance solution provider over an SMTP connection. Some service providers recommend a "pull" model where POP3, IMAP4, or even a proprietary solution built on CDOEX is used. Both the "push" and "pull" solutions are valid methods; the SMTP "push" method is explained here to illustrate an end-to-end solution.

The following procedure describes the steps that you must take to push journalized data to a compliance storage solution. Perform the following steps after you plan how you will support journaling in your organization.

SECTION 19.02 PROCEDURE

To deploy Exchange Server 2003 journaling

1. Create a custom SMTP recipient. For detailed steps, see [How to Create a Custom SMTP Recipient for Exchange Server 2003 Journaling](#).
2. Create the journal recipient mailboxes. After you decide how many journal recipient mailboxes you have to create, you have to set up the journaling server or servers and create the journal mailboxes. For more information about planning for mailboxes, see [Planning an Exchange Server 2003 Journaling Deployment](#). Except for how you organize your journaling mailboxes, there are no other special considerations when setting up the mailboxes on the journaling recipient mailbox servers.
3. Set a server-side forwarding rule for the journal recipient mailboxes. For detailed steps, see [How to Set a Server-Side Rule for Journal Recipient Mailboxes](#).
4. Configure Exchange Mailbox Manager to clean out the journal recipient mailboxes. For detailed steps, see [How to Configure Mailbox Manager to Clean the Journal Recipient Mailbox](#).
5. Configure an SMTP connector to transmit messages to the compliance storage solution destination.

The connection between your organization and the third-party compliance solution provider is an SMTP connection. Although there are no settings strictly recommended for configuring the SMTP connector, this section provides some considerations for setting up the SMTP connection.

Specifically, it is recommended that you have a dedicated connector for the target custom recipient addresses because this allows better control of the mail flow from your organization to the third-party service. Additionally, if you plan a large journaling deployment, it is recommended that you have a dedicated connector server. If two target bridgehead servers are used for the SMTP connector, load-balancing with failover is also recommended for maximum reliability and performance. For more information about setting

- up and load-balancing an SMTP connector, see the [Exchange Server 2003 Transport and Routing Guide](#).
6. Enable journaling in your organization. For detailed steps, see [How to Enable Exchange Journaling](#).

SECTION 19.03

FOR MORE INFORMATION

For information about planning a Journal deployment, see [Planning an Exchange Server 2003 Journaling Deployment](#).

ARTICLE XX. HOW TO CREATE A CUSTOM SMTP RECIPIENT FOR EXCHANGE SERVER 2003 JOURNALING

To send MIME-formatted versions of the journalized messages to a compliance storage solution, you must create at least one contact in the Active Directory® directory service as a recipient for the journalized data, this contact is set up with an SMTP address and is referred to as the "custom SMTP recipient." The custom SMTP recipient is the recipient that you specify when you set up a server-side rule for the journalized mailboxes in your organization. The custom SMTP recipient is not a mailbox-enabled object in Active Directory.

SECTION 20.01 BEFORE YOU BEGIN

It is critical that you do not specify the custom SMTP recipient as the journaling mailbox when you enable journaling on a mailbox database. Instead, you must specify a mailbox-enabled user object in Active Directory as the journaling recipient mailbox. To record all recipient information, the journaling recipient mailbox must be hosted on an Exchange server. This is because there is relevant journaling information stored in MAPI properties that are discarded when the message is sent over SMTP. The only way to make sure an accurate journal report is sent over SMTP is to forward the journal message from the journal mailbox that is stored on the Exchange server to the custom SMTP recipient.

Depending on your requirements, you may have to create multiple recipients for different journal mailboxes.

SECTION 20.02 PROCEDURE

► To create a custom SMTP recipient

1. Open **Active Directory Users and Computers** Microsoft Management Console (MMC) snap-in, and then connect to the domain in which you want to create the custom SMTP recipient.
2. Right-click the organizational unit in which you want to create the custom SMTP recipient, point to **New**, and then click **Contact**.
3. In the first **New Object - Contact** dialog box, enter a name and a display name for the custom SMTP recipient, and then click **Next**.
4. In the second **New Object - Contact** dialog box, verify that the **Create an Exchange e-mail address** check box is selected, enter an e-mail alias in the **Alias** box, and then click **Modify**.
5. In the **New E-mail Address** dialog box, select **SMTP Address**, and then click **OK**.

6. In the **Internet Address Properties** dialog box, on the **General** tab, enter the e-mail address of the storage solution where your journaling messages will be stored, click **OK**, and then click **Next**.
7. On the last **New Object - Contact** dialog box, click **Finish**.

ARTICLE XXI.HOW TO SET A SERVER-SIDE RULE FOR JOURNAL RECIPIENT MAILBOXES

For each journal mailbox that you create, you must create a server-side rule that forwards all messages as they arrive to the third-party storage solution as a MIME message. To do this, you can use Outlook® to create a rule that forwards all messages to the custom SMTP recipient that you created. Because the message travels over SMTP, Exchange automatically converts it to MIME for delivery. Alternatively, when you set up the rule, you may decide to redirect the message, which is essentially forwarding the mail, but the redirected mail does not contain the headers of the original mail.

After a message has been forwarded to the third-party storage solution, it must be deleted from the local mailbox store to reduce storage bloat. To do this, you must add an action to the rule that moves the message to the Delete Items folder. After the messages are moved to the Deleted Items folder, you must set up an Exchange recipient policy that Mailbox Manager can run to permanently delete the messages.

SECTION 21.01 BEFORE YOU BEGIN

Before you create server side rules, you must create an Outlook profile for the journal recipient mailbox for which you will be creating the forward rule.

SECTION 21.02 PROCEDURE

► To create a server-side rule for journal recipient mailboxes

1. In Outlook 2003, click **Tools**, and then click **Rules and Alerts**.
2. In the **Rules and Alerts** dialog box, on the **E-mail Rules** tab, click **New Rule**.
3. On the first page of the **Rules Wizard**, select **Start from a blank rule**, and then click **Next**.
4. On the second page of the **Rules Wizard**, do not select any conditions in the **Select condition(s)** section. Instead, click **Next**. A message will prompt you to verify that the rule you are creating is for all messages that are received in this mailbox. Click **Yes**.
5. On the third page of the **Rules Wizard**, in the **Select action(s)** section, select **forward it to people or distribution list**. In the **Edit** section, click **people or distribution list**.
6. In the **Rule Address** dialog box, select the custom SMTP recipient you created earlier, click **To**, and then click **OK**.
7. On the third page of the **Rules Wizard**, in the **Select actions(s)** section, select **move it to the specified folder**. In the **Edit** section, select **specified folder**, locate the **Deleted Items** folder, and then click **OK**.
8. On the third page of the **Rules Wizard**, click **Finish**.

ARTICLE XXII. HOW TO CONFIGURE MAILBOX MANAGER TO CLEAN THE JOURNAL RECIPIENT MAILBOX

After you configure the journal recipient mailbox to forward messages to the third-party storage solution, and then move them to the Deleted Items folder, you have to configure Mailbox Manager to permanently delete the messages.

This topic explains how to use an Exchange Recipient Policy together with Mailbox Manager to permanently delete the messages after they have been sent to the third-party storage solution.

SECTION 22.01 BEFORE YOU BEGIN

It is recommended that you verify through testing and monitoring how long you want messages to remain in the Deleted Items folder before they are permanently deleted. For example, you may want to allow two days before messages are permanently deleted so, if there are any problems with delivering the messages, or any problems receiving or storing them at the destination, you can resend all messages from the last two days.



Note:

The age you specify for deleted mail in the recipient policy begins when the message is moved to the Deleted Items folder, not when it was received.

To configure messages to be permanently deleted from the journal recipient mailbox, you must do the following:

1. Create a recipient policy that identifies the journal recipient mailbox and permanently deletes old items in the Deleted Items folder (this topic).
2. Set Mailbox Manager to run the policy at an appropriate interval.

SECTION 22.02 PROCEDURE

► To create a recipient policy that permanently deletes messages from the Deleted Items folder in the journal recipient mailbox

1. Open **Exchange System Manager** in the Exchange organization where the journaling mailboxes reside.
2. Expand the **Recipients** folder, right-click the **Recipient Policies** folder, point to **New**, and then click **Recipient Policy**.
3. In the **New Policy** dialog box, select **Mailbox Manager Settings**, and then click **OK**.
4. In the **Properties** dialog box, on the **General** tab, enter a **Name** for the policy. Under **Filter rules**, click **Modify**.
5. In the **Find Exchange Recipients** dialog box, construct a search query that will return the journal mailboxes that you have created. When you finish building the query, click **OK**.



Note:

There are a number of ways to construct the search query; in large part, the right query depends on how many journaling mailboxes or journaling servers you have configured. The search criteria you enter here will create an LDAP query that will run when Mailbox Manager runs this policy. Make sure to test this query to verify that it does not display other mailboxes when run.

6. In the **Properties** dialog box, on the **Mailbox Manager Settings (Policy)** tab, select **Delete Immediately** from the **When processing a mailbox** drop-down menu.
7. On **Mailbox Manager Settings (Policy)** tab, in the **Folder** list, clear all folders except the **Deleted Items** folder. Select **Deleted Items**, and then click **Edit**.
8. In the **Folder Retention Settings** dialog box, clear the **Message Size (KB)** check box, enter an appropriate age limit in the **Age Limit (Days)** box, and then click **OK**. Click **OK** again to close the dialog box.
9. In the **Recipient Policies** details pane, right-click the policy that you have just created, and then click **Apply this policy now**. A message prompts you to confirm the update; click **Yes**.
10. After you create a policy, you must schedule when the policy will run on the journaling mailbox server. You must configure this schedule for each server that hosts journal recipient mailboxes. For detailed steps, see [How to Schedule Mailbox Manager to Run Recipient Policies](#).

ARTICLE XXIII. HOW TO SCHEDULE MAILBOX MANAGER TO RUN RECIPIENT POLICIES

After a mailbox recipient policy has been created and configured, Mailbox Manager needs to be scheduled. If you do not schedule Mailbox Manager to run, your configurations will not take effect and the mailbox recipient policy will never be applied.

SECTION 23.01 BEFORE YOU BEGIN

It is important to note that Mailbox Manager only works on local mailboxes. You cannot configure Mailbox Manager on one server to process mailboxes on a different server.

SECTION 23.02 PROCEDURE

► To schedule Mailbox Manager to run recipient policies

1. Open **Exchange System Manager** and locate the server that is hosting the mailbox on which you want to run recipient policies.
2. Right-click the mailbox server and then click **Properties**.
3. On the **Mailbox Management** tab, in the **Start mailbox management process** drop-down list, select when you want all mailbox recipient policies to run on the server.
4. To create a custom schedule, select **Use custom schedule**, and then click **Customize**. Click to select the times of day and days of the week you want Mailbox Manager to run. And then click **OK**.

SECTION 23.03 FOR MORE INFORMATION

For more information about how to deploy a journaling solution, see [How to Deploy Exchange Server 2003 Journaling as Part of a Compliance Solution](#).

ARTICLE XXIV. HOW TO ENABLE EXCHANGE JOURNALING

By default, envelope journaling is disabled. Enabling envelope journaling involves two steps. First, you must enable standard journaling in Exchange System Manager. Secondly, you must enable envelope journaling.

SECTION 24.01 BEFORE YOU BEGIN

If you are running Exchange 2000 and you want to enable envelope journaling, you must install Service Pack 3 and the Exchange 2000 envelope journaling software update.

For more information about installing Exchange 2000 SP3, see [Service Pack 3 for Exchange 2000 Server and Exchange 2000 Server Enterprise Edition](#).

For more information about the Exchange 2000 envelope journaling software update, see Microsoft® Knowledge Base article 834634, "[A hotfix is available to enable the Envelope Journaling feature in Exchange 2000 Server](#)."

SECTION 24.02 PROCEDURE

► To enable Journaling

1. Enable standard journaling on each mailbox store in your organization for which you want envelope journaling enabled. For detailed steps, see [How to Enable Standard Journaling](#).
2. Enable envelope journaling. For detailed steps, see [How to Enable Envelope Journaling](#).

SECTION 24.03

FOR MORE INFORMATION

For more information about planning a journaling solution, see [Planning an Exchange Server 2003 Journaling Deployment](#).

ARTICLE XXV.

HOW TO ENABLE STANDARD JOURNALING

It is recommended that you designate a dedicated Exchange server as the journaling server. Additionally, if you use a dedicated journaling server, you do not have to enable standard journaling on the server. Enable journaling only on those servers with mailbox stores for which you want to journal.

SECTION 25.01 BEFORE YOU BEGIN

Review your overall journaling strategy to verify that journaling is enabled on appropriate Exchange server.

SECTION 25.02 PROCEDURE

► To enable standard journaling

1. In **Exchange System Manager**, expand **Servers**, expand <your Exchange server>, expand <storage group>, and then right-click the mailbox store.
2. On the **General** tab, select **Archive all messages sent or received by mailboxes on this store**, and then click **Browse** to specify a mailbox as the journaling mailbox. All journalized messages for senders on this mailbox store are sent to the mailbox you specify.

SECTION 25.03

FOR MORE INFORMATION

For more information about how to deploy a journaling solution, see [How to Deploy Exchange Server 2003 Journaling as Part of a Compliance Solution](#).

ARTICLE XXVI. HOW TO ENABLE ENVELOPE JOURNALING

You can enable envelope journaling by using the E-Mail Journaling Advanced Configuration tool (Exejcfg.exe). You can run the tool from any server with access to Active Directory, but it is recommended that you run the tool from a domain controller.

SECTION 26.01 BEFORE YOU BEGIN

To download the E-Mail Journaling Advanced Configuration tool (Exejcfg.exe), see [Microsoft Exchange Server Email Journaling Advanced Configuration](#). The E-Mail Journaling Advanced Configuration tool can be used in Exchange 2000 Server environments and Exchange Server 2003 environments.

SECTION 26.02 PROCEDURE

► To enable envelope journaling

1. Download and unzip the E-Mail Journaling Advanced Configuration tool to a directory of your choice.
2. Open a command prompt.
3. Go to the directory where you installed ejcfg.
4. Type the following command to enable envelope journaling: `ejcfg`

You can use ejcfg with any of the parameters in the following table.

Parameters for ejcfg tool

Parameter	Description
-e	Enables envelope journaling
-d	Disables envelope journaling
-l	Lists the envelope journaling setting—whether envelope journaling is enabled or disabled.
/?	Provides the list of options and a short help. If you run the command with no options, it defaults to this option.

SECTION 26.03 FOR MORE INFORMATION

For more information about how to deploy a journaling solution, see [How to Deploy Exchange Server 2003 Journaling as Part of a Compliance Solution](#).

ARTICLE XXVII. HOW TO MANUALLY ENABLE ENVELOPE JOURNALING

Besides using the ejcfg tool to enable envelope journaling, you can also manually enable envelope journaling.

SECTION 27.01 PROCEDURE

► **To manually enable envelope journaling**

1. Use a directory modification tool of your choice, such as LDP (ldp.exe) or ADSIEdit (Adsiedit.msc), to access the domain controller.
2. Browse to the Exchange organization object under Configuration, Services, Microsoft Exchange, Organization name.
3. Set the heuristics attribute on the Organization name by adding 512 to the existing value.

ARTICLE XXVIII. COPYRIGHT

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Exchange2003Journaling.htm

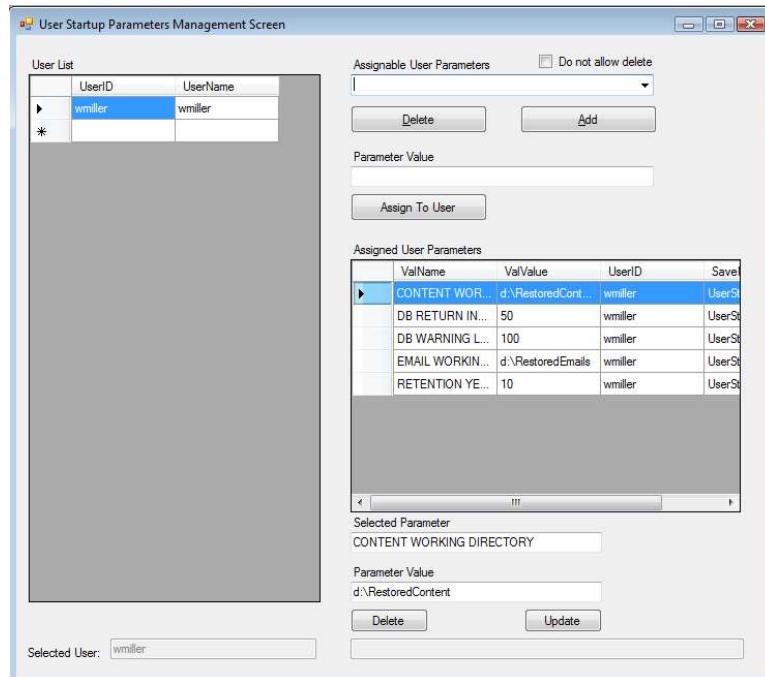
USER STARTUP PARAMETERS FOR USERS:

LINKS TO OTHER HELP PAGES

[ECM Library Master Help Index](#)

ABOUT THIS SCREEN

To get to this screen click on the menu Select >Maintenance>User Startup Parameters. This screen is where you can change your personal ECM Library preferences. To change a value, highlight the row in the Assigned User Parameters Grid. Change parameter value in the Parameter Value line (bottom right). Click on update.



The settings that can be changed are:

Working Directories:

Content Working Directory – This is the directory on your computer that will receive restored content. You may prefer creating a separate folder that is specifically used for ECM Library.

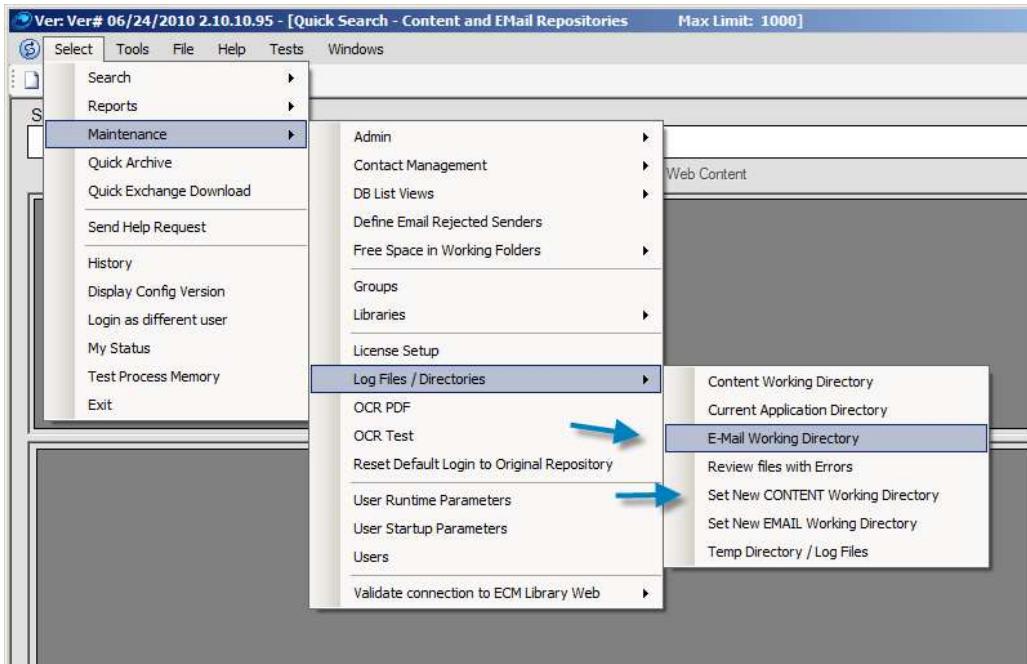
Email Working Directory – This is the directory on your computer that will receive restored email. You may prefer creating a separate folder that is specifically used for ECM Library.

An alternative for changing where to place your restored content or email is using the pull down menus.
Please see the second screen shot below.

DB Warning Level – When you execute a search query, if the number of returns is greater than your DB Warning Level, you will receive a warning message. At this point you can decide whether you wish to continue to execute the search or not. The default number is set to 100 returns before you will receive this warning.

Retention Years – This is the default number of years that content will be retained in ECM Library. Your administrator may choose to set same default number of years for everyone. You also can select retention years on a per-directory-basis in the Library Archive System.

Administrators are able to over-ride any of your parameters settings you may set up. Also a new software publishes may change your parameter settings and you will need to reassign your preferences.



Above screen: These two arrows show you an alternative way to change the directories where you can place your restored content or emails.

CHANGING OTHER USER PARAMETERS:

If you are interested in changing any other parameters, such as the length that a search will run before it times out, contact your systems administrator who may be able to assist you. Also check the [User Run Time Parameters Screen Help](#)

USER STARTUP PARAMETERS FOR ADMINISTRATORS:

This is where a user can alter their run time parameters. It is available to administrators across all users and to individual users. An administrator can override any parameters defined by users.

User parameters are predefined and available through the drop down list, Assignable User Parameters.

An administrator can mark any parameter as “Not Allowed to Delete”. This means that this parameter cannot be removed from the list of parameters.

Available User Parameters are:

Content Working Directory – used during restore, it is the directory on the local machine that will receive restored content.

Email Working Directory – used during restore, it is the directory on the local machine that will receive restored emails.

DB Warning Level – this is the number of records that will cause a warning to the user. If a query exceeds this number, a warning will be given to the user so they can decide at that time whether they wish to execute the search or not.

Retention Years – this is the default time content will be retained.

To change a user's parameters, go into the user's app config file on the user's directory. Please see help on [Application Configuration File Editor.htm](#) and [Application Configuration File.htm](#)

[Back to top](#)

User Startup Parameters.htm

SYSTEM PARAMETERS

OTHER HELP:

[Other Administrative Table Help](#)
[ECM Library Master Help Index](#)

This screen displays all of the defined system parameters. The data can be added or modified only by an administrator. All settings will impact the ECM Library repository for every user. Some of these parameters are for ECM Library products that require a separate license, such as ECM Library SharePoint archiver.

Default Thesaurus is set such that when no thesaurus is specified by the user, this is the one that will be used. Roget is set up by ECM Library as the default. However, if you have another one that has been loaded into the repository, you may change the setting here. For more information on setting up a Thesaurus on ECM Library click [here](#).

MaxURLSToProcess sets the maximum number of levels to penetrate when using the add on product ECM Web Crawler. We highly recommend that no more than 5 be used as even a number this size can cause hundreds of thousands of webs to be processed. Please refer to the [Web Crawler page](#) for more details.

Retention Years will set this rule as the first default rule that is available to users at time of archive. See the [Retention Codes](#) table for more information.

SQLServerTimeout default is set to 90 seconds across the repository for each user. This is for server connection and for search query processing. Longer time may be established if network latency and search timeouts occur often.

SYS_PageReturn is the maximum number of returns any user can bring back with one search. This gives the administrator control over the degree of client/server processing. The default is unlimited, or 0. For example, if you set the limit to 10,000, then a user will not bring back the 10,001st return in a search.

SYS_AllowPublic turns on or off the ability for users to mark their specific content as viewable by anyone else for search purposes. This is either set to Y – yes to allow public or N- no one can mark any emails or content as public. If set to N, all Public options will be invisible on the search, metadata and archive screens.

SYS_MaxFileSize allows the maximum file size to be set. The default is unlimited.

SYS_SingleInstance allows for the purposes of storage efficiency and possibly search efficiency to only keep one binary image of a document in the ECM Library repository, regardless of who archives that document. It will track who has archived that document by pointing to each document owner, but will not archive the document multiple times. However, this capability should be used with caution, as its efficient function also limits the power of exhaustive evidence for e-Discovery purposes.

The only button available in this screen is Update as all of these are set to interface with the application and new ones would not have meaning.

Static System Parameters			
	SysParm	SysParmDesc	SysParmVal
▶	Default Thesaurus	This is the thesaurus that will be used when a specific thes...	Roget
	EmailFolder1	This is the Top Level folder name and is required. It can be...	Personal Folders
	MaxSearchesToTrack	The number of searches the user has in their immediate his...	25
	MaxUrlsToProcess	The number of levels to penetrate in a web site.	2
	RETENTION YEARS	The default number years to retain content.	10
	SharePointECMVirtualLimit	When there are less records than this number, then a linke...	1000001
	SharePointVirtualLimit	When there are less records than this number, then a linke...	100001
	SqlServerTimeout	This is the value that will be assigned to the SQL Server ti...	90
	srv_disable	When set to anything other than 0 the ECM Service will co...	0
	srv_LastArchive	This is the datetime of the last completed archive..	12/9/2009 6:11:...
	srv_MaxFileSize	Enter a 0 to allow unlimited file size upload or a MAX value.	0
	srv_PollingInterval	This is the number of MINUTES between executing an arc...	10
	srv_RunUnattended	This allows the archive functions to run unattended.	N
	srv_shutdown	When set to 1, the service (next poll) will stop running.	0
	SYS_AllowPublic	When set to Y, users can set their searchable content to p...	N
	SYS_AutoRegisterMachine	When set to true, authentication will be done automatically...	xx
	SYS_AutoRegisterUser	When set true, authentication will be automatic adn entere...	xx
	SYS_MandateSeatLogin	MandateSeatLogin MUST BE SET TO TRUE OR FALSE.	xx
	SYS_MandateUserLogin	MandateUserLogin MUST BE SET TO TRUE OR FALSE.	False
	SYS_MaxFileSize	When set to 0, unlimited file upload size. Otherwise, any va...	0
	SYS_PageReturn	When set to 0, the maximum number of rows returned will b...	0
	SYS_PageReturnRowLimit	Sets the number of rows that will be returned and displayed...	100
	SYS_SingleInstance	When set to 1, ECM will store just 1 copy of an archive.	1
	SYS_SyncAllAdUsers	Set to 1 to to ADD all existing users. Set to 0 for Selected ...	0
	SYS_SyncRemoveMissingUser	Set to 1 to to remove a user not found in the target list. Onl...	0
*			

Update

[Back to top](#)

frmSystemParms.htm

USER MANAGEMENT – FOR USERS

LINKS TO OTHER HELP PAGES

[Master Help Index](#)

ABOUT THIS SCREEN

Use this screen to manage:

5. Your Password. Enter your new password very carefully – one chance – and hit update.
6. To see your User Name and ID.
7. To refactor all of your content and emails to another user. See below for details.
8. To add a co-owner of all your content and emails. See below for details.

REFACTORING:

It is best to get an administrator to guide you through this function. This is a very powerful change and impacts all of your content you own. Please contact your company administrator for details.

CO-OWNERSHIP:

A co-owner is another individual(s) that is assigned to a user. This gives you someone else to help manage content in the event that you share the same content OR that you are temporarily will not be managing the content (e.g. an extended leave of absence). Co-owners have all rights to modify email and content metadata, public and master settings.

USER MANAGEMENT – FOR ADMINISTRATORS

Use this screen to manage the users contained within the repository. To add a new user, fill in the appropriate information and press the Add button. We recommend that if you want a user to by-pass the ECM Library user log-in and password upon clicking on the ECM Library icon, use the user's same ID as the windows log-in authentication and ECM Library's log-in will not appear.

We recommend the password “password”. The password “password” will create a request to a new user to enter in a new password upon first authentication.

When a new user is added through this screen, they are assigned two libraries automatically, one public and one private. (The public library will be set up if your systems parameter is set to allow public settings. This can be turned off.) This allows a user to immediately share content within their own public library or build a set of content for themselves. Each user also has the ability to set up their own library immediately.

To delete a user, select the user from within the grid and press the Remove button.

If the user has content associated to them, you will not be able to remove them. In this case, you will have to 'Refactor' the user. Refactoring means to reassign all content associated with this user to another. An audit trail is established as a change in ownership must be recorded.

A co-owner is another individual(s) that is assigned to a user. This gives the co-owner the ability to help manage a user's content in the event the user needs help or for some other reason cannot manage their content. Co-owners have all rights to modify email and content metadata, public and master settings.

The screenshot shows the 'User Management (frmUser)' application window. On the left, there is a grid of user data with columns: UserLoginID, UserName, EmailAddress, UserPassword, and Admin. The grid contains 14 rows of user information. On the right, there is a 'Co-Owners' panel with a table showing CoOwnerName, CoOwnerId, and RowID. Below the table are buttons for 'Add Co-Owner' and 'Remove'. At the bottom of the window, there are input fields for User Login ID, User Name, User Email, Password, and a dropdown for User - Standard. There are also buttons for Add, Update, Remove, and Make Public. A note on the right side explains that pressing the Refactor button will reassign ownership of all documents owned by the selected user.

UserLoginID	UserName	EmailAddress	UserPassword	Admin
admin	administrator	NA	password	Y
Andrew	Andrew Jackson	NA	GkXH52Yhh038...	U
Bob	Bob Brown	NA	GkXH52Yhh038...	U
Charlene	Charlene Channing	NA	GkXH52Yhh038...	U
Charlie	Charles Comman	NA	GkXH52Yhh038...	U
Emily	Emily Carr	NA	GkXH52Yhh038...	U
Fred	Fred Farrar	NA	GkXH52Yhh038...	U
Isabelle	Isabelle Rossellini	NA	GkXH52Yhh038...	U
James	James Bond	NA	4HG6UylbEzb8Re...	U
John	John Jackson	NA	GkXH52Yhh038...	A
Lawren	Lawren Harris	NA	GkXH52Yhh038...	U
Liz Gamand	Liz Gamand	gamand.liz@gma...	GkXH52Yhh038...	S
Martha	Martha Manning	NA	GkXH52Yhh038...	U
Nancy	Nancy Drew	NA	GkXH52Yhh038...	U
Peter	Peter Sellers	NA	GkXH52Yhh038...	U

CoOwnerName	CoOwnerId	RowID
*		

If you press the Refactor button, you will:
reassign the OWNERSHIP of all documents owned by
admin TO admin

Add Co-Owner Remove

User Login ID: admin Add User Name: administrator User Email: NA Password: User - Standard: User - Standard Active User:

Update Remove Make Public

[Back to top](#)

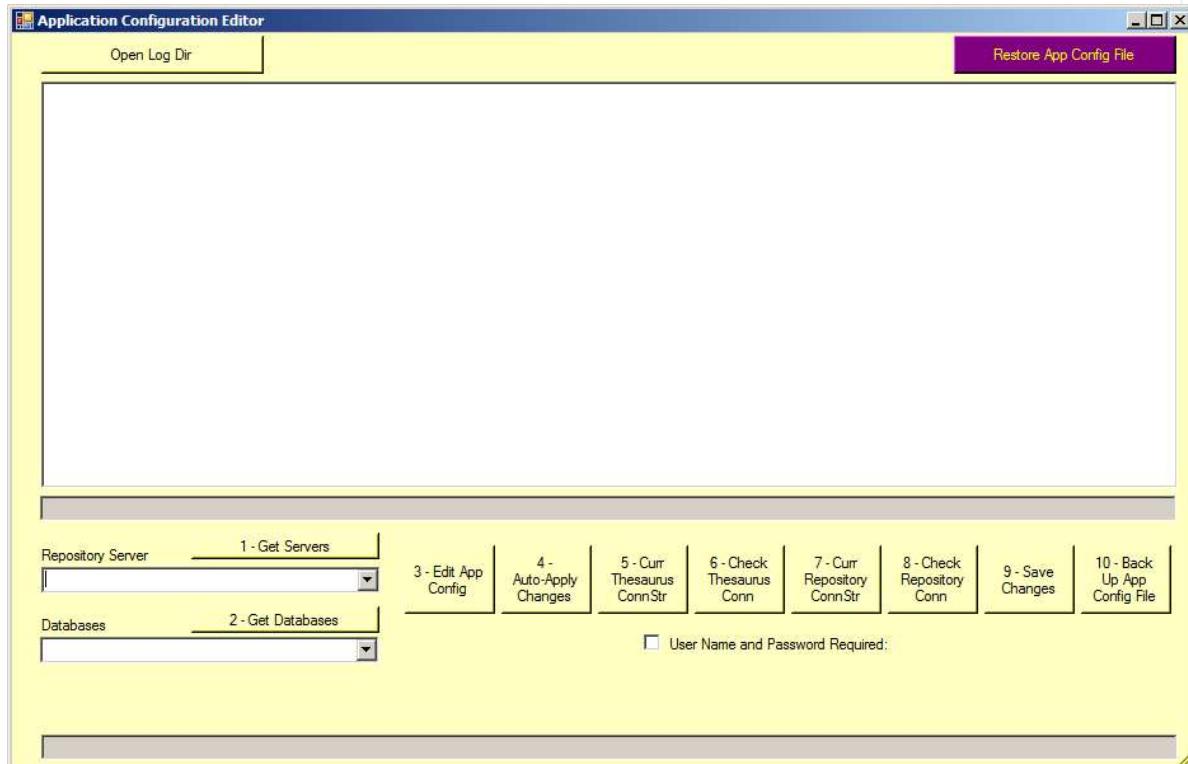
THE APPLICATION CONFIGURATION FILE FOR ADMINISTRATORS

OTHER LINKS

[Setting up the Application Configuration for Users](#)

[Changing the AppConfig within ECM Library's menu](#)

[ECM Library Master Help Index](#)



FOR ECM LIBRARY ADMINISTRATORS

Please do not alter this file without fully understanding the ramifications of change. And, back it up so that you can get back to a working starting point.

We apologize and we understand that as an administrator you understand all of this “stuff”. But it needs to be written somewhere so that for those of us that occasionally need a refresher, it is available. This file, the configuration file, is provided so application behavior can be modified at run time without change to the underlying application executable. Building configurable applications is not a new concept. The idea of applications relying on configuration parameters to dictate behavior at run time has been around for many years. For those of us who were around Microsoft-based programming prior to .NET, the most common example is the use of INI files. INI files are simple text-based files with key and value pairs; the key is used to fetch the value, and the value is then used in some way to influence the application settings and/or resulting behavior. This way, you can modify the configuration file to drive program behavior without having to recompile the application.

INI files generally worked great, except for the following drawbacks:

- Everyone wrote their own parsers for dealing with them.
- You had to have them on the machine where the application was running.
- They required disk operations to read their files.

Microsoft moved away from INI files and towards storing everything in the Registry, which made application deployment much more difficult. As a result, Microsoft moved back to the concept of an “xcopy deployment,” by which programmers deployed applications by simply copying files. Redmond used XML and some objects built into the Microsoft .NET Framework to bring new life to our old friend the application configuration file.

SYSTEM.CONFIGURATION BASICS

The System.Configuration namespace provides the functionality for reading configuration files. Microsoft released an XML schema dictating the format for configuration files that can be read using the System.Configuration API (ECM Library uses this extensively), enabling the accessing object to automatically consume [*read and apply*] the configuration files. This way, we can allow configuration files to be read without having to develop a bunch of plumbing to read the file and find the desired setting. Multiple types of configuration files are relevant to .NET, but this article focuses exclusively on the configuration files containing application-specific settings

The name and storage location of an application configuration file depends on the application type with which it is being used. ***We provide an automatic menu item to get you to this rather well hidden location if you are an administrator. If you are not an admin, please do not even look for this file.*** A configuration file for an executable (.exe) is located in the same directory as the application. The file is the name of the application with a .config extension. For example, notepad.exe would have a configuration file of notepad.exe.config. A configuration file for an ASP.NET application is called web.config and is located in the root of the application's virtual directory.

APPSETTINGS SECTION

An application configuration file follows a specific XML schema. The appSettings section is a predefined section of the configuration file designed to make it very easy to retrieve a value based on a given name.

This is the easiest way to add application-specific settings into an application configuration file. The appSettings section of the configuration file consists of a series of "add" elements with "key" and "value" attributes. While the appSettings section is predefined, it is not included in a configuration file by default and must be manually added. A simple example of a configuration file would be the following:

```
<?xml version="1.0" encoding="utf-8" ?>
<configuration>
    <appSettings>
        <add key="ApplicationTitle" value="Sample Console Application" />
        <add key="ConnectionString"
            value="Server=localhost;Database=Northwind;Integrated
            Security=false;User Id=sa;Password=;" />
    </appSettings>
</configuration>
```

The AppSettings property of the ConfigurationSettings object in the System.Configuration namespace is used to get the settings. For example, to read either of the settings above, the following sample code would do the trick:

```
// Read appSettings
string title = ConfigurationSettings.AppSettings["ApplicationTitle"];
string connectString =
    ConfigurationSettings.AppSettings["ConnectionString"];
```

Now, you could easily set a dynamic title value or read database connection string information from the application configuration file. This gives you the freedom to adjust settings without having to recompile any code.

CUSTOMIZED CONFIGURATION SECTIONS

If you have distinct groupings of configurations to be included in the application configuration file, consider creating a custom configuration section in lieu of the appSettings section. This will allow you more organizational structuring around the storage of various settings. You include a custom section by including the configSections element in the configuration file and a sub-element called section that defines the custom section and the handler for reading it. The .NET Framework contains an IConfigurationSectionHandler interface that dictates the required functionality handlers provide by allowing you to use custom handlers with the Configuration if you so choose. This example just uses handlers the .NET Framework already provides. Continuing the example from the previous section, the following configuration file contains a custom section and specifies which handler to use for reading:

```
<?xml version="1.0" encoding="utf-8" ?>
```

```

<configuration>
    <configSections>
        <section name="sampleSection"
            type="System.Configuration.SingleTagSectionHandler" />
    </configSections>

    <sampleSection ApplicationTitle="Sample Console Application"
        ConnectionString="Server=localhost;Database=Northwind;
                        Integrated Security=false;User Id=sa;
                        Password=;" />

    <appSettings>
        <add key="ApplicationTitle"
            value="Sample Console Application" />
        <add key="ConnectionString"
            value="Server=localhost;Database=Northwind;
                        Integrated Security=false;User Id=sa;Password=;" />
    </appSettings>
</configuration>

```

The following code reads the configuration settings into a dictionary, where you can easily access the values:

```

// Read customSection
System.Collections.IDictionary sampleTable = (IDictionary)
    ConfigurationSettings.GetConfig("sampleSection");
string title = (string)sampleTable["ApplicationTitle"];
string connectString = (string)sampleTable["ConnectionString"];

```

[go to top](#)

AppConfigForAdmin.htm

SQL SERVER 2012 THESAURUS RULES OF ENGAGEMENT

LINKS TO OTHER HELP PAGES

[Master Help Index](#)

ABOUT MICROSOFT THESAURUS ON SQL SERVER

In SQL Server, full-text queries can search for synonyms of user-specified terms through the use of a thesaurus. A SQL Server *thesaurus* defines a set of synonyms for a specific language. System administrators can define two forms of synonyms: expansion sets and replacement sets. By developing a thesaurus tailored to your full-text data, you can effectively broaden the scope of full-text queries on that data. Thesaurus matching occurs only for CONTAINS and CONTAINSTABLE queries that specify the FORMSOF THESAURUS clause and for FREETEXT and FREETEXTTABLE queries.

Before full-text search queries on your server instance can look for synonyms in a given language, you must define thesaurus mappings (synonyms) for that language. Each thesaurus must be manually configured to define the following:

- Diacritics setting
For a given thesaurus, all search patterns are either sensitive or insensitive to diacritical marks (that is, *accent sensitive* or *accent insensitive*). For example, suppose you specify the pattern "café" to be replaced by other patterns in a full-text query. If the thesaurus is accent-insensitive, full-text search replaces the patterns "café" and "cafe". If the thesaurus is accent-sensitive, full-text search replaces only the pattern "café". By default, a thesaurus is accent-insensitive.
- Expansion set
An expansion set contains a group of synonyms such as "writer", "author", and "journalist" that are substituted for one another by a full-text query. Queries that contain a match for any synonym in an expansion set are expanded to include every other synonym in the expansion set. For more information, see "XML Structure of an Expansion Set," later in this topic.
- Replacement set
A replacement set contains a text pattern to be replaced by a substitution set. For an example, see the section "XML Structure of a Replacement Set" later in this topic.

The following restrictions apply to editing a thesaurus file:

- Only system administrators can update, modify, or delete thesaurus files.
- When editing thesaurus files using text editor tools, the files must be saved in Unicode format, and Byte Order Marks must be specified.
- Thesaurus entries cannot be empty or word break to an empty string.
- Phrases in the thesaurus file must be no longer than 512 characters.
- A thesaurus must not contain any duplicate entries among the <sub> entries of expansion sets and the <pat> elements of replacement sets.

LOCATION OF THE THESAURUS FILES

The default location of the thesaurus files is:

SQL_Server_install_path\Microsoft SQL Server\MSSQL10.MSSQLSERVER\MSSQL\FTDATA

This default location contains the following files:

- Language-specific thesaurus files

During setup, empty thesaurus files are installed in the above location. A separate file is provided for each supported language. A system administrator can customize these files.

The default file names of the thesaurus files use following format:

'ts' + <three-letter language-abbreviation> + '.xml'

The name of the thesaurus file for a given language is specified in the registry in the following value HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL Server\<instance-name>\MSSearch\<language-abbrev>.

- The global thesaurus file

An empty global thesaurus file, tsGlobal.xml.

You can change the location and names of a thesaurus file by changing its registry key. For each language, the location of the thesaurus file is specified in the following value in the registry:

HKLM/SOFTWARE/Microsoft/Microsoft SQL Server/<instance name>/MSSearch/Language/<language-abbreviation>/TsaurusFile

The global thesaurus file corresponds to the Neutral language with LCID 0. This value can be changed by administrators only.

HOW QUERIES USE THESAURUS FILES

A thesaurus query uses both a language-specific thesaurus and the global thesaurus. First, the query looks up the language-specific file and loads it for processing (unless it is already loaded). The query is expanded to include the language-specific synonyms specified by the expansion set and replacement set rules in the thesaurus file. These steps are then repeated for the global thesaurus. However, if a term is already part of a match in the language specific thesaurus file, the term is ineligible for matching in the global thesaurus.

UNDERSTANDING THE STRUCTURE OF A THESAURUS FILE

Each thesaurus file defines an XML container whose ID is Microsoft Search Thesaurus, and a comment, <!... -->, that contains a sample thesaurus. The thesaurus is defined in a <thesaurus> element that contains samples of the child elements that define the diacritics setting, expansion sets, and replacement sets, as follows:

- XML Structure of the Diacritical Setting

The diacritics setting of a thesaurus is specified in a single <diacritics_sensitive> element. This element contains an integer value that controls accent sensitivity, as follows:

Diacritics Setting	Value	XML
--------------------	-------	-----

Accent insensitive	0	<diacritics_sensitive>0</diacritics_sensitive>
Accent sensitive	1	<diacritics_sensitive>1</diacritics_sensitive>

 **Note:**

This setting can only be applied one time in the file, and it applies to all search patterns in the file. This setting cannot be specified for individual patterns.

- **XML Structure of an Expansion Set**

Each expansion set is enclosed within an `<expansion>` element. Within this element, you specify one or more substitutions in a `<sub>` element. In the expansion set, you can specify a group of substitutions that are synonyms of each other.

For example, you can edit the expansion section to treat the substitutions "writer", "author", and "journalist" as synonyms. full-text search queries that contain matches in one substitution are expanded to include all other substitutions specified in the expansion set. Therefore, in the preceding example, when you issue a FORMS OF THESAURUS or a FREETEXT query for the word "author", full-text search also returns search results containing the words "writer" and "journalist".

This is what the expansion set section would look like for the above example:

[Copy Code](#)

```
<expansion>
  <sub>writer</sub>
  <sub>author</sub>
  <sub>journalist</sub>
</expansion>
```

- **XML Structure of a Replacement Set**

Each replacement set is enclosed within a `<replacement>` element. Within this element you can specify one or more patterns in a `<pat>` element and zero or more substitutions in `<sub>` elements, one per synonym. You can specify a pattern to be replaced by a substitution set. Patterns and substitutions can contain a word, or a sequence of words. If there is no substitution specified for a pattern, it has the effect of removing the pattern from the user query.

For example, suppose you want queries for "W2K", the pattern, to be replaced by "Windows 2000" or "XP", the substitutions. If you run a full-text query for "W2K", full-text search only returns search results containing "Windows 2000" or "XP". It does not return results containing "W2K". This is because the pattern "W2K" has been "replaced" by the patterns "Windows 2000" and "XP".

This is what the replacement set section would look like for the above example:

[Copy Code](#)

```
<replacement>
  <pat>W2K</pat>
  <sub>Windows 2000</sub>
```

```
<sub>XP</sub>
</replacement>
```

If you have two replacement sets with similar patterns being matched, the longer of the two takes precedence. For example, if you run a FORMS OF THESAURUS query for "Internet Explorer online community" and you have the following replacement sets, the "Internet Explorer" replacement set takes precedence over the "Internet" replacement set. The query will therefore be processed as "IE online community" or "IE 5 online community".

[Copy Code](#)

```
<replacement>
  <pat>Internet</pat>
  <sub>intranet</sub>
</replacement>
```

and

[Copy Code](#)

```
<replacement>
  <pat>Internet Explorer</pat>
  <sub>IE</sub>
  <sub>IE 5</sub>
</replacement>
```

TO LOAD AN UPDATED THESAURUS FILE

Syntax

```
sys.sp_fulltext_load_thesaurus_file lcid [ , @loadOnlyIfNotLoaded = action ]
```

Arguments

LCID

Integer mapping the locale identifier (LCID) of the language for which you want to load the thesaurus XML definition. To obtain the LCIDs of languages that are available on a server instance, use the [sys.fulltext_languages \(Transact-SQL\)](#) catalog view.

@loadOnlyIfNotLoaded = ACTION

Specifies whether the thesaurus file is loaded into the internal thesaurus tables even if it has already been loaded. ACTION is one of:

Value	Definition
0	Load the thesaurus file regardless of whether it is already loaded. This is the default behavior of sp_fulltext_load_thesaurus_file .
1	Load the thesaurus file only if it is not yet loaded.
Return Code Values	
None	
Result Sets	
None	
Remarks	
<p>Thesaurus files are automatically loaded by full-text queries that use the thesaurus. To avoid this first-time performance impact on full-text queries, we recommend that you execute sp_fulltext_load_thesaurus_file.</p> <p> Note:</p> <p>When compiling a full-text query that requires a thesaurus for a given language, the Full-Text Engine loads the thesaurus file only if it has not yet been loaded.</p>	
<p>Use sp_fulltext_service 'update_languages' to update the list of languages registered with full-text search.</p>	
Permissions	
<p>Only members of the sysadmin fixed server role or the system administrator can execute the sp_fulltext_load_thesaurus_file stored procedure.</p>	
Only system administrators can update, modify, or delete thesaurus files.	
Examples	
<hr/> <p>EXAMPLE A: LOAD A THESAURUS FILE EVEN IF IT IS ALREADY LOADED</p>	
<p>The following example parses and loads the English thesaurus file:</p>	
<p>Copy Code</p>	
<pre>EXEC sys.sp_fulltext_load_thesaurus_file 1033;</pre>	

GO

EXAMPLE B: LOAD A THESAURUS FILE ONLY IF IT IS NOT YET LOADED

The following example parses and loads the Arabic thesaurus file, unless it is already loaded:

[Copy Code](#)

```
EXEC sys.sp_fulltext_load_thesaurus_file 1025, @loadOnlyIfNotLoaded = 1;
```

GO

TO VIEW THE TOKENIZATION RESULT OF A WORD BREAKER, THESAURUS, AND STOPLIST COMBINATION

`sys.dm_fts_parser` (Transact-SQL)

Returns the final tokenization result after applying a given [word breaker](#), [thesaurus](#), and [stoplist](#) combination to a query string input. The tokenization result is equivalent to the output of the Full-Text Engine for the specified query string.

sys.dm_fts_parser is a dynamic management function.

Syntax

```
sys.dm_fts_parser('query_string', lcid, stoplist_id, accent_sensitivity)
```

Arguments

QUERY_STRING

The query that you want to parse. **QUERY_STRING** can be a string chain that [CONTAINS](#) syntax support. For example, you can include inflectional forms, a thesaurus, and logical operators.

LCID

Locale identifier (LCID) of the word breaker to be used for parsing **QUERY_STRING**.

STOPLIST_ID

ID of the stoplist, if any, to be used by the word breaker identified by **LCID**. **STOPLIST_ID** is [int](#). If you specify 'NULL', no stoplist is used. If you specify 0, the system STOPLIST is used.

A stoplist ID is unique within a database. To obtain the stoplist ID for a full-text index on a given table use the [sys.fulltext_indexes](#) catalog view.

ACCENT_SENSITIVITY

Boolean value that controls whether full-text search is sensitive or insensitive to diacritics. **ACCENT_SENSITIVITY** is **bit**, with one of the following values:

Value	Accent sensitivity is...
	Insensitive
0	Words such as "café" and "cafe" are treated identically.
1	Sensitive Words such as "café" and "cafe" are treated differently.

 **Note:**

To view the current setting of this value for a full-text catalog, run the following Transact-SQL statement: `SELECT fulltextcatalogproperty('CATALOG_NAME', 'AccentSensitivity');`

Table Returned

Column name	Data type	Description
keyword	varbinary(128)	The hexadecimal representation of a given keyword returned by a word breaker. This representation is used to store the keyword in the full-text index. This value is not human-readable, but it is useful for relating a given keyword to output returned by other dynamic management views that return the content of a full-text index, such as sys.dm_fts_index_keywords and sys.dm_fts_index_keywords_by_document .
group_id	int	Contain an integer value that is useful for differentiating the logical group from which a given term was generated. For example, 'Server AND DB OR FORMSOF(THESAURUS, DB)" produces the following group_id values in English: group_id display_term

1 Server

2 DB

3 DB

Contains an integer value that is useful for differentiating the cases in which alternative forms of compound words, such as full-text, are issued by the word breaker. Sometimes, with presence of compound words ('multi-million'), alternative forms are issued by the word breaker. These alternative forms (phrases) need to be differentiated sometimes.

For example, 'multi-million' produces the following **phrase_id** values in English:

phrase_id display_term

1 multi

1 million

2 multimillion

Indicates the order of each term in the parsing result. For example, for the phrase "SQL Server query processor" **occurrence** would contain the following **occurrence** values for the terms in the phrase, in English:

occurrence display_term

1 SQL

2 Server

3 query

4 processor

Contains information about the characteristics of the term that is being issued by the word breaker, one of:

special_term **nvarchar(8000)** Exact match

Noise word

End of Sentence

End of paragraph

End of Chapter

Contains the human-readable form of the keyword. As with the functions designed to access the content of the full-text index, this

display_term **nvarchar(8000)** displayed term might not be identical to the original term due to the denormalization limitation. However, it should be precise enough to help you identify it from the original input.

Contains information about the nature of the expansion of a given term, one of:

0 =Single word case

2=Inflectional expansion

4=Thesaurus expansion/replacement

For example, consider a case in which the thesaurus defines run as an expansion of jog:

```
<expansion>
<sub>run</sub>
expansion_type int
<sub>jog</sub>
</expansion>
```

The term FORMSOF (FREETEXT, run) generates the following output:

run with **expansion_type**=0

runs with **expansion_type**=2

running with **expansion_type**=2

ran with **expansion_type**=2

jog with **expansion_type**=4

The term or phrase from which a given term was generated or parsed. For example, a query on the "word breakers" AND stemmers' produces the following **source_term** values in English:

	source_term	display_term
source_term	nvarchar(8000)	
		word breakers word
		word breakers breakers
		stemmers stemmers

Remarks

sys.dm_fts_parser supports the syntax and features of full-text predicates, such as [CONTAINS](#) and [FREETEXT](#), and functions, such as [CONTAINSTABLE](#) and [FREETEXTTABLE](#).

USING UNICODE FOR PARSING SPECIAL CHARACTERS

When you parse a query string, **sys.dm_fts_parser** uses the [collation](#) of the database to which you are connected, unless you specify the query string as [Unicode](#). Therefore, for a non-Unicode string that contains special characters, such as ü or ç, the output might be unexpected, depending on the collation of the database. To process a query string independently of the database collation, prefix the string with N, that is, **N'QUERY_STRING'**.

For more information, see "C. Displaying the Output of a String that Contains Special Characters," later in this topic.

WHEN TO USE SYS.DM_FTS_PARSER

sys.dm_fts_parser can be very powerful for debugging purposes. Some major usage scenarios include:

- To understand how a given word breaker treats a given input
When a query returns unexpected results, a likely cause is the way that the word breaker is parsing and breaking the data. By using **sys.dm_fts_parser**, you discover the result that a word breaker passes to the full-text index. In addition, you can see which terms are stopwords, which are not searched in the full-text index. Whether a term is a stopword for a given language depends on whether it is in the stoplist specified by the [STOPLIST_ID](#) value that is declared in the function.
Note as well the accent sensitivity flag, which will allow the user to see how the word breaker will parse the input having in mind its accent sensitivity information.
- To understand how the stemmer works on a given input
You can find out how the word breaker and the stemmer parse a query term and its stemming forms, by specifying a CONTAINS or CONTAINSTABLE query containing the following FORMSOF clause:

[Copy Code](#)

```
FORMSOF( INFLECTIONAL, query_term )
```

The results tell you what terms are being passed to the full-text index.

- To understand how the thesaurus expands or replaces all or part of the input
You can also specify:

[Copy Code](#)

```
FORMSOF( THESAURUS, query_term )
```

The results of this query show how the word breaker and thesaurus interact for the query term. You can see the expansion or replacements from the thesaurus and identify the resulting query that is actually being issued against the full-text index.

Note that if the user issues:

[Copy Code](#)

```
FORMSOF( FREETEXT, query_term )
```

The inflectional and Thesaurus capabilities will take place automatically.

In addition to the preceding usage scenarios, **sys.dm_fts_parser** can help significantly to understand and troubleshoot many other issues with full-text query.

Permissions

Requires membership in the **sysadmin** fixed server role and access rights to the specified stoplist.

Examples

A. DISPLAYING THE OUTPUT OF A GIVEN WORD BREAKER FOR A KEYWORD OR PHRASE

The following example returns the output from using the English word breaker, whose LCID is 1033, and no stoplist on the following query string:

The Microsoft business analysis

Accent sensitivity is disabled.

[Copy Code](#)

```
SELECT * FROM sys.dm_fts_parser ('The Microsoft business analysis', 1033, 0, 0)
```

B. DISPLAYING THE OUTPUT OF A GIVEN WORD BREAKER IN THE CONTEXT OF STOPLIST FILTERING

The following example returns the output from using the English word breaker, whose LCID is 1033, and an English stoplist, whose ID is 77, on the following query string:

"The Microsoft business analysis" OR "MS revenue"

Accent sensitivity is disabled.

[Copy Code](#)

```
SELECT * FROM sys.dm_fts_parser (' "The Microsoft business analysis" OR " MS revenue" ', 1033, 77, 0)
```

C. DISPLAYING THE OUTPUT OF A STRING THAT CONTAINS SPECIAL CHARACTERS

The following example uses Unicode to parse the following French string:

français

The example specifies the LCID for the French language, **1036**, and the ID of a user-defined stoplist, **5**. Accent sensitivity is enabled.

[Copy Code](#)

```
SELECT * FROM sys.dm_fts_parser(N'français', 1036, 5, 1);
```

STOPWORDS AND STOPLISTS

To prevent a full-text index from becoming bloated, SQL Server has a mechanism that discards commonly occurring strings that do not help the search. These discarded strings are called **STOPWORDS**. During index creation, the Full-Text Engine omits stopwords from the full-text index. This means that full-text queries will not search on stopwords.



SQL Server 2005 noise words have been replaced by stopwords. When a database is upgraded to SQL Server 2012 from a previous release, the noise-word files are no longer used in SQL Server 2012. However, the noise-word files are stored in the FTDATA\FTNoiseThesaurusBak folder, and you can use them later when updating or building the corresponding SQL Server 2012 stoplists. For information about upgrading noise-word files to stoplists, see [Full-Text Search Upgrade](#).

A stopword can be a word with meaning in a specific language, or it can be a **TOKEN** that does not have linguistic meaning. For example, in the English language, words such as "a," "and," "is," and "the" are left out of the full-text index since they are known to be useless to a search.

Although it ignores the inclusion of stopwords, the full-text index does take into account their position. For example, consider the phrase, "Instructions are applicable to these Adventure Works Cycles models". The following table depicts the position of the words in the phrase:

Word	Position
Instructions	1
are	2
applicable	3
to	4
these	5
Adventure	6
Works	7
Cycles	8
models	9

The stopwords "are", "to", and "these" that are in positions 2, 4, and 5 are left out of the full-text index. However, their positional information is maintained, thereby leaving the position of the other words in the phrase unaffected.

Stoplists

In SQL Server 2012, stopwords are managed in databases using objects called stoplists. A **STOPLIST** is a list of stopwords that, when associated with a full-text index, is applied to full-text queries on that index.

CREATING A STOPLIST

You can create a stoplist in any of the following ways:

- Using the system-supplied stoplist in the database. SQL Server ships with a system stoplist that contains the most commonly used stopwords for each supported language, that is for every language that is associated with given word breakers by default. The system stoplist contains common stopwords for all supported languages. You can copy the system stoplist, and customize your copy by adding and removing stopwords.
The system stoplist is installed in the [Resource](#) database.
- Creating your own stoplist, and then adding stopwords to it for any language that you specify. You can also drop stopwords from your stoplist when necessary.

- Using an existing custom stoplist from any other database in the current server instance and then adding and dropping stopwords as necessary.
- CREATE FULLTEXT STOPLIST (Transact-SQL)
- Creates a new full-text stoplist in the current database.
- In SQL Server 2012 and later versions, stopwords are managed in databases by using objects called **STOPLISTS**. A stoplist is a list of stopwords that, when associated with a full-text index, is applied to full-text queries on that index. For more information, see [Stopwords and Stoplists](#).

 **Important:**

CREATE FULLTEXT STOPLIST, ALTER FULLTEXT STOPLIST, and DROP FULLTEXT STOPLIST are supported only under compatibility level 100. Under compatibility levels 80 and 90, these statements are not supported. However, under all compatibility levels the system stoplist is automatically associated with new full-text indexes.

-  [Transact-SQL Syntax Conventions](#)
- Syntax
- CREATE FULLTEXT STOPLIST stoplist_name
- [FROM { [database_name.] source_stoplist_name } | SYSTEM STOPLIST]
- [AUTHORIZATION owner_name]
- ;
- Arguments
- **STOPLIST_NAME**
- Is the name of the stoplist. **STOPLIST_NAME** can be a maximum of 128 characters. **STOPLIST_NAME** must be unique among all stoplists in the current database, and conform to the rules for [identifiers](#).
- **STOPLIST_NAME** will be used when the full-text index is created.
- **DATABASE_NAME**
- Is the name of the database where the stoplist specified by **SOURCE_STOPLIST_NAME** is located. If not specified, **DATABASE_NAME** defaults to the current database.
- **SOURCE_STOPLIST_NAME**
- Specifies that the new stoplist is created by copying an existing stoplist. If **SOURCE_STOPLIST_NAME** does not exist, or the database user does not have correct permissions, CREATE FULLTEXT STOPLIST fails with an error. If any languages specified in the stop words of the source stoplist are not registered in the current database, CREATE FULLTEXT STOPLIST succeeds, but warning(s) are returned and the corresponding stop words are not added.

- SYSTEM STOPLIST
- Specifies that the new stoplist is created from the stoplist that exists by default in the [Resource database](#).
- AUTHORIZATION OWNER_NAME
- Specifies the name of a database principal to own of the stoplist. OWNER_NAME must either be the name of a principal of which the current user is a member, or the current user must have IMPERSONATE permission on OWNER_NAME. If not specified, ownership is given to the current user.
- Remarks
- The creator of a stoplist is its owner.
- Permissions
- To create a STOPLIST requires CREATE FULLTEXT CATALOG permissions. The stoplist owner can grant CONTROL permission explicitly on a stoplist to allow users to add and remove words and to drop the stoplist.

 **Note:**

Using a stoplist with a full-text index requires REFERENCE permission.

- Examples

- A. CREATING A NEW FULL-TEXT STOPLIST
 - The following example creates a new full-text stoplist named myStoplist.
 - [Copy Code](#)
- CREATE FULLTEXT STOPLIST myStoplist;
 - GO

- B. COPYING A FULL-TEXT STOPLIST FROM AN EXISTING FULL-TEXT STOPLIST
 - The following example creates a new full-text stoplist named myStoplist2 by copying an existing AdventureWorks stoplist named Customers.otherStoplist.
 - [Copy Code](#)
- CREATE FULLTEXT STOPLIST myStoplist2 FROM AdventureWorks.otherStoplist;
 - GO

- C. COPYING A FULL-TEXT STOPLIST FROM THE SYSTEM FULL-TEXT STOPLIST

- The following example creates a new full-text stoplist named myStoplist3 by copying from the system stoplist.
- [Copy Code](#)
- CREATE FULLTEXT STOPLIST myStoplist3 FROM SYSTEM STOPLIST;
- GO

For full details on stop lists see <http://msdn.microsoft.com/en-us/library/cc280405.aspx>.

OVERVIEW OF CONTAINS AND FREETEXT SEARCHES

Querying SQL Server Using Full-Text Search

SQL Server provides a suite of full-text predicates (CONTAINS and FREETEXT) and rowset-valued functions (CONTAINSTABLE and FREETEXTTABLE) for writing full-text queries. This section introduces these predicates and functions and describes the different types of searches you can perform using them. It also discusses how to tune and optimize full-text queries.

In This Section

[Full-Text Predicates and Functions Overview](#)

Introduces and compares the full-text predicates (CONTAINS and FREETEXT) and functions (CONTAINSTABLE and FREETEXTTABLE).

[Supported Forms of Query Terms \(Full-Text Search\)](#)

Contains information about the forms of queries by full-text search and the support provided for each form by the full-text predicates and rowset-valued functions.

[Limiting Ranked Result Sets \(Full-Text Search\)](#)

Discusses the optional `TOP_N_BY_RANK` parameter to return only a subset of rows that satisfy a query using the CONTAINSTABLE or FREETEXTTABLE function. Also, contains information about how full-text search generates the rank values returned by a query

[Querying varbinary\(max\) and xml Columns \(Full-Text Search\)](#)

Discusses the use of CONTAINS and FREETEXT predicates to search full-text indexes on columns of **varbinary**, **varbinary(max)**, **xml**, or **image** data.

[Querying Multiple Columns \(Full-Text Search\)](#)

Discusses using the CONTAINS predicate to query multiple columns.

[Querying Linked Servers \(Full-Text Search\)](#)

Discusses the requirements for using four-part names in CONTAINS or FREETEXT full-text predicates to execute queries against linked servers.

[Performance Tuning and Optimization of Full-Text Queries](#)

Discusses recommendations to increase full-text query performance.

See Also

CONCEPTS

[Full-Text Search Overview](#)

OTHER RESOURCES

[CONTAINS \(Transact-SQL\)](#)

[CONTAINSTABLE \(Transact-SQL\)](#)

[FREETEXT \(Transact-SQL\)](#)

[FREETEXTTABLE \(Transact-SQL\)](#)

[Full-Text Search Administrator InfoCenter](#)

[Full-Text Search Developer InfoCenter](#)

HELP AND INFORMATION

[Getting SQL Server 2012 Assistance](#)

SQL Server 2012 Thesaurus Rules of Engagement.htm

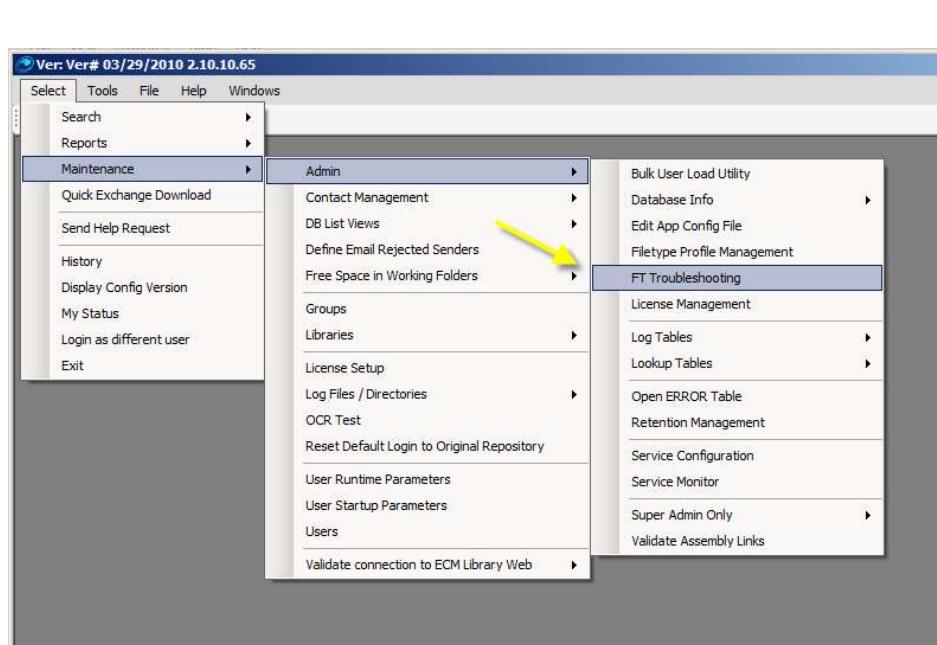
FULL-TEXT SEARCH DYNAMIC MANAGEMENT VIEWS AND FUNCTIONS

LINKS TO OTHER HELP PAGES

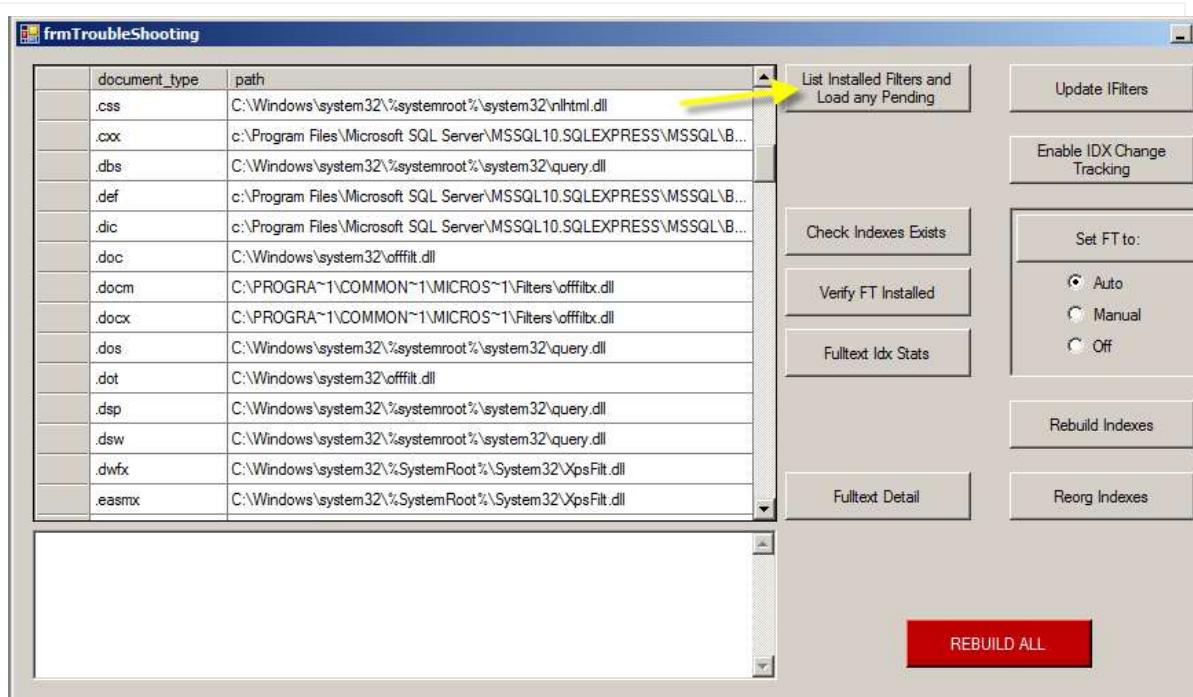
[ECM Library Master Help Index](#)

MANAGING FILTERS AND INDEXING

To navigate to a management screen to help you have both visibility into what filters have been installed for full text indexing, as well as manage the performance of your server, click on as an Administrator “FT Troubleshooting”.



This screen below will be brought up. You can click on the “list installed filters and load any pending” here that will tell you what is available for what file type. Other explanations for this screen is available as you hover over each button or through the text box (bottom right). Although the buttons here are easy to use, this is a powerful tool and should be used only by a database administrator during off-hours who understand the basics about installing ifilters, rebuilding and reorganizing indexes on Microsoft SQL Server.



COMMANDS IN MICROSOFT SQL SERVER MANAGEMENT STUDIO (TRANSACT-SQL)

This section contains the following dynamic management views and functions that are related to full-text search.

IN THIS SECTION

[sys.dm_fts_active_catalogs \(Transact-SQL\)](#)

Returns information on the full-text catalogs that have some population activity in progress on the server.

[sys.dm_fts_fdhosts](#)

Returns information on the current activity of the filter daemon host or hosts on the server instance.

[sys.dm_fts_index_keywords_by_document](#)

Returns information about the document-level content of a full-text index for the specified table. A given keyword can appear in several documents.

[sys.dm_fts_index_keywords](#)

Returns information about the content of a full-text index for the specified table.

[sys.dm_fts_index_population](#)

Returns information about the full-text index populations currently in progress.

[sys.dm_fts_memory_buffers](#)

Returns information about memory buffers belonging to a specific memory pool that are used as part of a full-text crawl or a full-text crawl range.

[sys.dm_fts_memory_pools](#)

Returns information about the shared memory pools available to the Full-Text Gatherer component for a full-text crawl or a full-text crawl range.

[sys.dm_fts_outstanding_batches](#)

Returns information about each full-text indexing batch.

[sys.dm_fts_parser](#)

Returns the final tokenization result after applying a given word breaker, thesaurus, and stoplist combination to a query string input. The output is equivalent to the output if the specified given query string were issued to the Full-Text Engine.

[sys.dm_fts_population_ranges](#)

Returns information about the specific ranges related to a full-text index population currently in progress.

Full-Text Search Dynamic Management Views and Functions.htm

GEN SQL – RIGHT CLICK MOUSE INSIDE SEARCH QUERY COMMAND

OTHER LINKS:

[Administrative Screens and Help](#)
[ECM Library Master Help Index](#)

There are many times when it is of great advantage to be able to see the actual SQL statement that is being produced for any given search, specifically for those Microsoft SQL administrators who understand the logic of this statement. When you select the GEN SQL using the right click of the mouse when hovering over the search command line, the search is produced and placed into the clip board.

This allows you to view the SQL query in an external tool or, on occasion, produce and send ECM Library support the actual SQL query that may be producing issues.

Gen SQL.htm

ECM LIBRARY QUERY ENGINE

LINKS TO OTHER HELP PAGES

[Master Help Index](#)

ON THIS PAGE:

[Strict querying using CONTAINS](#)

[Fuzzy querying using FREETEXT \(Business Meaning\)](#)

[The LANGUAGE argument](#)

[Stemming](#)

[Declensions](#)

[Conjugation](#)

[Thesaurus-based searches](#)

[Diacritics and accents](#)

[False friends or false conjugates](#)

[UK vs. US English at query time](#)

This is a summary of some of the functions within the ECM Library query engine and how it combines with the Microsoft Query engine in SQL Server 2012. Of course, this also applies to SQL Server 2005, but we strongly recommend 2012 as it is the supported, targeted platform of Microsoft.

We will review the manner in which search phrases supplied in a query are expanded by the parser before hitting the full-text index. This expansion process is performed by a language-specific component called a **stemmer** and the exact expansions that occur will depend on the language-specific rules that are in place. However, for example, expansion can be used to accommodate the following types of searches:

- Searches for plural forms of a word – a search on *apple* would also return *apples*
- Thesaurus searches for synonymous forms of word – a search on *I/E* might return hits to *Internet Explorer* and *I/E* (thesaurus based expansion); a search on *Bombay* might also return hits to *Mumbai* (thesaurus based replacement)
- Searches that will return all different linguistic forms of a word (called **generations**) – a search on *bank* would return hits to *banking*, *banked*, *banks*, *banks'* and *bank's*, etc. (all declensions and/or conjugations of the search term *bank*)
- Accent insensitive searches – a search on *café* would return hits to *cafe* and *caf  *

Before we investigate stemming in more detail, it's worth discussing the sort of expansions that will be performed depending on whether you issue a *strict* query (using the CONTAINS predicate) or a *fuzzy* query (using the FREETEXT predicate).

STRICT QUERYING USING CONTAINS

By default, use of the CONTAINS predicate will entail minimal language specific query time expansion. For example, consider a search on the term *book*.

```
select * from TableName where CONTAINS(*,'Book')
```

The asterisk (*) is used to search all full-text indexed columns. In SQL 2000 you can search all full-text indexed columns or one named full-text index column:

```
select * from TableName where CONTAINS(col1,'Book'))
```

In SQL 2005 you can search all columns, a named column, or a subset of all full-text indexed columns:

```
select * from TableName where CONTAINS((col1,col2),'Book')
```

There may be text in the table where the term "book" is used both as a noun (*John threw the book at Sam*) and a verb (*John was booked for assault and battery when he threw the book at Sam*). However, a query using the basic CONTAINS predicate will only match with *book* (and alternative word forms for *book* – although in English there are none).

Fortunately, you can choose to have your CONTAINS search expanded to capture different generations of a word by using the FORMSOF term. This term accepts two arguments – INFLECTIONAL or THESAURUS. The INFLECTIONAL argument will expand the search phrase to search on all conjugations and declensions of each word in the search phrase, and the THESAURUS argument will enable a thesaurus expansion on the search phrase. Here are two examples of what this would look like:

```
Select * from TableName where CONTAINS(*,'FORMSOF(INFLECTIONAL,run)')
```

And

```
Select * from TableName where CONTAINS(*,'FORMSOF(THESAURUS,run)')
```

Furthermore, with some languages, additional breaking will occur by default at query time. For example, consider a search on *häuser* (German for houses) on a full-text indexed table containing the term *häuser* in one row and *haeuser*, the alternative word form, in another row. If the default full-text language on the Server was US English then the query would not be expanded and you would only get a hit on the row containing *häuser*:

```
select * from TableName where CONTAINS(*,'häuser')
```

However, if your server had a default full-text language of German, you would get hits on both rows because your search phrase would be automatically expanded to the following:

```
select * from TableName where CONTAINS(*,'"häuser" or "haeuser"')
```

Note that the search phrases are now wrapped in double quotes. When using CONTAINS, you must use double quotes to wrap a search phrase containing more than one word.

[Back to top](#)

FUZZY QUERYING USING FREETEXT (BUSINESS MEANING)

The term "fuzzy" is something of a misnomer as it implies use of a technology such as *Levenstein Edit Distance* which is tolerant of minor spelling variations or mistakes, which is not the case. In fact, use of FREETEXT means that, by default, the search is expanded to encompass all generations of the searched word, for the default full-text language setting of your server. So, to continue the previous "book" example, a FREETEXT search on book:

```
Select * from TableName  
where FREETEXT  
(*, 'Book')
```

would be expanded to the equivalent of:

```
Select * from TableName  
where CONTAINS  
(*, "Book" or "books" or "book"s" or books"" or "booked" or "booking")
```

The search would also return any relevant thesaurus expansions.

Note that when using FREETEXT in SQL 2000 you have to wrap your search phrase in double quotes if a search phrase contains more than one word or token (as when using CONTAINS). However, in SQL 2005 you no longer need to do this when using the FREETEXT predicate. In fact if you wrap your search phrase in double quotes stemming and thesaurus expansion and replacements are disabled and your search phrase is treated as a strict match – in other words the functional equivalent of a CONTAINS predicate (although the ranking algorithm is different).

See [Business Meaning](#) help page for more information.

[Back to top](#)

THE LANGUAGE ARGUMENT

In SQL 2005, you can override the default full-text language settings for your server by using the LANGUAGE argument with the CONTAINS and FREETEXT predicates and have your searches conducted in different languages. For example, on a SQL 2005 Server with a default full-text language setting of US_ENGLISH, you could search on German phrases by using the LANGUAGE argument, and have your German search terms stemmed in a FREETEXT predicate according to German language rules.

Script 3 provides a full example of this (see the "Scripts" link at the top right of this page). In this script we are loading HTML documents into the varbinary data type column of a table called German. In each case we specify that word boundaries are identified using the US English Word breaker, as denoted by the LANGUAGE 1033 clause:

```
CREATE FULLTEXT INDEX ON German  
(varbinarycol TYPE COLUMN documentExtension
```

LANGUAGE 1033)

KEY INDEX GermanPK

However, when we load some of these documents into the database, we include a German language MetaTag:

```
INSERT INTO German
(varbinarycol, documentExtension, word, language )
VALUES
(CONVERT(VARBINARY(256),
'<HTML><HEAD><META NAME="MS.LOCALE" CONTENT="DE">
</HEAD><BODY>wanderlust</BODY></HTML>'),
'.htm','wanderlust','GERMAN')
```

And when we load others we use the US English language MetaTag:

```
INSERT INTO German
(varbinarycol, documentExtension, word, language )
VALUES
(CONVERT(VARBINARY(256),
'<HTML><HEAD><META NAME="MS.LOCALE" CONTENT="EN-US">
</HEAD><BODY>wanderlust</BODY></HTML>'),
'.htm','wanderlust','ENGLISH')
```

So, a query on *wanderlust* returns two documents – the English and German language documents contain the word *wanderlust*.

```
select word, language from german where freetext(*,'wanderlust')
```

However, a search on *lust* returns three documents – two exact matches for *lust* and one further match with *wanderlust* in the German language document. The reason for this is that the German word breaker was launched by the HTML language tag and this overrides the word breaker setting in our full-text index creation statement. As a result, *wanderlust* is broken by the German word breaker into *wanderlust*, *wandern*, and *lust*. Hence a search on *lust* returns the German HTML document with *wanderlust* in it.

If we override the default full-text language settings for our server (US English) and set the language of our search to German:

```
select word, language from german
where freetext(*,'wanderlust', language 1031)
```

Then we get six rows returned, since now our search phrase is automatically expanded into *wanderlust*, *wandern* and *lust*, and so we get matches for all three of these in both German and English documents.

[Back to top](#)

STEMMING

By **stemming**, Microsoft means:

- Generating declensions of a word – possessive and gender (although gender is not supported in SQL FTS)
- Generating conjugations of a word

Stemming reduces a search term to its linguistic root (for example *careers* would be reduced to *career*), and then expands from that root to encompass all linguistic forms of that root (for example *career*, *career's*, *careers'*, *careers*', *careered*, and *careering*).

Most stemmers implement a form of the *Porter Stemming Algorithm* with dictionaries to handle irregularly stemmed words such as goose/geese, mouse/mice, fit/fat, and so on. Some of the more sophisticated stemmers implement an inference algorithm which when encountering a freshly minted word (like blog for instance) can conjugate, or generate declensions of, this new word based on its similarity to other older words.

Note: It is interesting to search on terms such as "careers" on various web sites to see what matches are returned. It is frequently incorrectly stemmed as careful.

DECLENSIONS

Generating declensions is best illustrated through a few examples:

- A FREETEXT or CONTAINS search on the noun *apple* would return hits to *apple* and *apples*
- A FREETEXT or CONTAINS inflectional search on the adjective *pretty* would match to *pretty*, *prettier* and *prettiest*.

Please see script 4 for examples of declination in action.

CONJUGATION

Again, this is best illustrated by example. If you search on the verb *book* the stemmer will generate all conjugations of this term and row matches will be returned for *book*, *booked*, *booking*, and *books*. Script 4 has an example of this.

[Back to top](#)

THESAURUS-BASED SEARCHES

The thesaurus option allows expansion of your search term to include preconfigured terms, and replacement of your search term with another search term. To configure your thesaurus options, edit the files found in C:\Program Files\Microsoft SQL Server\MSSQL.1\MSSQL\FTData. The thesaurus file for your

language will follow the naming convention **tsXXX.xml** where **XXX** represents your language code, i.e. ENU for US-English, ENG for UK-English, and so on.

If you edit tsXXX.xml in a text editor you will find that there are two sections, or nodes, to the thesaurus file: an expansion node, and a replacement node. The expansion node is used to extend your search argument from one term to another – known as **thesaurus expansion**. For example in the thesaurus file you will find the following expansion:

```
<expansion>
  <sub>Internet Explorer</sub>
  <sub>IE</sub>
  <sub>IE5</sub>
</expansion>
```

This will convert any searches on *IE* to search on *IE*, *IE5*, and *Internet Explorer*.

Note that you will need to remove the comment lines from your thesaurus file in order to activate this.

The replacement node is used to replace one search argument with another – known as **thesaurus replacement**. For example, you may want a search on *sex* to be replaced by a search on *gender*. By configuring your thesaurus file as follows, any search on *sex* will only get hits to rows containing the term *gender* and will miss rows that do not contain *gender*, but contain the word *sex*:

```
<replacement>
  <pat>sex</pat>
  <sub>gender</sub>
</replacement>
```

The *pat* element (*sex*) indicates the pattern you want substituted by the *sub* element (*gender*).

A FREETEXT query will automatically use the thesaurus file for the language type, and a CONTAINS query will do so when you use FORMSOF with the thesaurus option:

```
SELECT * FROM TableName
WHERE CONTAINS(*,'FORMSOF(Thesaurus,"IE")')
```

This would return matches to rows containing *IE*, *IE5*, and *Internet Explorer*.

DIACRITICS AND ACCENTS

A diacritical mark, or diacritic (sometimes called an accent mark), is a mark added to a letter to alter a word's pronunciation or to distinguish it from other similar words. Previous versions of SQL Server were unable to handle accents so a search on *café* would not match with rows containing *cafe* – even when using the French word breaker or stemmer.

SQL Server 2005 has the option of creating accent insensitive catalogs. This means that a search on *café* will match with *café*, *cafe*, *cafè*, *cafê*, and *caf  *. In other words it does a very unintelligent match, but one

that will solve many of the problems that users have when handling diacritics. Script 5 illustrates this functionality.

FALSE FRIENDS OR FALSE CONJUGATES

When you are searching content that is written in a variety of languages, you must be careful to account for a linguistic phenomenon called *false friends* or *false conjugates*.

A false friend is a word that has the same spelling in different languages, but different meanings. An example is the word *gift* which means a present in English, but in German means poison. You need to be careful to avoid a search on the English word returning rows with German content. False friends are not to be confused with *wanderworts* – words which occur with the same spelling in different languages and also have the same meaning.

The best approach to problems like this is to segregate your content into language specific columns.

UK VS. US ENGLISH AT QUERY TIME

There are very slight variations between US and UK English stemmers, mostly arising from spelling variations between American and International English. For example in America we spell *color* and *center*, *analog*, *apologize*, *flavor*; whereas in Britain these words are spelt *colour*, *centre*, *analogue*, *apologise*, and *flavour*. There is no conformity in the rest of the English speaking world, however most of the English speaking countries use the International version of English; although it may vary from one region to another – for example in Western Canada – the spelling *center* predominates, in Eastern Canada *centre* predominates.

If you are querying in International English *color* would be stemmed as *color*, whereas *colour* would be stemmed as *colour*, *colour's*, *colours*, *colours'*, *coloured* and *colouring*. Likewise if you searched on *colour* using American English you would not get hits to rows containing *colour*, *colour's*, *colours*, *colours'*, *coloured* and *colouring*.

The key to avoiding idiomatic spelling variations is to scrupulously clean your content or use the thesaurus option to expand your search to alternate spellings.

[Back to top](#)

Query Engine.htm

ANALYZE RESULTS OF WORD SEARCH – FOR ECM LIBRARY ADMINISTRATORS

LINKS TO OTHER HELP PAGES

SYS.DM_FTS_PARSER (TRANSACT-SQL)

Returns the final tokenization result after applying a given [word breaker](#), [thesaurus](#), and [stoplist](#) combination to a query string input. The tokenization result is equivalent to the output of the Full-Text Engine for the specified query string.

`sys.dm_fts_parser` is a dynamic management function.

Syntax

`sys.dm_fts_parser('query_string', lcid, stoplist_id, accent_sensitivity)`

Arguments

query_string

The query that you want to parse. *query_string* can be a string chain that [CONTAINS](#) syntax support. For example, you can include inflectional forms, a thesaurus, and logical operators.

lcid

Locale identifier (LCID) of the word breaker to be used for parsing *query_string*.

stoplist_id

ID of the stoplist, if any, to be used by the word breaker identified by *lcid*. *stoplist_id* is [int](#). If you specify 'NULL', no stoplist is used. If you specify 0, the system STOPLIST is used.

A stoplist ID is unique within a database. To obtain the stoplist ID for a full-text index on a given table use the [sys.fulltext_indexes](#) catalog view.

accent_sensitivity

Boolean value that controls whether full-text search is sensitive or insensitive to diacritics.

accent_sensitivity is [bit](#), with one of the following values:

Value	Accent sensitivity is...
0	Insensitive Words such as "café" and "cafe" are treated identically.
1	Sensitive Words such as "café" and "cafe" are treated differently.

 **Note:**

To view the current setting of this value for a full-text catalog, run the following Transact-SQL statement:
SELECT fulltextcatalogproperty('catalog_name', 'AccentSensitivity');

TABLE RETURNED

Column name	Data type	Description								
keyword	varbinary(128)	The hexadecimal representation of a given keyword returned by the word breaker. This representation is used to store the keyword in the full-text index. This value is not human-readable, but it is useful for applications that return the content of a full-text index, such as sys.dm_fts_index_keywords and sys.dm_fts_index_keywords_by_document .								
group_id	int	<p> Note:</p> <p>OxFF represents the special character that indicates the end of the dataset.</p> <p>Contain an integer value that is useful for differentiating the group from which a given term was generated. For example, "Server OR FORMSOF(THESAURUS, DB)" produces the following group values in English:</p> <table><tr><td>group_id</td><td>display_term</td></tr><tr><td>1</td><td>Server</td></tr><tr><td>2</td><td>DB</td></tr><tr><td>3</td><td>DB</td></tr></table>	group_id	display_term	1	Server	2	DB	3	DB
group_id	display_term									
1	Server									
2	DB									
3	DB									
phrase_id	int	<p>Contains an integer value that is useful for differentiating the phrase from which alternative forms of compound words, such as full-text terms issued by the word breaker. Sometimes, with presence of certain words ('multi-million'), alternative forms are issued by the word breaker. These alternative forms (phrases) need to be differentiated sometimes.</p> <p>For example, 'multi-million' produces the following phrase_id values in English:</p> <table><tr><td>phrase_id</td><td>display_term</td></tr><tr><td>1</td><td>multi</td></tr><tr><td>1</td><td>million</td></tr><tr><td>2</td><td>multimillion</td></tr></table>	phrase_id	display_term	1	multi	1	million	2	multimillion
phrase_id	display_term									
1	multi									
1	million									
2	multimillion									

occurrence	int	Indicates the order of each term in the parsing result. For example, for the phrase "SQL Server query processor" occurrence would contain the following occurrence values for the terms in the phrase, in English:
		occurrence display_term
		1 SQL
		2 Server
		3 query
		4 processor
special_term	nvarchar(8000)	Contains information about the characteristics of the term that is being issued by the word breaker, one of:
		Exact match
		Noise word
		End of Sentence
		End of paragraph
		End of Chapter
display_term	nvarchar(8000)	Contains the human-readable form of the keyword. As with the functions designed to access the content of the full-text index, this displayed term might not be identical to the original term due to the denormalization limitation. However, it should be precise enough to help you identify it from the original input.
expansion_type	int	Contains information about the nature of the expansion of a given term, one of:
		0 =Single word case
		2=Inflectional expansion
		4=Thesaurus expansion/replacement
		For example, consider a case in which the thesaurus defines run as an expansion of jog:
		<expansion>
		_{run}
		_{jog}
		</expansion>

The term FORMSOF (FREETEXT, run) generates the following output:

run with **expansion_type**=0

runs with **expansion_type**=2

running with **expansion_type**=2

ran with **expansion_type**=2

jog with **expansion_type**=4

source_term **nvarchar(8000)**

The term or phrase from which a given term was generated or parsed. For example, a query on the "word breakers" AND stemmers produces the following **source_term** values in English:

source_term display_term

word breakers word

word breakers breakers

stemmers stemmers

REMARKS

sys.dm_fts_parser supports the syntax and features of full-text predicates, such as [CONTAINS](#) and [FREETEXT](#), and functions, such as [CONTAINSTABLE](#) and [FREETEXTTABLE](#).

USING UNICODE FOR PARSING SPECIAL CHARACTERS

When you parse a query string, **sys.dm_fts_parser** uses the [collation](#) of the database to which you are connected, unless you specify the query string as [Unicode](#). Therefore, for a non-Unicode string that contains special characters, such as ü or ç, the output might be unexpected, depending on the collation of the database. To process a query string independently of the database collation, prefix the string with N, that is, N'query_string'.

For more information, see "C. Displaying the Output of a String that Contains Special Characters," later in this topic.

WHEN TO USE SYS.DM_FTS_PARSER

sys.dm_fts_parser can be very powerful for debugging purposes. Some major usage scenarios include:

- To understand how a given word breaker treats a given input
When a query returns unexpected results, a likely cause is the way that the word breaker is parsing and breaking the data. By using **sys.dm_fts_parser**, you discover the result that a word breaker passes to the full-text index. In addition, you can see which terms are stopwords, which are not searched in the full-text index. Whether a term is a stopword for a given language depends on whether it is in the stoplist specified by the *stoplist_id* value that is declared in the function.

Note as well the accent sensitivity flag, which will allow the user to see how the word breaker will parse the input having in mind its accent sensitivity information.

- To understand how the stemmer works on a given input

You can find out how the word breaker and the stemmer parse a query term and its stemming forms, by specifying a CONTAINS or CONTAINSTABLE query containing the following FORMSOF clause:

[Copy Code](#)

```
FORMSOF( INFLECTIONAL, query_term )
```

The results tell you what terms are being passed to the full-text index.

- To understand how the thesaurus expands or replaces all or part of the input

You can also specify:

[Copy Code](#)

```
FORMSOF( THESAURUS, query_term )
```

The results of this query show how the word breaker and thesaurus interact for the query term. you can see the expansion or replacements from the thesaurus and identify the resulting query that is actually being issued against the full-text index.

Note that if the user issues:

[Copy Code](#)

```
FORMSOF( FREETEXT, query_term )
```

The inflectional and Thesaurus capabilities will take place automatically.

In addition to the preceding usage scenarios, **sys.dm_fts_parser** can help significantly to understand and troubleshoot many other issues with full-text query.

PERMISSIONS

Requires membership in the **sysadmin** fixed server role and access rights to the specified stoplist.

Examples:

A. Displaying the output of a given word breaker for a keyword or phrase

The following example returns the output from using the English word breaker, whose LCID is 1033, and no stoplist on the following query string:

The Microsoft business analysis

Accent sensitivity is disabled.

[Copy Code](#)

```
SELECT * FROM sys.dm_fts_parser (' "The Microsoft business analysis" ', 1033, 0, 0)
```

B. Displaying the output of a given word breaker in the context of stoplist filtering

The following example returns the output from using the English word breaker, whose LCID is 1033, and an English stoplist, whose ID is 77, on the following query string:

"The Microsoft business analysis" OR "MS revenue"

Accent sensitivity is disabled.

[Copy Code](#)

```
SELECT * FROM sys.dm_fts_parser (' "The Microsoft business analysis" OR " MS revenue" ', 1033, 77, 0)
```

C. Displaying the Output of a String that Contains Special Characters

The following example uses Unicode to parse the following French string:

français

The example specifies the LCID for the French language, **1036**, and the ID of a user-defined stoplist, **5**. Accent sensitivity is enabled.

[Copy Code](#)

```
SELECT * FROM sys.dm_fts_parser(N'français', 1036, 5, 1);
```

[Back to top](#)

Analyze Results of Word Search.htm

DM_FTS_PARSER – MICROSOFT SQL SERVER ADMINISTRATOR FUNCTIONS

OTHER HELP:

[Other Administrative Table Help](#)

[ECM Library Master Help Index](#)

DM_FTS_PARSER takes a full text query and breaks it up using the word breaker rules, applies stop lists (more on them later), and any configured thesaurus. This is essential in the first step of diagnosing when users are complaining because their queries aren't working. Often this is due to, a word not breaking as expected, use of noise words that exist in the stop list or thesaurus replacing or substituting words.

You call the function using the same query string as you would use normally with a CONTAINS statement, along with a language, a stop list and where the search should be accent sensitive.

```
SELECT * FROM sys.dm_fts_parser ('FORMSOF( THESAURUS, "Internet Explorer")', 2057, 0, 0)
```

This returns the following,

Keyword	group_id	phrase_id	occurred	special_term	display_term	expansion_type	source_term
0x006900E007400650072006E00650074	1	0	1	Exact Match	internet	0	Internet Explorer
0x005007007000C006F007200650072	1	0	2	Exact Match	explorer	0	Internet Explorer
0x0060069007200650066006F0078	1	2	1	Exact Match	firefox	4	Internet Explorer
0x006006500740073006300610070005	1	3	1	Exact Match	netscape	4	Internet Explorer

You can see that in my thesaurus I have added substitution elements for Internet Explorer or firefox and netscape.

The following query ,

```
SELECT * FROM sys.dm_fts_parser ('multi-million', 2057, 0, 0)
```

Returns the following showing how the word breaking as broken the word up but also maintained the combined word.

Keyword	group_id	phrase_id	occurred	special_term	display_term	expansion_type	source_term
0x00600075006C00740069	1	1	1	Exact Match	multi	0	multi-million
0x0050069006C006C0069006F006E	1	1	2	Exact Match	million	0	multi-million
0x00600075006C00740069006D0069006C006C0069006F006E	1	2	1	Exact Match	multimillion	0	multi-million

Finally

```
SELECT * FROM sys.dm_fts_parser ('SQL OR Server OR 2012 OR is OR the OR best', 2057, 0, 0)
```

Returns the following which nicely indicates which words are noise words but also that numbers are searched as numbers and text. Note the nn prefix.

Keyword	group_id	phrase_id	occurred	special_term	display_term	expansion_type	source_term
0x00730071006C	1	0	1	Exact Match	sql	0	SQL
0x007300650072007600650072	2	0	1	Exact Match	server	0	Server
0x0032003000300038	3	0	1	Exact Match	2008	0	2008
0x006E006E0032003000300038	3	0	1	Exact Match	nn2008	0	2008
0x006900073	4	0	1	Noise Word	is	0	is
0x007400680065	5	0	1	Noise Word	the	0	the
0x0065006500730074	6	0	1	Exact Match	best	0	best

And finally finally, the query about c++, c# etc.

```
SELECT * FROM sys.dm_fts_parser ('C or c or C++ or c++ or C# or c#', 2057, 0, 0)
```

Returns the following, which shows what you need to put in to get an exact search on c++, or c#. Capitalise the C. What's also interesting is that C, C++ both relate to C as well but C# doesn't, which means it C is removed from the noise word then C++ would return any document containing the word C.

	keyword	group_id	phrase_id	occurred	special_term	display_term	expansion_type	source_term
1	0x0063	1	0	1	Noise Word	c	0	C
2	0x0063	2	0	1	Noise Word	c	0	c
3	0x0063002B002B	3	0	1	Exact Match	c++	0	C++
4	0x0063	4	0	1	Noise Word	c	0	c++
5	0x0063002B002B	4	0	1	Exact Match	c++	0	c++
6	0x00630023	5	0	1	Exact Match	c#	0	C#
7	0x0063	6	0	1	Noise Word	c	0	c#

DM_FTS_PARSER.htm

FULL TEXT INDEX CHANGE TRACKING

Problem

Creation and maintenance of full-text catalogs and indexes in SQL Server can be taxing on both the server and the administrator, as well as take a lot of time to populate. This can result in increased deployment times and potentially inaccurate search results. To ease the deployment process and increase the uptime of your application, you can use Change-Tracking population.

Solution

In the traditional methods of full-text catalog population, you can choose a full or incremental population. In full population, the catalog is "built from scratch", building an index entry for each row in the table. In incremental population, a timestamp is used to determine where to start the population. The *sysfulltextnotify* table holds entries for updated rows and is polled by the MSSearch service. You can determine when this table is polled in one of three ways:

Method	Description	T-SQL Statement
Scheduled	Runs on whatever schedule you choose. Can be run via a SQL Agent job	<pre>sp_fulltext_table table_name 'Start_change_tracking' sp_fulltext_table table_name 'update_index'</pre>
On demand	Runs whenever you run the statements. Changes are stored in the <i>sysfulltextnotify</i> table	<pre>sp_fulltext_table table_name 'Start_change_tracking'</pre>

		<code>sp_fulltext_table table_name 'update_index'</code>
Background	Changes to the table rows are propagated when they occur	<code>sp_fulltext_table table_name 'Start_change_tracking'</code> <code>sp_fulltext_table table_name 'start_background_updateindex'</code>

The background population offers a couple of benefits:

- Decreased time in propagating changes to the full-text catalog
- A wider distribution of resource usage, since changes are made when the update occurs instead of having to apply the changes all at once

Once the population method is changed to change tracking, an incremental population begins to make sure the catalog is up to date. The only downside to switching to change tracking population is that entries are no longer written to the Event Log; however, you can devise another method for comparing the entries in the table with the number of rows in the full-text catalog to ensure the process is working for you.

Full-Text Index Population

Creating and maintaining a full-text index involves populating the index by using a process called a *population* (also known as a *crawl*). SQL Server supports the following types of population: full population, change tracking-based automatic or manual population, and incremental timestamp-based population.

FULL POPULATION

During a full population, index entries are built for all the rows of a table or indexed view. A full population of a full-text index, builds index entries for all the rows of the base table or indexed view.

By default, SQL Server populates a new full-text index fully as soon as it is created. However, a full population can consume a significant amount of resources. Therefore, when creating a full-text index during peak periods, it is often a best practice to delay the full population until an off-peak time, particularly if the base table of a full-text index is large. However, the full-text catalog to which the index belongs is not usable until all of its full-text indexes are populated. To create a full-text index without populating it immediately, specify the `CHANGE_TRACKING OFF, NO POPULATION` clause in your `CREATE FULLTEXT INDEX` Transact-SQL statement. SQL Server will not populate the new full-text index until you execute an `ALTER FULLTEXT INDEX` Transact-SQL statement using the `START FULL POPULATION` or `START INCREMENTAL POPULATION` clause. For more information, see examples "A. Creating a full-text index without running a full population" and "B. Running a full population on table," later in this topic.

CHANGE TRACKING-BASED POPULATION

Optionally, you can use change tracking to maintain a full-text index after its initial full population. There is a small overhead associated with change tracking because SQL Server maintains a table in which it tracks changes to the base table since the last population. When change tracking is used, SQL Server maintains a record of the rows in the base table or indexed view that have been modified by updates, deletes, or inserts. Data changes

through WRITETEXT and UPDATETEXT are not reflected in the full-text index, and are not picked up with change tracking.

 **Note:**

For tables containing a **timestamp** column, you can use incremental populations.

When change tracking is enabled during index creation, SQL Server fully populates the new full-text index immediately after it is created. Thereafter, changes are tracked and propagated to the full-text index. There are two types of change tracking, automatic (CHANGE_TRACKING AUTO option) and manual (CHANGE_TRACKING MANUAL option). Automatic change tracking is the default behavior.

The type of change tracking determines how the full-text index is populated, as follows:

- Automatic population

By default, or if you specify CHANGE_TRACKING AUTO, the Full-Text Engine uses automatic population on the full-text index. After the initial full population completes, changes are tracked as data is modified in the base table, and the tracked changes are propagated automatically. The full-text index is updated in the background, however, so propagated changes might not be reflected immediately in the index.

- **To set up tracking changes with automatic population**
- [CREATE FULLTEXT INDEX ... WITH CHANGE_TRACKING AUTO](#)
- [ALTER FULLTEXT INDEX ... SET CHANGE_TRACKING AUTO](#)
- [How to: View or Change the Properties of a Full-Text Index \(SQL Server Management Studio\)](#)

For more information, see example "E. Altering a full-text index to use automatic change tracking," later in this topic.

- Manual population

If you specify CHANGE_TRACKING MANUAL, the Full-Text Engine uses automatic population on the full-text index. After the initial full population completes, changes are tracked as data is modified in the base table. However, they are not propagated to the full-text index until you execute an ALTER FULLTEXT INDEX ... START UPDATE POPULATION statement. You can use SQL Server Agent to call this

Transact-SQL statement periodically.

To start tracking changes with manual population

- [CREATE FULLTEXT INDEX ... WITH CHANGE_TRACKING MANUAL](#)
- [ALTER FULLTEXT INDEX ... SET CHANGE_TRACKING MANUAL](#)
- [How to: View or Change the Properties of a Full-Text Index \(SQL Server Management Studio\)](#)

For more information, see examples "C. Creating a full-text index with manual change tracking" and "D. Running a manual population," later in this topic.

To set up tracking changes with no change tracking

- [CREATE FULLTEXT INDEX ... WITH CHANGE_TRACKING OFF](#)
- [ALTER FULLTEXT INDEX ... SET CHANGE_TRACKING OFF](#)
- [How to: View or Change the Properties of a Full-Text Index \(SQL Server Management Studio\)](#)
-

INCREMENTAL TIMESTAMP-BASED POPULATION

An incremental population is an alternative mechanism for manually populating a full-text index. You can run an incremental population for a full-text index that has CHANGE_TRACKING set to MANUAL or OFF. If the first population on a full-text index is an incremental population, it indexes all rows, making it equivalent to a full population. The requirement for incremental population is that the indexed table must have a column of the **timestamp** data type. If a **timestamp** column does not exist, incremental population cannot be performed. A request for incremental population on a table without a **timestamp** column results in a full population operation. Also, if any metadata that affects the full-text index for the table has changed since the last population, incremental population requests are implemented as full populations. This includes metadata changes caused by altering any column, index, or full-text index definitions.

SQL Server uses the **timestamp** column to identify rows that have changed since the last population. The incremental population then updates the full-text index for rows added, deleted, or modified after the last population, or while the last population was in progress. If a table experiences a high volume of inserts, using incremental population can be more efficient than using manual population.

At the end of a population, the Full-Text Engine records a new **timestamp** value. This value is the largest **timestamp** value that SQL Gatherer has encountered. This value will be used when a subsequent incremental population starts.

To run an incremental population, execute an ALTER FULLTEXT INDEX statement using the START INCREMENTAL POPULATION clause.

To schedule an incremental population job

- [How to: Create or Manage a Schedule for Incremental Populations of a Full-Text Index \(SQL Server Management Studio\)](#)

HERE ARE THE MICROSOFT EXAMPLES ON HOW TO WORK WITH A FULLTEXT INDEX:

A. CREATING A FULL-TEXT INDEX WITHOUT RUNNING A FULL POPULATION

The following example creates a full-text index on the **Production.Document** table of the **AdventureWorks** sample database. This example uses WITH CHANGE_TRACKING OFF, NO POPULATION to delay the initial full population.

```
CREATE FULLTEXT INDEX fk_FullDoc ON Production.Document(DocumentID);
CREATE FULLTEXT CATALOG AW_FTCat;
CREATE FULLTEXT INDEX ON Production.Document
/
Document           Full text index column name
TVDE COLUMN FileExtension   Name of column that contains file type information
Language 1033        1033 is LCID for the English language
\

KEY INDEX fk_FullDoc
ON AW_FTCat
WITH CHANGE_TRACKING OFF NO POPULATION;
GO
```

B. RUNNING A FULL POPULATION ON TABLE

The following example runs a full population on the **Production.Document** table of the **AdventureWorks** sample database.

```
ALTER FULLTEXT INDEX ON Production.Document
START FULL POPULATION;
```

C. CREATING A FULL-TEXT INDEX WITH MANUAL CHANGE TRACKING

The following example creates a full-text index that will use change tracking with manual population on the **HumanResources.JobCandidate** table of the **AdventureWorks** sample database.

```
USE AdventureWorks;
GO
```

```
CREATE FULLTEXT INDEX ON JobCandidate ON HumanResources.JobCandidate(JobCandidateID);
```

```
CREATE FULLTEXT CATALOG ft AS DEFAULT;
```

```
CREATE FULLTEXT INDEX ON HumanResources.JobCandidate(Resume)
```

```
KEY INDEX di_idx_JobCand
```

```
WITH CHANGE_TRACKING=MANUAL;
```

```
GO
```

D. RUNNING A MANUAL POPULATION

The following example runs a manual population on the change-tracked full-text index of the **HumanResources.JobCandidate** table of the **AdventureWorks** sample database.

```
USE AdventureWorks;
```

```
GO
```

```
ALTER FULLTEXT INDEX ON HumanResources.JobCandidate START UPDATE POPULATION;
```

```
GO
```

E. ALTERING A FULL-TEXT INDEX TO USE AUTOMATIC CHANGE TRACKING

The following example changes the full-text index of the **HumanResources.JobCandidate** table of the **AdventureWorks** sample database to use change tracking with automatic population.

[Copy Code](#)

```
USE AdventureWorks;
```

```
GO
```

```
ALTER FULLTEXT INDEX ON HumanResources.JobCandidate SET CHANGE_TRACKING AUTO;
```

```
GO
```

FOR SQL ADMINISTRATORS: CHECKING FILTER SETTINGS AND FILE TYPES AVAILABLE FOR ARCHIVE

OTHER LINKS:

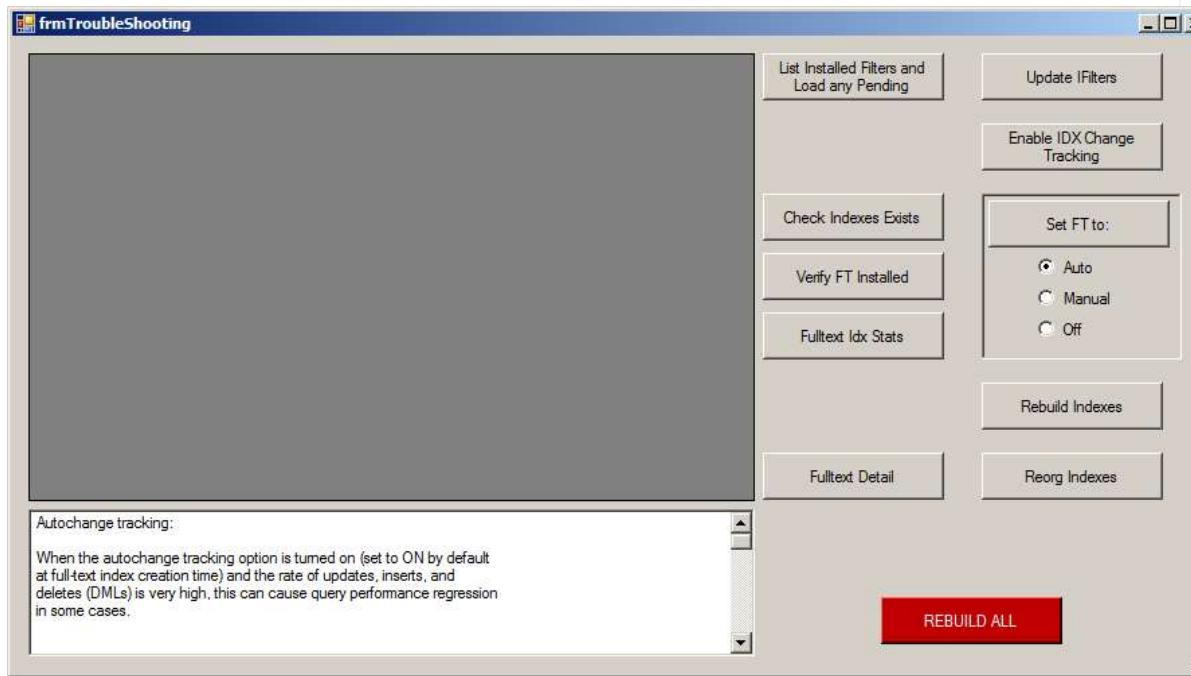
[Administrative Screens and Help](#)
[Filter Download Resources](#)
[ECM Library Master Help Index](#)

WHAT FILE TYPES WILL BE ARCHIVED:

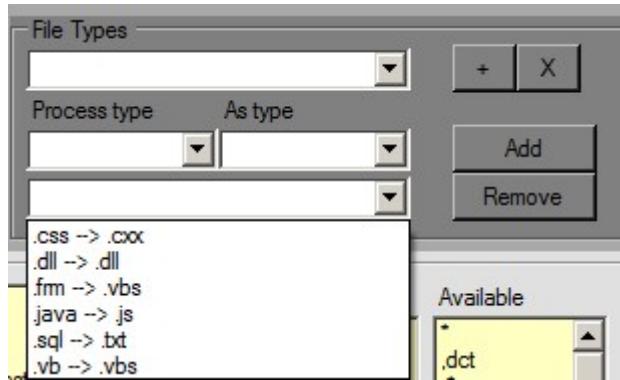
See listing of default file types in the system and how to add in other file types to be archived [here](#). These file types will show up in the main archive set up screen. Keep in mind that just because you can archive something, it doesn't mean you have set up the indexing for it. You need can use these screens to manage what is archived, and what is indexed that IS archived.

MANAGING INDEXES AND THE ECM LIBRARY REPOSITORY:

This screen is very helpful to decipher what filters you already have installed on the server. Just click on "List Installed filters and Load any Pending" and you will see the list. You will find the Full Text Troubleshooting screen available as "FT Troubleshooting" under the administrative menu.



If you are missing filters, you can choose to download filters (please see this link for [iFilter download references](#)) or, if you have knowledge of the nature of a filetype, you can choose to process a certain file type as another type that is used by an iFilter. See screen shot below as examples in the pull down menu (under Tools menu and then [Archive Setup](#)) on the upper left hand side of the main archive screen.



FT TROUBLESHOOTING SCREEN'S OTHER FUNCTIONS

This screen can be used as an alternative to Microsoft SQL Server Manager Studio for maintaining the server. Simply follow each button from top to bottom starting on the left side and working down the second column of the the right hand side. A note of caution: if the reporting buttons when pressed indicate that the index needs to be rebuilt OR you have loaded in new filters, please note that the rebuilding of indexes will take a long time. We strongly suggest you do any changes during evenings or weekends.

See [SQL Manager functions available](#) on this help screen.

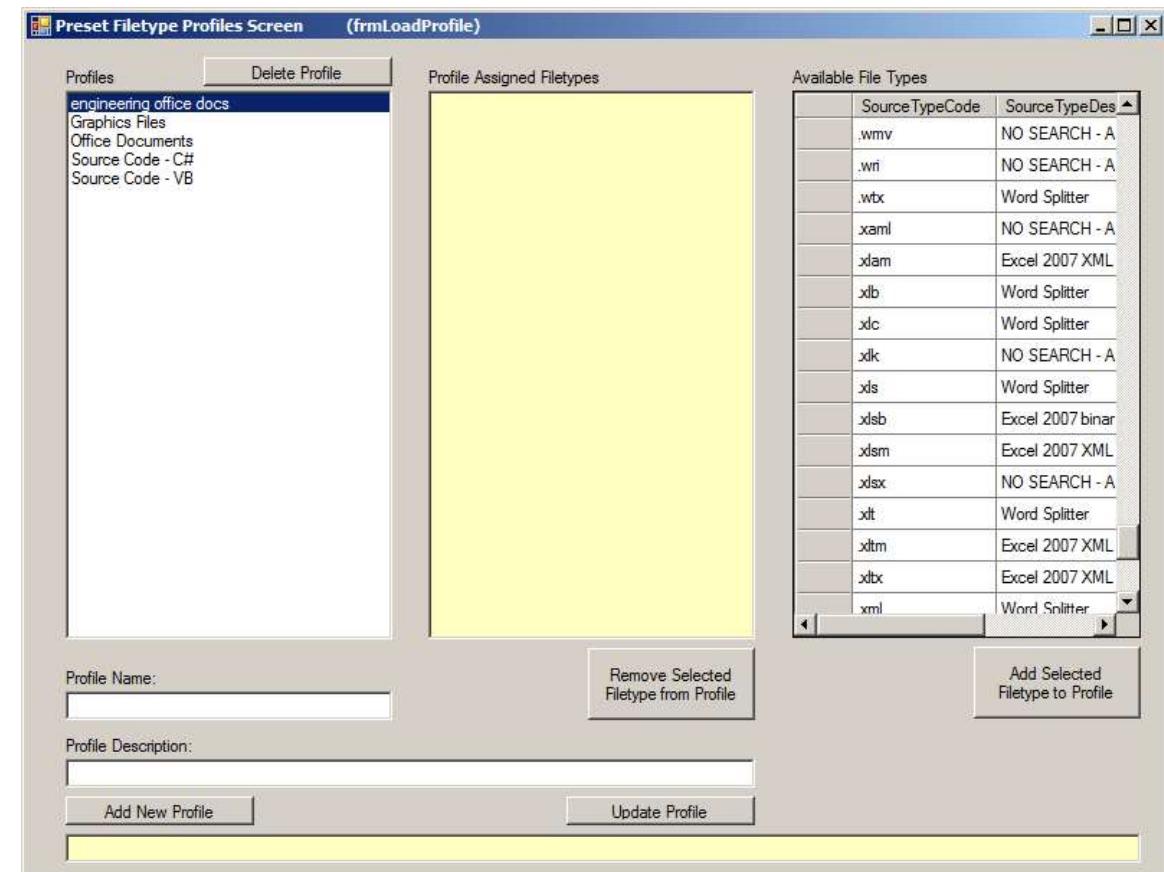
[Back to top](#)

FILE TYPE PROFILE MANAGEMENT

LINKS TO OTHER HELP PAGES

[ECM Library Master Help Index](#)
[Administrative Screens and Help](#)

This allows an administrator to predefine selected sets of file types to be automatically inserted into archive. For example, a predefined set of file types could be established for all Microsoft office documents, or a set could be defined for programmers to back up their source code. When a set is defined, it is saved under a Profile Name and is available for immediate use. Another example would be for a profile that picked up and archived office documents. It could be set up to include only .doc, .docs, and .xls files. Then this profile could be selected by the user on the archive setup screen and these file types would be included into the allowed list of file types to archive.



[Back to top](#)

File type Profile Management.htm

ECM LIBRARY ADMINISTRATIVE TABLES

ON THIS PAGE:

Assignable User Parameters	Assignable User Parameters
Attachment Codes	Attachment Codes
Attributes	Attributes
Available File Types	Available File Types
Content Profiles	Content Profiles
Data Type Codes	Data Type Codes
File Type Codes	File Type Codes
SMTP Email Users	SMTP Email Users
Help Contact Information	Help Contact Information
Import/Export >	Import/Export
Pop Email Downloads	POP Email Downloads
Retention Codes	Retention Codes
Set Default Lookup Codes	Set Default Lookup Codes
Service Configuration	Service Configuration
System Parameters	System Parameters

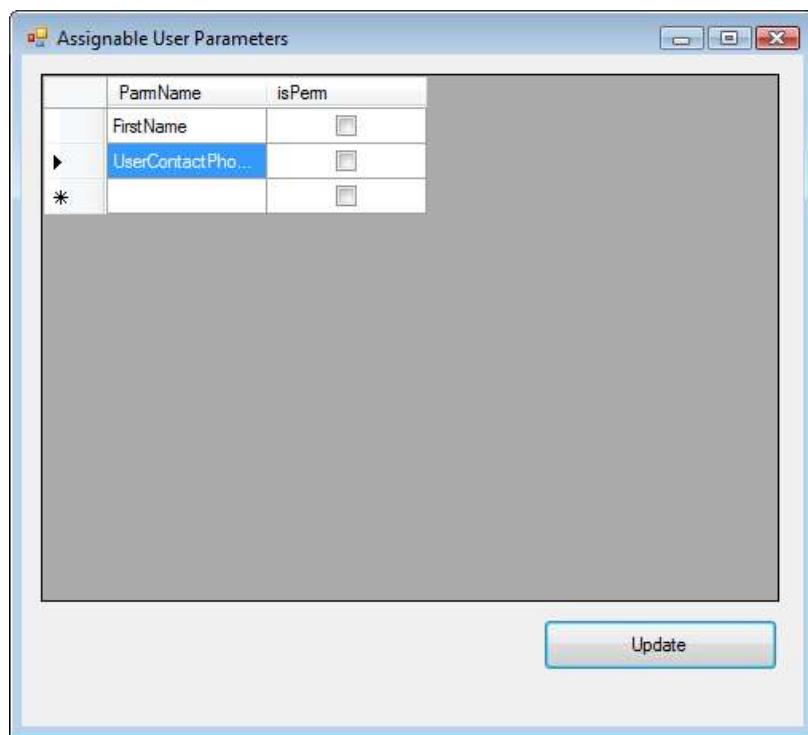
[User Runtime Parameters](#)

OTHER HELP:

[Setting up the archive for the Exchange Server](#)
[Archive Set up Screen Help](#)
[ECM Library Master Help Index](#)
[Full Text and Filter Management Screen](#)

ASSIGNABLE USER PARAMETERS

This screen is not in use currently. It is in place for next release when it is determined what parameters may be necessary as defined at the individual user level. But for now, this screen is not used.



ATTACHMENT CODES

This shows the list of file types that exist within the repository. It is used in searches to limit the search to a specific file type. It is also listed in the “Available” filetypes in the [Archive Set Up](#) screen. This is the same listing as “Available File Type” table, but with more details.

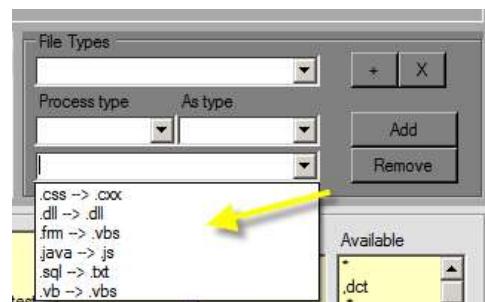
	AttachmentCode	Description	isZipFormat
▶	0	Hacha Split Archi...	<input checked="" type="checkbox"/>
	.000	DoubleSpace Co...	<input checked="" type="checkbox"/>
	.001	Auto added this c...	<input type="checkbox"/>
	.7z	7-Zip Compresso...	<input checked="" type="checkbox"/>
	.ace	WinAce Compress...	<input checked="" type="checkbox"/>
	.ain	AIN Compressed ...	<input checked="" type="checkbox"/>
	.alz	ALZip Archive	<input checked="" type="checkbox"/>
	.apz	Autoplay Media S...	<input checked="" type="checkbox"/>
	.ar	Unix Static Library	<input checked="" type="checkbox"/>
	.arc	Compressed File ...	<input checked="" type="checkbox"/>
	.ari	ARI Compressed ...	<input checked="" type="checkbox"/>
	.arj	ARJ Compressed...	<input checked="" type="checkbox"/>
	.ascx		<input type="checkbox"/>
	.asm		<input type="checkbox"/>

[Update](#)

Missing file types are automatically added by ECM Library at archive time if they do not already exist – for example; if a user selects the * wildcard for archive everything, if there are any new filetypes not defined in the “available file types listing” in the Archive Set Up screen, they will be added to this screen as well to the available filetype listing in the [Archive Set Up Screen](#).

The only items that can be updated are the description and whether it is a zip file or not. If it is a zip file, this is where it must be defined so that the Archiver can break the zip files apart and add each individual member of the zip file into the repository. Content even that contained within zip files of known file types is searchable.

To know which file types have associated filters, go to [Full Text and Filter Management Screen](#). (This screen is called FT Troubleshooting under Administrator maintenance menu) To process a file type using the [Filter](#) of another File type, go to the [Archive Set Up Screen](#) under File Types (upper right hand corner of screen). Please note that knowledge of the nature of file types must be understood to process correctly. For example, if you process a .PDF as a .TXT it will not work and PDFs will not be searchable.



[Back to top](#)

ATTRIBUTES SCREEN

This is where you create a new attribute or as it is sometimes called, a new piece of metadata.

This is a lookup table. You can change the description and whether it is defined as a zip file. That is all that can be modified here. Attributes are assigned to individual pieces of content. **It is metadata** or data about the piece of content whether it is an email, a document, graphic, or whatever. Therefore, there are certain pieces of metadata, or attributes, that are automatically available such as create date, time, size, location, and other such items. However, other attributes can be very specific and require immediate creation. A document, email, or any other content cannot exist in the repository without being assigned at least one piece of metadata. Those that come with many different metadata attributes embedded within the content have to be included also. The data in this table can be updated and extended to include new metadata attributes, but ANY AND ALL metadata attributes that are encountered during archive WILL BE ENTERED INTO THIS TABLE AUTOMATICALLY BY ECM Library. If deleted, an error will occur. Update these only or add new ones – that is the limit. If it is located in this table, it is needed.

The screenshot shows a Windows application window titled "ECM Library Attributes (frmAttribute)". The main area is labeled "Existing Attributes" and contains a table with columns: AttributeName, AttributeDataType, AllowedValues, AttributeDesc, and AssoApplication. The table lists various attributes like Application name, Author, Category, ChangeDate, Comments, Company, Content status, Content type, CRC, CreateDate, Creation date, Document version, FILENAME, FILESIZE, Format, and FON. The "Attribute Name:" field is empty, "Attribute Data Type:" is set to "binary", "Associated Application:" is "ECMLIBRARY", and the "Description" and "Allowed Values" fields are empty. There are "Add", "Update", and "Delete" buttons at the bottom right.

You do need to tell the system of any and all allowed values. They can be entered and separated by commas and then, only these attributes can have these values.

You also need to assign a data type. The system needs to know if it a number, a bit, a date, character, or exactly what type of data/information will be captured in this column.

Attributes can be added as new or updated if they already exist.

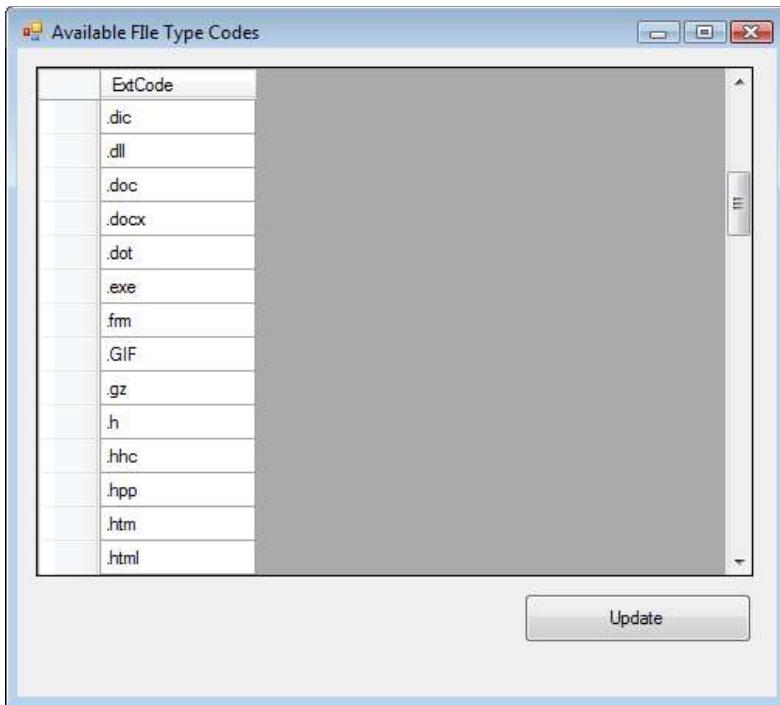
A quick word of caution – be careful of deletes, there may be files that depend upon already defined metadata.

[Back to top](#)

AVAILABLE FILE TYPES

This screen shows you the list of file types that are available to be indexed and added to the repository across the enterprise. The list reflects the same list that you will see in the [Archive Set Up screen](#). This list does not mean they will become searchable as a word splitter must exist for a file type to make it searchable. This information is auto updated by ECM Library. You can use this listing to know what's out there so you can identify what files may be needed to be loaded through a new identified parser. This can be done through the [Archive Set Up screen](#). Any files that have already been

archived without a word breaker/parser will be done next time the index is rebuilt. A more detailed view of this is found in the [Attachment Codes](#) screen.



[Back to top](#)

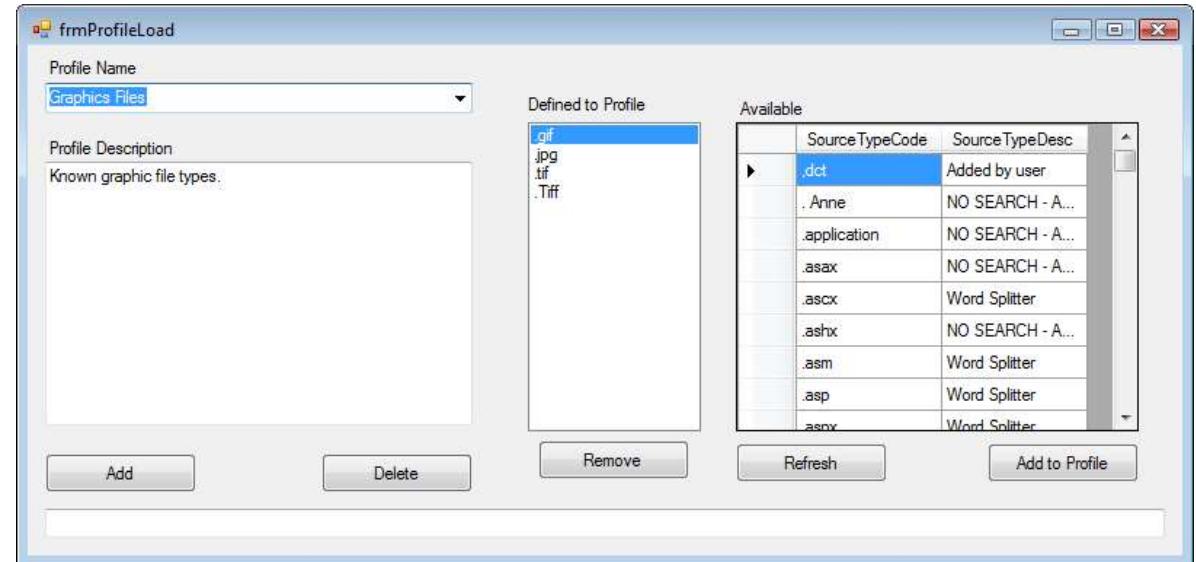
CONTENT PROFILES

This screen allows an administrator to create groupings of file extensions so each user can, with a one-click-option, choose a group of file types to either “Include” or “Exclude” during the archival process. These groupings will appear across the enterprise. Groupings of file extensions give users more efficiency in identifying the content to archive and the content to NOT archive. For example, in order to exclude certain file types from archiving, so that storage and searches are more efficient, you could create a group of all file types called “Not for archival” that should be selected by all to be “excluded”.

To make a file type profile:

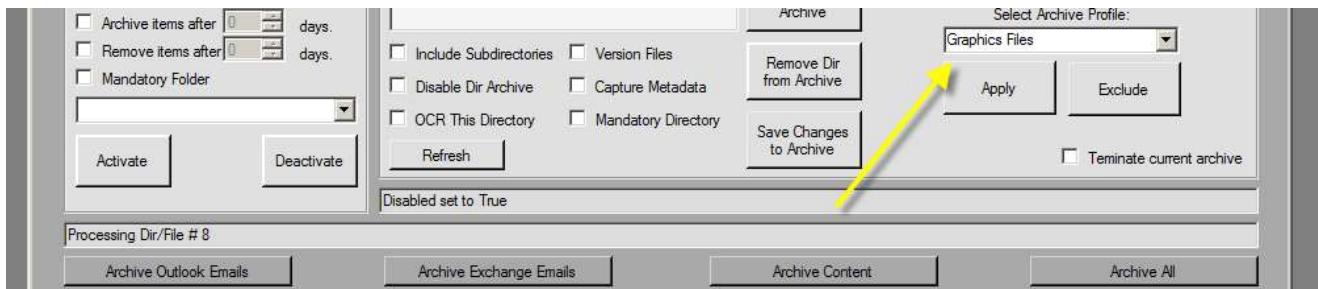
1. Type in a unique profile name in upper left hand line.
2. Click add.
3. Pull down and select your new profile name using the arrow.
4. Select by highlighting each row in the right hand grid the file type(s) you wish to include.
5. Click “Add to Profile”

You will now see this list referred to in the Archive Set Up screen. These profile groupings of file types now can be identified as you select and include directories for Archival.



See [Archive Set Up Screen](#) for use during archive process.

Archive Set Up screen below



[Back to top](#)

DATA TYPE CODES

This screen is merely a resource reference and does not reflect what is in the repository. It shows a list of data type codes and their specific creation metadata if available. It is a manually updated list; information that is defined by the file type publisher. Most of the list reflects the most popular Microsoft file types. Updates to this information will be entered into this table and disseminated as part of the regular static data updates.

FileType	VerNbr	Publisher	Definition
.inf	12.0.5626.1	Microsoft Corporation	Information or Setup File
.ini	12.0.5626.1	Microsoft Corporation	Initialization/Configuration File
.inx	12.0.5626.1	Microsoft Corporation	ACL for Windows Index
.js	12.0.5626.1	Microsoft Corporation	java script
.log	12.0.5626.1	Microsoft Corporation	Log File
.m3u	12.0.5626.1	Microsoft Corporation	MP3 Playlist File
.mht	12.0.5626.1	Microsoft Corporation	MHTML Document
.obd			Office Binder Document
.obt			Office Binder Template
.odc	12.0.5626.1	Microsoft Corporation	OpenOffice/StarOffice OpenDocument (Ver 2) Chart
.pl	12.0.5626.1	Microsoft Corporation	BRL-CAD 2D and 3D Plot File
.pot			PowerPoint Template
.ppt			PowerPoint
.rc	12.0.5626.1	Microsoft Corporation	C++ Resource Compiler Script File
.reg	12.0.5626.1	Microsoft Corporation	Registry Data File
.rtf	12.0.5626.1	Microsoft Corporation	Rich Text Format File

Update

[Back to top](#)

FILE TYPE CODES

This is an incomplete but popular list of industry file type codes to assist administrators in educating on the various file types that can be associated with exactly the same extension. ECM Library works based on filters associated with one definition of a file extension. E.g. "PDF" cannot be associated with more than one filter. Contact [ECM Library support](#) if your company is challenged with multiple file types for one extension for recommendations on how to manage this situation.

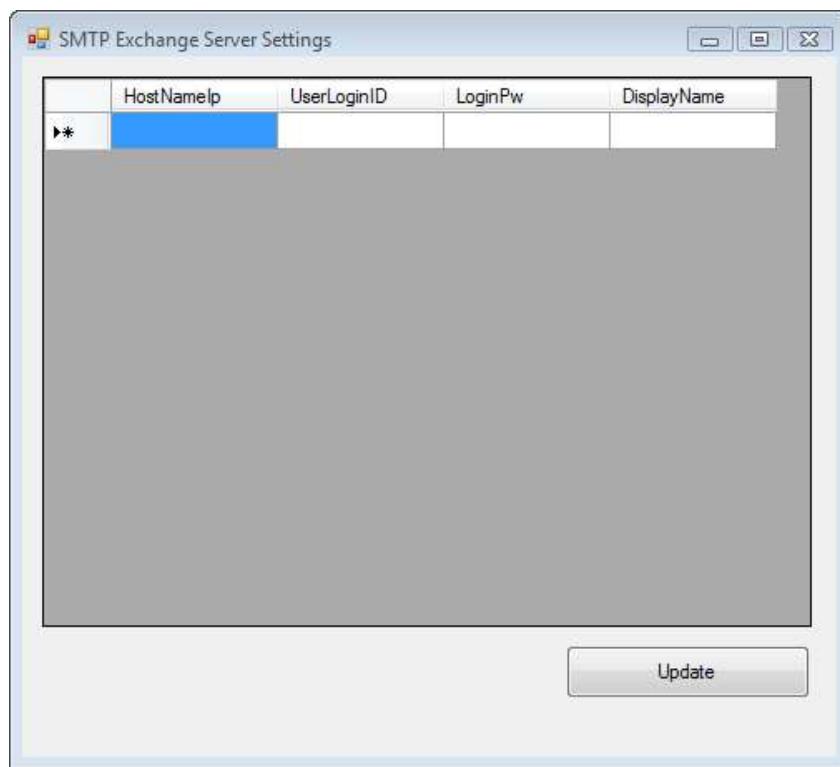
Drag a column header here to group by that column

File Ext	Description
PDB	Ribbons Data
PDB	Tact File
PDBX	Martini Personal Database (SunGard)
PDBX	Insight II X-PLOR Coordinate File (Accelrys Software Inc.)
PDC	Lizard Safeguard Protected PDF File (LockLizard Ltd)
PDC	PReS Print Control
PDC	PowerDivX NextGen Media Player Chapter File
PDD	PhotoDeluxe Image (Adobe Systems Incorporated)
PDD	Database Designer for PostgreSQL Database Design (MicroOLAP Technol...)
PDE	Principalm Student Information Extract (Discovery Software Ltd.)
PDE	Processing Development Environment (PDE) Source Code File (Processing)
PDES	PIPE-FLO Professional Design File Template (Engineered Software, Inc.)
PDF	Netware Printer Definition File
PDF	Ed-Scan 24-bit Graphic File
PDF	ArcView Preferences Definition File (ESRI)
PDF	Analyser Protocol Definition
PDF	Package Definition File
PDF	Acrobat Portable Document Format (Adobe Systems Incorporated)
PDF	Systems Management Server (SMS) Package Description File (Microsoft C...)
PDF	Ventura Publisher EPS-variation Page (Corel Corporation)
PDF	P-CAD Database Interchange Format (Altium Limited)
PDFENX	egis Encrypted PDF File (HITRUST Inc.)
PDG	Chaoxing Reader Chaoxing Digital Library e-Book (Chaoxing Digital Library)

[Back to top](#)

SMTP EMAIL USERS

This is currently disabled and will be available once ECM Library identifies the specific customer requirements from our customer base. It is also grayed out in the [Archive Set Up](#) screen.



[Back to top](#)

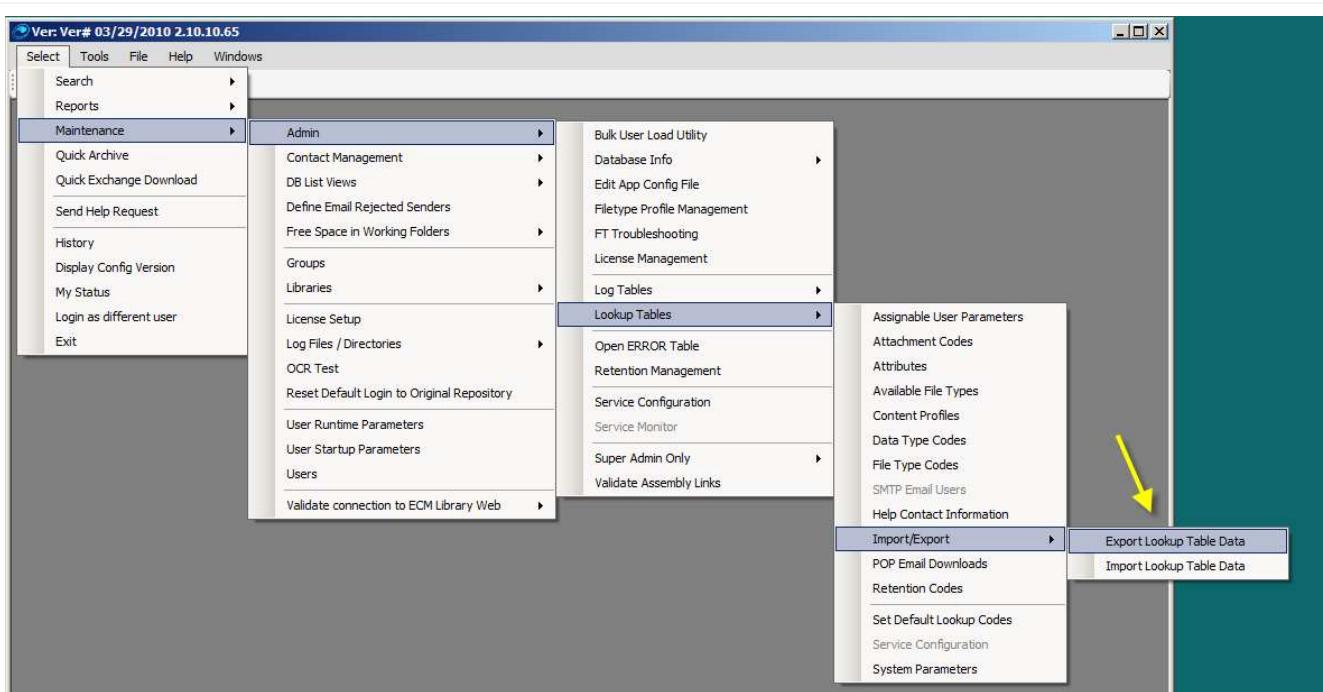
HELP CONTACT INFORMATION

This table lists out the options of ECM Library help support and will be different for each customer.

IMPORTING OR EXPORTING TABLES

There are times when it is necessary or convenient to have backups of the data contained within lookup tables. One instance that stands out is when database maintenance needs to be performed or a new database (for whatever reason) needs to be installed. Use these two functions to first backup the data and then after the new DB is installed, use the Import to restore the data in the lookup tables.

Just select the menu and it automatically will process the export or the import. Tables will be exported to your content working directory.



[Back to top](#)

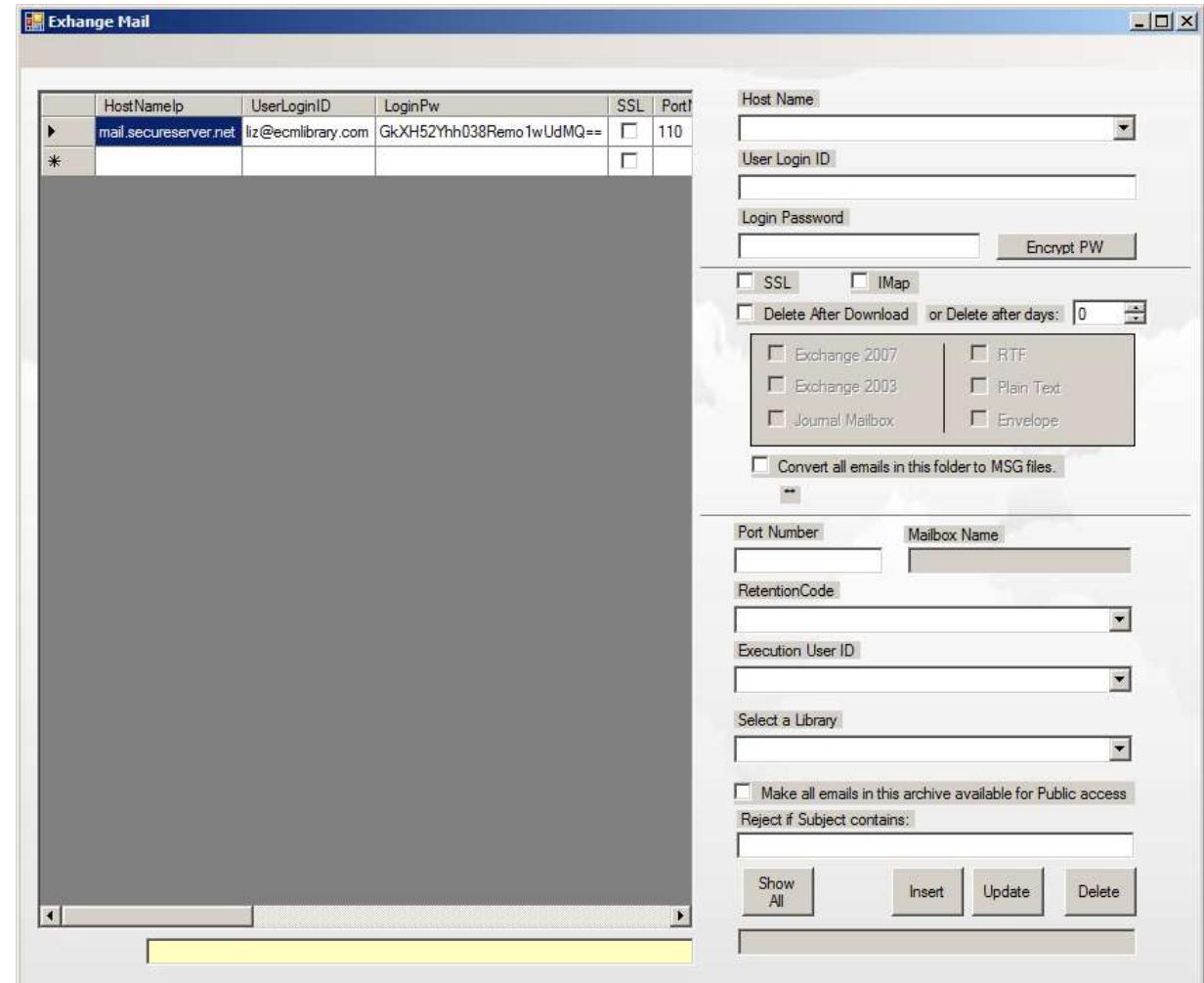
POP EMAIL DOWNLOADS

This screen is used if you choose to archive each user's email directly from an exchange server. In order to fill out this screen, you will be required to know the host name, each user login and password, email settings and ECM Library User ID (available as pull down item). Once the first user's profile information has been identified, select insert. For the next user, you can populate the same email settings using the previous user's profile by selecting a completed user setting in the grid. This way only the User ID, password and ECM Library User ID need to be changed next.

We recommend encrypt the password for security reasons by selecting "Encrypt PW".

You will need to enter in an "Execution User ID". This allows you as admin to set up an email account for another user. That user then can archive their own emails once you have set up this screen for that user. That user will also see these emails. You will also be required to assign a library. This can be a group library or it can be a private library where you are the only one assigned to it. Regardless, the Execution User ID will be able to search and retrieve on these emails whether or not he/she is a member of the library. To set up libraries please see this [page](#).

After completing each user entry, select "Insert" to complete.



LINK TO SET UP AN EXCHANGE SERVER:

[Setting up the archive for the Exchange Server](#)

[Back to top](#)

RETENTION CODES

This table is used to identify the retention rule setting options across the enterprise. The number of years can be changed, as each company has differing retention rules as part of their unique content management processes. This table also allows an administrator to identify the name of the person who is responsible for managing each retention management setting.

The Retention Code will then be listed as drop-down menu choices as each directory is selected for archival. A user is required to choose one of the settings that you have created/modified in this table.

Please see this page for more details: [Retention Rules](#)

Z

	RetentionCode	RetentionDesc	RetentionYears	RetentionAction	ManagerName
▶	Retain 10	10 years	10	Move	admin
	Retain 20	20 years	20	Move	admin
	Retain 30	30 Years	30	delete	
*					

Retention Code: Retain 20
 Retention Code Description: 20 years
 Retention Action: Move
 Manager Name: admin
 Reassign Mgr:
 Retention Years: 20

Retention rule updated to repository.

Also see [Content Retention Management Screen](#) which is used to establish and update retention rules for specific content.

SET UP DEFAULT LOOKUP CODES

Press this execution button to see if default look up codes are available. This is used during trouble shooting via ECM Library support.

SERVICE CONFIGURATION

This can only be accessed through the Service Manager log in ID. It lists the systems parameters for the ECM Library Auto Archiver. Descriptions for each parameter are shown on the right hand column.

[Back to top](#)

	SysParm	SysParmVal	SysParmDesc
▶	srv_disable	0	When set to anyt...
	srv_shutdown	0	When set to 1, th...
	srv_MaxFileSize	6000000	Enter a 0 to allow...
	srv_DetailedLogging	1	When set to 0 no...
	srv_ArchiveNow	0	Set value to 1 in ...
	srv_LastArchive	8/31/2010 9:49:...	This is the dateti...
	srv_PollingInterval	120	This is the numbe...
	srv_RunUnattended	N	This allows the ar...
	srv_LogDirectory		Set to blank for d...
*			

Update

SYSTEM PARAMETERS

This screen displays all of the defined system parameters. The data can be added or modified only by an administrator. Click here for [more detailed help](#) on systems parameters. Most of these are self-explanatory. All settings will impact the ECM Library repository for every user. Some of these parameters are for ECM Library products that require a separate license, such as ECM Library SharePoint archiver.

SysParm	SysParmDesc	SysParmVal
Default Thesaurus	This is the thesaurus that will be used when a specific thes...	Roget
EmailFolder1	This is the Top Level folder name and is required. It can be...	Personal Folders
MaxSearchesToTrack	The number of searches the user has in their immediate his...	25
MaxUrlsToProcess	The number of levels to penetrate in a web site.	2
RETENTION YEARS	The default number years to retain content.	10
SharePointECMVirtualLimit	When there are less records than this number, then a linke...	1000001
SharePointVirtualLimit	When there are less records than this number, then a linke...	100001
SqlServerTimeout	This is the value that will be assigned to the SQL Server ti...	90
srv_disable	When set to anything other than 0 the ECM Service will co...	0
srv_LastArchive	This is the datetime of the last completed archive.	12/9/2009 6:11:...
srv_MaxFileSize	Enter a 0 to allow unlimited file size upload or a MAX value.	0
srv_PollingInterval	This is the number of MINUTES between executing an arc...	10
srv_RunUnattended	This allows the archive functions to run unattended.	N
srv_shutdown	When set to 1, the service (next poll) will stop running.	0
SYS_AllowPublic	When set to Y, users can set their searchable content to p...	N
SYS_AutoRegisterMachine	When set to true, authentication will be done automatically...	xx
SYS_AutoRegisterUser	When set true, authentication will be automatic adn entere...	xx
SYS_MandateSeatLogin	MandateSeatLogin MUST BE SET TO TRUE OR FALSE.	xx
SYS_MandateUserLogin	MandateUserLogin MUST BE SET TO TRUE OR FALSE.	False
SYS_MaxFileSize	When set to 0, unlimited file upload size. Otherwise, any va...	0
SYS_PageReturn	When set to 0, the maximum number of rows returned will b...	0
SYS_PageReturnRowLimit	Sets the number of rows that will be returned and displayed...	100
SYS_SingleInstance	When set to 1, ECM will store just 1 copy of an archive.	1
SYS_SyncAllAdUsers	Set to 1 to to ADD all existing users. Set to 0 for Selected ...	0
SYS_SyncRemoveMissingUser	Set to 1 to to remove a user not found in the target list. Onl...	0
*		
Update		

And, MaxUrls To Process sets the maximum number of levels to penetrate when using the add-on product ECM Web Crawler. We highly recommend that no more than 5 be used as even a number this size can cause hundreds of thousands of webs to be processed. Please refer to the [Web Crawler page](#) for more details.

The only button available in this screen is Update as all of these are set to interface with the application and new ones would not have meaning.

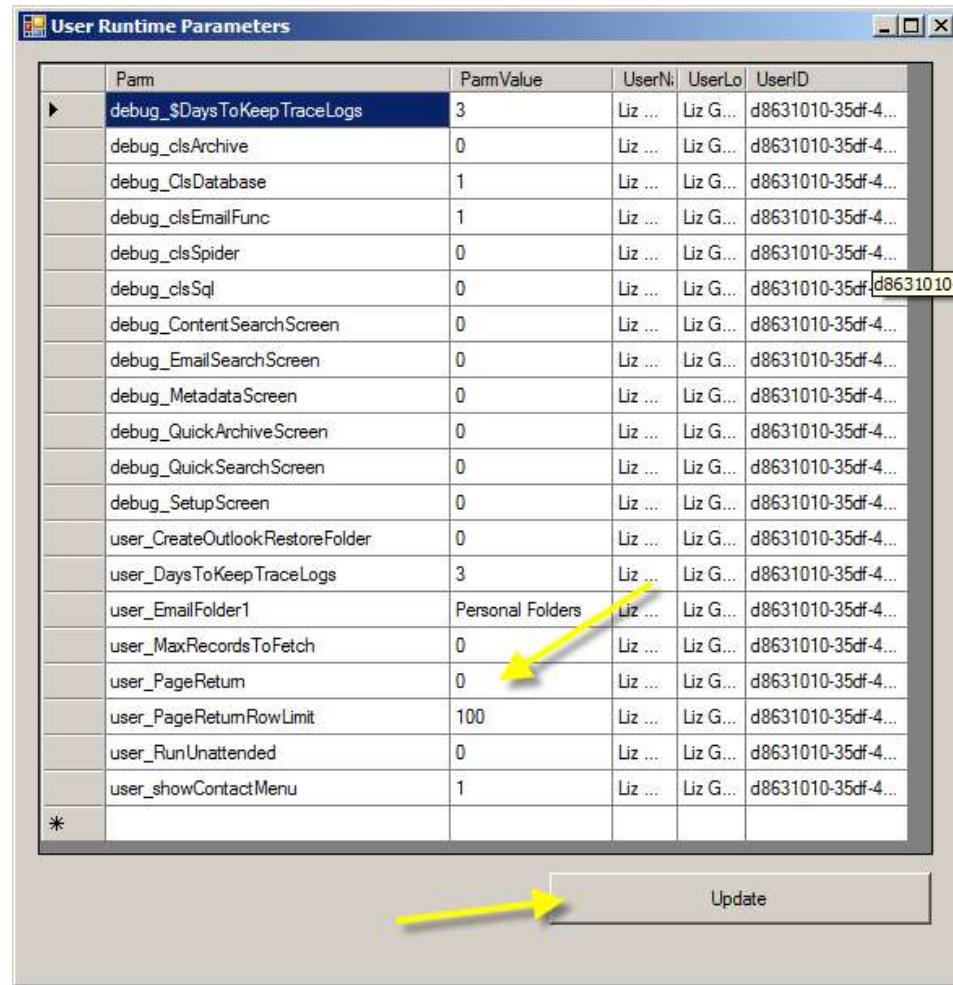
[Back to top](#)

USER RUNTIME PARAMETERS

Troubleshooting: This screen is available for troubleshooting purposes only when unexpected responses for archive search or retrieval occur. Turn any “debug” setting from a ParmValue from 0 to 1 and then click on update for activities to be tracked in a log. As a user, you may need direction from an administrator or ECM Library support to make the appropriate changes.

Modifying your personal settings: The main personal setting you can do here is turn on or off pagination in your search screens. This allows your searches to perform faster by taking in search returns in increments of whatever row limit you set up (the default as shown below is 100). To turn on pagination, enter in a 1 where you see a 0 beside user_PageReturn. Click update. Once you come into a fresh new search screen you will notice the pagination arrows available on the screen.

You can also modify the number of days that activity logs are kept in a temp directory. The default number is 3 as shown in the first row.



Parm	ParmValue	UserNk	UserLo	UserID
debug_\$DaysToKeepTraceLogs	3	Liz ...	Liz G...	d8631010-35df-4...
debug_clsArchive	0	Liz ...	Liz G...	d8631010-35df-4...
debug_ClsDatabase	1	Liz ...	Liz G...	d8631010-35df-4...
debug_clsEmailFunc	1	Liz ...	Liz G...	d8631010-35df-4...
debug_clsSpider	0	Liz ...	Liz G...	d8631010-35df-4...
debug_clsSql	0	Liz ...	Liz G...	d8631010-35df-4...
debug_ContentSearchScreen	0	Liz ...	Liz G...	d8631010-35df-4...
debug_EmailSearchScreen	0	Liz ...	Liz G...	d8631010-35df-4...
debug_MetadataScreen	0	Liz ...	Liz G...	d8631010-35df-4...
debug_QuickArchiveScreen	0	Liz ...	Liz G...	d8631010-35df-4...
debug_QuickSearchScreen	0	Liz ...	Liz G...	d8631010-35df-4...
debug_SetupScreen	0	Liz ...	Liz G...	d8631010-35df-4...
user_CreateOutlookRestoreFolder	0	Liz ...	Liz G...	d8631010-35df-4...
user_DaysToKeepTraceLogs	3	Liz ...	Liz G...	d8631010-35df-4...
user_EmailFolder1	Personal Folders	Liz ...	Liz G...	d8631010-35df-4...
user_MaxRecordsToFetch	0	Liz ...	Liz G...	d8631010-35df-4...
user_PageReturn	0	Liz ...	Liz G...	d8631010-35df-4...
user_PageReturnRowLimit	100	Liz ...	Liz G...	d8631010-35df-4...
user_RunUnattended	0	Liz ...	Liz G...	d8631010-35df-4...
user_showContactMenu	1	Liz ...	Liz G...	d8631010-35df-4...
*				

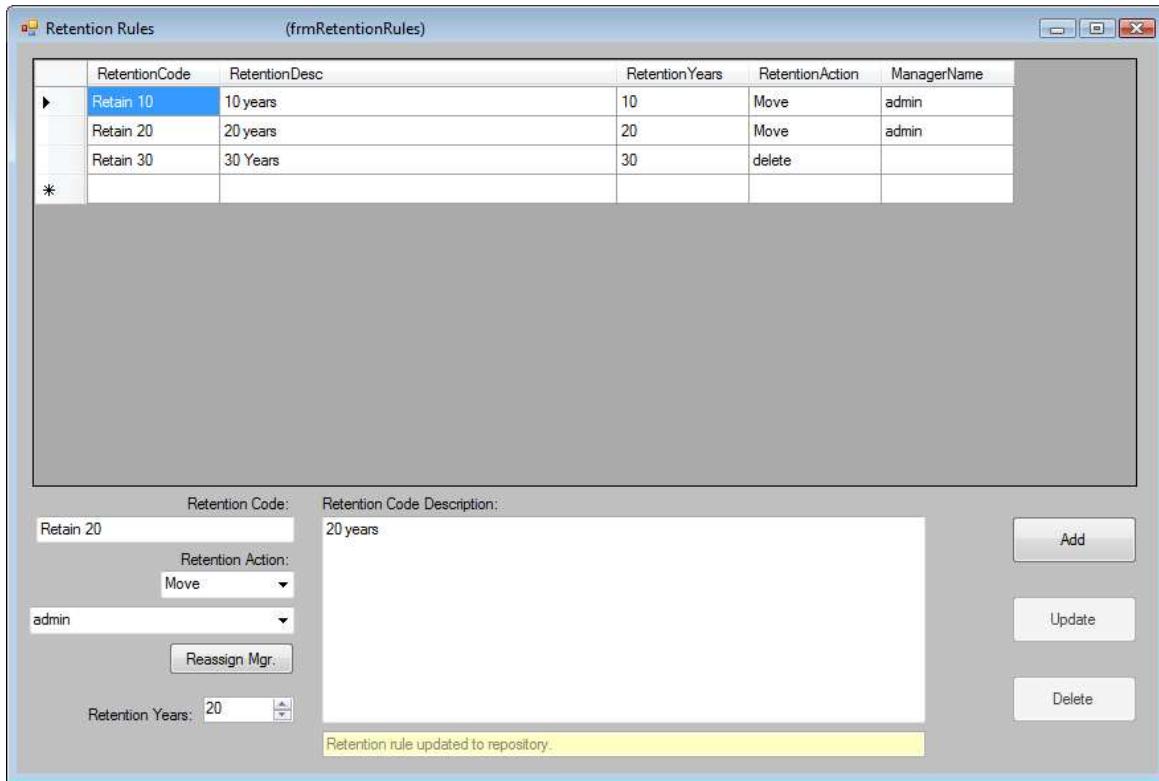
[Back to top](#)

RETENTION RULES

OTHER LINKS:

[Administrative Screens and Help](#)
[Table Functions](#)
[ECM Library Master Help Index](#)

This screen allows you as an administrator to modify the retention options for all content and emails. These options will appear in the Archive Set Up screen and will be available for any archives.



The screenshot shows a Windows application window titled "Retention Rules (frmRetentionRules)". The main area contains a grid table with the following data:

	RetentionCode	RetentionDesc	RetentionYears	RetentionAction	ManagerName
▶	Retain 10	10 years	10	Move	admin
	Retain 20	20 years	20	Move	admin
*	Retain 30	30 Years	30	delete	
*					

Below the grid is a form with the following fields:

- Retention Code:
- Retention Code Description:
- Retention Action:
- Manager Name:
- Reassign Mgr:
- Retention Years:
- Buttons: Add, Update, Delete

A yellow status bar at the bottom of the form area displays the message: "Retention rule updated to repository."

This screen can be setup for an enterprise retention rule using a adding or editing a "Retentioncode". An administrator can create multiple "Retention Rules" as needed. These

retention rules will be displayed in the Archive Set Up screen and the user will see only the “Retentioncode”, so we recommend you use a name that will be well understood for all ECM Library users.

Retention Codes cannot be changed. If a change to a code is needed, it has to be deleted and reentered as a new code. Codes cannot be changed once used in the repository. CODES CANNOT BE CHANGED as it is a primary key. THE ONES IN THE VERY LEFT HAND COLUMN CANNOT BE CHANGED.

However, you can apply a change to a Retention Code’s **attributes** at any time. For example, if you decide that the “RetentionAction” that is done should be changed from delete to move, or if you want to the Manager name AFTER the time of archive, or you want to change the years to 15, these can be applied and that already archived content will be associated with those changes.

Important: The “Retention Code” on any content or email needs to be set before the time of Archive: it cannot be changed after added, nor can it be deleted after that Code has been referenced. However any associated attributes with this code CAN be changed (e.g. the real number of years or the description.)

What happens at time of expiration: ECM Library only tracks the “code” so that the administration knows it’s time to manage this content at the time of “expiration”. Please note that the retention period starts at the time of archival. For example, if content is archived in January 1, 2010, and the retention rule is 10 years, at January 1, 2020 this content will be identified as ready for either a move or deletion. The expiration cannot be modified at this point within ECM Library. No action will occur with “expired” content. It will also be searched until the content has been moved or deleted. *It is important to note, ECM DOES NOT enforce or apply any moves or deletions. This is on a custom basis as described by the Enterprise.*

Prior to the content meeting its expiry date, the administrator does have an opportunity to extend the life of the content on an individual or group basis through the following screen (please see the help details associated with this link:

[Retention Management Screen](#)

DELETE: Content can be automatically delete via an SSIS routine or some other ETL Tool. The administrator will determine the delete action through this routine outside of ECM Library: ECM Library does NOT automatically delete or move anything.

MOVE: This action will be determined by the Owner of the Enterprise content. A Move would be between repositories through the use of SSIS or an ETL tool and is done outside of

ECM Library. This content identification helps an administrator easily identify only that content this has been identified as ready to be moved.

[Back to top](#)

frmRetentionRules.htm

RETENTION MANAGEMENT SCREEN – FOR ADMINISTRATORS

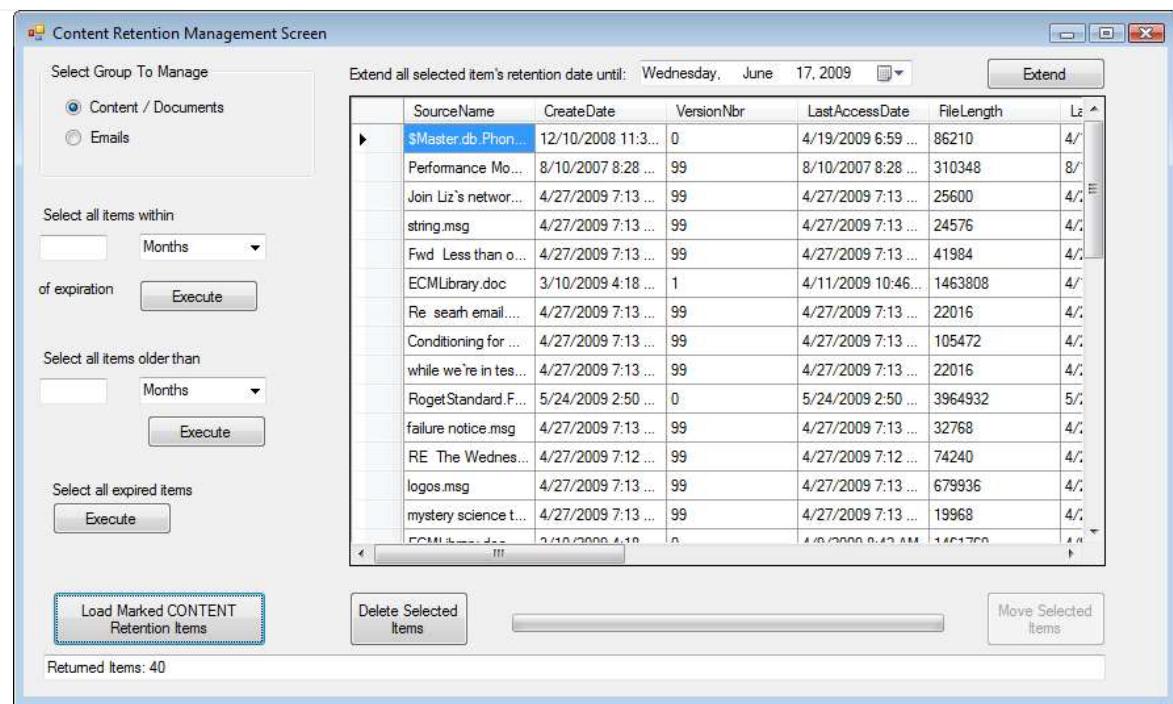
LINKS TO OTHER HELP PAGES

[Master Help Index](#)

ABOUT RETENTION MANAGEMENT

This screen is used to establish the retention rules for specific content. It is called from the Maintenance / Admin / Retention menu.

When performing a search, any item in the search can be marked for retention management. From within the search line, right mouse and select mark for retention. This will take the current items and enter them into a temporary table so that when the retention management screen is opened, the items will be available. Depending upon whether the radio button Content/Documents or Emails is selected, the button in the lower left corner, Load Marked Content will be set to load marked emails or content. They have to managed separately as they are independent from one another.



In order to extend the expiration date or reduce the expiration date of content, select the item(s) in the grid, set the date above the grid and press the Extend button. The selected items retention date will be changed to the specified date.

This screen also provides an administrator the ability to see what is going to expire within a specified period or items older than a given time frame. This allows the administrator to quickly evaluate what is going to expire and extend it if needed.

[Back to top](#)

Retention Management Screen.htm

Merged Html Files:

SetupECMLibraryClient.htm

manualprereqlisting.htm

Office Security Popup Window.htm

Application Configuration File.htm

frmQuickSearchHelp01.htm

ECMsearchbasicsshort.htm

frmSearchAssistantHelp01.htm

frmDocSearchHelp01.htm

frmEmailSearchHelp01.htm

How is Weight Calculated.htm

Show Content Weights.htm

Show Email Weights.htm

frmQuickSearchHelp01.htm

frmQuickArchive.htm

OCR Results.htm

frmMetadata.htm

User Management.htm

frmSenderMgt.htm

Outlookhelp.htm

Library Creation and Management Screen.htm

Groups.htm

Error Tracking.htm

Sub Menu Listings.htm

SetupInstructions.htm

Application Configuration File.htm

PreReqs/default.htm

manualprereqlisting.htm

Filterupdates.htm

parameterinstall.htm

License Management Screen.htm

Bulk User Load Utility.htm

frmExchangeMail.htm

Admin Functions.htm

ECM Library Exchange Server Journaling Interface.htm

Exchange2003Journaling.htm

User Startup Parameters.htm

frmSystemParms.htm

User Management.htm

AppConfigForAdmin.htm

SQL Server 2012 Thesaurus Rules of Engagement.htm

Full-Text Search Dynamic Management Views and Functions.htm

Gen SQL.htm

Query Engine.htm

Analyze Results of Word Search.htm

DM_FTS_PARSER.htm

FULL TEXT Index Change Tracking.htm

Filterupdates.htm

File type Profile Management.htm

frmAttachmentCodes.htm

frmRetentionRules.htm

Retention Management Screen.htm