AMIÔ for Domino 1.8

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Document overview

This document describes AMI for Domino installation procedure, and the two main steps of the product implementation which are the Domino data indexing and making the data available to the search service.

1 Function

AMI for Domino is an interface allowing Albert to provide enhanced full-text search features within a Lotus environment.

It allows interfacing the Lotus Domino and Lotus QuickPlace servers with the Albert search and indexing system.

This provides search from within the Lotus Notes application on each of a users' databases that would normally be hosted on a Lotus Domino server to pass through Albert instead of the provided full-text search engine. A hybrid implementation where Albert indexes some databases and Domino indexes others is supported.

The solution uses servers that are external to Domino to manage the index creation and searching processes so it reduces the load on the Domino systems and only indexes each "replica" of a database once.

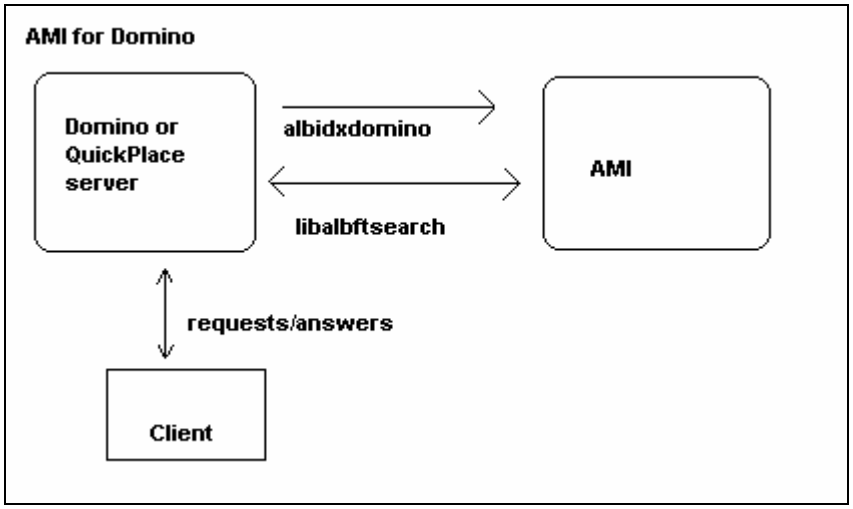
Because Albert relies on standards-based web technology, they can be distributed geographically. We use HTTP and XML data structures to talk to Albert.

The interface is done with the internals of Lotus Domino, this technology provides Albert search both to Lotus Notes clients and to web clients (via the HTTP service); and as a drop in replacement - no changes are required to the client software.

AMI Discovery for Domino is provided as an external service to Albert search and indexing solution. Solutions mixing Lotus Domino data with Intranet (web site) data are possible - providing a single point of search for all data in the enterprise.

1.1 AMI for Domino software components

In addition to a standard AMI Enterprise Discovery installation, there are two software components to provide advanced search and indexing features to Lotus Domino.



AMI for Domino

1.1.1 Indexing server task, albidxdomino

The indexing server task component automates the process of index management with Albert. It can be used to add databases (replicas) to Albert, to maintain Albert's indexes for particular databases.

In normal operation, it runs as a regular task on the server (every 15 minutes or so) and simply updates indexes that have already been added to Albert. So, every 15 minutes the indexing program checks for updates and pushes them to Albert.

It knows about Lotus Domino's distributed environment and could be used to implement a global search service.

1.1.2 Full text search server extension, libalbftsearch

This component allows Albert to alter the behavior of the various search features inside Lotus Notes. Whether running a "domain search" or searching a single team room databases, this module calls an external Albert system to process the request and return search results through the normal user interface.

1.1.3 What you need to know

You are going to install AMI for Domino. It requires two major steps:

- installing AMI Enterprise Discovery, with the configuring specific to each type of data and search mode ;

- installing the AMI for Domino on your Domino server.

AMI for Domino configuration is different to index and search Domino data, QuickPlace data, Domino mails and to make a search from an HTTP browser.

First we begin with the Domino server configuration, then we tackle the available installation procedures, and finally each specific AMI configuration.

2 Installation

2.1 Domino and QuickPlace servers configuration

2.1.1 Technical pre-requisites

For information on the software prerequisites, refer to the *Technical prerequisites* document.

Please read carefully the following instructions.

✓ Domino prerequisite: control access between servers.
All servers in the domain must accept connections from the Domino server configured to be the "Catalog domain Search Server".

✓ Domino mail search: the mail databases must inherit the Domino mail standard template or their location must be a default one meaning something like *C:Lotus/Domino/Data/mail/base_mail.nsf* . The path must contain the *mail* string.

2.1.2 Installation (Windows)

☺ The software elements are on your AMI CD-ROM within *Domino \ WinNT*.

The steps are identical for a Domino or a QuickPlace search.

1. Go to the *Windows Service Manager*.
2. Make the Lotus Domino and Lotus Quick Place server ***manual***. This in order to manage the operation from the *Lotus Domino server* console.
3. Stop the Lotus Domino and QP server before you copy the Albert components into their respective directory.
4. Copy the Albert files:
   ⇨**for Domino**
   Copy to the Domino server executable directory *(Lotus/Domino/)* the *albidxdomino.exe, libalbftsearch.dll* and *stlport_v6.4.5.dll* files.
   ⇨**for QuickPlace**
   Copy to the QP server directory *(Lotus/Domino/QuickPlace)* the *albidxdomino.exe* and *libalbftsearch.dll* and *stlport_v6.4.5.dll* files.
5. Configure your server notes.ini file for AMI for Domino. Refer to 2.1.2.1 below.
6. Make sure your AMI configuration is okay.
7. In your Domino or Quickplace server directory, launch *nserver.exe* manually. The Lotus Domino server console appears.
8. You can begin to work now. Refer to *Use*.

2.1.2.1 Modifying the *notes.ini* file

> Make sure the server is off-line before editing the initialization file, or before updating either of these components.

In the server's *notes.ini* file you need to add a part dedicated to the configuration of Albert.
The part dedicated to Albert permits to specify a separate server for "*DomainSearch*".
⇨ The "*ServerTasks*" line with "*albidxdomino*" will trigger automatic updates of the indexes of any database managed by Albert.
⇨ *AlbertTrace=1* to specify if you want to have traces on the processes; they are optional and only for problem reporting.
⇨ The parameters *_ServerName* and *_ServerPort* are used only in a HTTP access search. You don't need to specify them in a QuickPlace or Domino search but their presence is transparent so we can consider the *notes.ini* is the same be it a search from a QuickPlace client, a Lotus Client or a HTTP browser access.

```
# Albert Configuration
EXTMGR_ADDINS=libalbftsearch.dll
_ServerName=QuickPlace_HTTP_server
_ServerPort=80
AlbertSync=http://AMIserver/cgi-bin/albDomino/secure/albSync
AlbertMailSync=http://AMIserver/cgi-bin/albDominoMail/secure/albSync
AlbertSearch=http://AMIserver/cgi-bin/albDomino/albSearcher
AlbertDomainSearch=http://AMIserver/cgi-bin/albDomino/albSearcher
AlbertTrace=1
ServerTasks=albidxdomino
#end of Albert configuration
```

notes.ini configured for AMI for Domino

⇨Don't forget to indicate the beginning and the end of Albert specific configuration!

2.2 AMI configuration

2.2.1 Automatic installation

AMI Enterprise Discovery installation script[1] permits to install AMI for Domino through the option +domino. You can specify the Domino servers IP addresses with the option *–ipdomino*.

[1] Examples based on a SuSE distribution.

```
# ./alb-install +domino
```

All necessary elements are installed on the server.
The script asks you for the Domino server(s) IP addresses. You need to provide them to make your installation valid.

2.2.2 Interactive installation and configuration

Install AMI[2] with default options and with *fastcgi* (synchronizer by default):

```
# ./alb-install -auto -fastcgi
```

✓ Fastcgi is required for HTTP search.
You can check the installation calling the synchroniser.html form in a browser *http://yourserver/alb/synchroniser.html.*
Try to push the content of a document in the *Index a single document* field: the browser should display a successful message *"200 success"*.

☺ It is advised to use the option *-launch indexer* in order to start automatically the indexer daemon and the option *-boot indexer* to restart it automatically when Apache is restarted.

To look for documents indexed by AMI you are going to use the Search *button like before from* Notes *client or* QuickPlace *environment, or use a HTTP browser.*

2.2.2.1 Domino and QuickPlace search from Lotus and QuickPlace clients

The AMI configuration for Domino or QuickPlace searches and indexing is the same.

✓ Configuring *albert.conf*

albert.conf needs the following parameter values in the parameter groups *[Application], [Indexing], [UserAuthentication],[ResultsFilter],and [UserInterface].*
This allows Albert to work in XML format, to auto-detect file types sent from Lotus Domino and also to track users in the correct way.
We suppose that Albert has been configured for automated index optimizing, and that the *albIndexer* software is running in the background on the Albert server.

```
[Application]
   merge_results          no
   use_summary            yes
   use_auto_title         yes
[Indexing]
   use_gmil               yes
   auto_invert            yes
```

[2] Mandatory options are *albSync* and *fastcgi* which implies that you will need to restart your Apache server.


```
   invert_nb_docs          1000
   invert_nb_secs          300
[UserInterface]
   module                   /opt/albert/modules/dspxml.so
   display_max              100
   display_threshold        250
 [UserAuthentication]
   module                   /opt/albert/modules/auth_param.so
[ResultsFilter]
   module                   /opt/albert/modules/flt_null.so
[ResultsFilter]
   module                   /opt/albert/modules/flt_replica_domino.so
[DataSource]
   in_operation             yes
   module                   /opt/albert/modules/cnxalbert.so
   command                  /cgi-bin/albDomino/albQuery
   param_key_match         :domino:replica_id
   param_action             allow
   ip_address               localhost
   service_port             80
   strategy                 M
   weight                   100
   # results                500
   traffic_log              yes
```

albert.conf for Domino

⇨ Refer to *albert.conf.domino* in the distribution.

2.2.2.2 Search on mail from Lotus client

✓ */cgi-bin/albDominoMail/*

You need to create a specific directory */cgi-bin/albDominoMail* like */cgi-bin/alb/* , with the same grants and directories (with */secure/albSync)*, only *albert.conf* differs.

Create symbolic links between the configuration files:

- from *albDominoMail/albert.conf* to */opt/albert/conf/albert.conf.dominomail*
- from *albDominoMail/secure/albert.conf* to */opt/albert/conf/albert.conf.dominomail*

✓ index database and indexing log

The mail index needs to be separate for security and confidentiality reasons.
The indexing log also needs to be stored apart. For this you need specific *albIndexer*, *albSearcher* and *albQuery* with their own *albert.conf* with its specific parameter values. Refer to the *albert.conf.dominomail* in your distribution.
To create the *albindexmaildb*, use *INDEXDB.sql* script. From the shell:

```
# sudo mysql albindexmaildb < INDEXDB.sql
```

Apply needed grants to *albindexmaildb* with :

```
# mysql > distribution/Databases/GRANTS_DOMINO_MAIL.sql
# mysql > flush privileges;
```

You don't need to start MySQL server again.

Create a directory */opt/albert/logDominoMail* like */opt/albert/log*. The user *albert / marcel* needs write access to this directory.

✓ *albert.conf* for mail search

The corresponding template is provided in your distribution.

```
[Application]
log_dir             /opt/albert/logDominoMail/
[IndexDB]
  dbname             albindexmaildb
  dbhost             localhost
  dbport             0
  dbuser             albert
  dbpasswd            marcel
  dbsock             /var/lib/mysql/mysql.sock
[DataSource]
  in_operation                yes
  module                      /opt/albert/modules/cnxalbert.so
  command                     /cgi-bin/albDominoMail/albQuery
# Only requests containing replica_id or mail_owner are processed
  param_key_match             :domino:replica_id|:domino:mail_owner
  param_action                required
  ip_address                  localhost
  service_port                80
  strategy                   M
  weight                      100
  # results                   500
  traffic_log                 yes
```

albert.conf for mail search

2.2.2.3 Search on Domino and Quickplace from HTTP browser

The configuration for HTTP is different from the Domino and QuickPlace one.

✓ /cgi-bin/albDominoToWeb/

You need to create a folder */cgi-bin/albDominoToWeb* like *cgi-bin/alb/* , with the same architecture (with */secure/albSync)* the same grants, only configuration file *albert.conf* is different.

Create symbolic links between the configuration files:

- from *albDominoToWeb/albert.conf* to */opt/albert/conf/albert.conf.dominotoweb*
- from *albDominoToWeb/secure/albert.conf* to */opt/albert/conf/albert.conf.domino toweb*

✓ albert.conf for HTTP search

The display module, authorization and results filter are different for this configuration.

- *dsp* must be HTML (*dsphtml.so* avec *modele.html*)
- *auth* must be *auth_domino_to_web.so*
- *flt* must be *flt_domino_to_web.so*

```
[Application]
   merge_results no
   use_summary yes
   use_auto_title yes
[Indexing]
   use_gmil yes
   auto_invert yes
   invert_nb_docs 1000
   invert_nb_secs 300
[UserAuthentication]
   module /opt/albert/modules/auth_domino_to_web.so
[ResultsFilter]
   module /opt/albert/modules/flt_domino_to_web.so
[UserInterface]
   module /opt/albert/modules/dsphtml.so
   display_max 100
   display_threshold 250
[DataSource]
in_operation                yes
module                      /opt/albert/modules/cnxalbert.so
command                     /cgi-bin/albDominoToWeb/albQuery
# Only requests containing replica_id or mail_owner are processed
param_key_match             :domino:replica_id|:domino:mail_owner
param_action                required
ip_address                  localhost
service_port                80
 strategy                   M
weight                      100
# results                   500
traffic_log                 yes
```

albert.conf for HTTP browser

⇨ Refer to *albert.conf.dominotoweb* in the distribution.

☺ if your install does not work... check that there is no syntax error in your `albert.conf`; if you declared two auth modules accidentally you would not get any error message from AMI (for now).

☺ if you get error messages about *suExec*, it might be because your install uses the cgi gateway, and you need to be in a *Fastcgi* configuration... install again with FastCGI.

3 Use

3.1 Indexing

To get started, you can run the following command on the *Lotus Domino server* console:

```
$ load albidxdomino --action=status
```

You get the list of all the databases on the server with an indication on their Albert indexing status.
To get the help:

```
$ load albidxdomino --help
```

Option	Description
add	Add database and index it immediately
index	Index database immediately (Rebuild)
indexall	Index all databases immediately.
update	Update database immediately
status	List all local databases and report on status of Albert index.
all (default)	Update all databases handled on current server
Control options:	
-s, --service=...	Path to albSync service (optional, can be read from *notes.ini* file; key "AlbertSync")
-a, --action=...	Declare which action to perform
-d, --database=...	Path to domino database file
Misc options:	
-e, --exit	Run once only
-v, --verbose	Explain what is done
-h, -?, --help	Print usage help and exit

albidxdomino options

The *--indexall* option is recommended to take into account all new databases (*id est* created after the beginning of the indexing process) and it avoids you from being exhaustive when you declare the databases.

3.1.1 Launch the indexing process for Domino

To initiate the indexing process, indexing the database *firstbase*, enter:

```
$ load albidxdomino --action=index --database=firstbase.nsf
[Enter]
```

To add a database to be indexed by Albert, enter:

```
$ load albidxdomino --action=add --database=otherdatabase.nsf
```

3.1.2 Launch the indexing process for QuickPlace

In a QuickPlace environment, you need to index the two databases *main.nsf* and *search.nsf*.[3]

```
$ load albidxdomino --action=index --database=projects/main.nsf [Enter]
$ load albidxdomino --action=index --database=projects/search.nsf [Enter]
```

☺ the path to the databases begin after the data directory in the Lotus tree. For instance, your db is in *c:/lotus/QuickPlace/data/projects/main.nsf*, you need to provide the *projects/main.nsf* path to the indexing task.

3.1.3 Launch the indexing process for the mail

The mail requires a specific indexing process. We consider that on your Domino server you use the *--indexall* action in order to take into account all databases and most of all the new ones. Before you launch the indexing process from the Domino or QuickPlace servers, and before you can make any search you need to launch the indexing process, then launch the indexing process for the mail.
To launch the mail databases indexing, type:

```
$ /opt/albert/bin/albIndexer -c ../conf/albert.conf.dominomail
```

[3] the third one is contact and does not need to be indexed.

3.2 Search

3.2.1 Launch a search from a Notes or QuickPlace client

Just use the native search field.

3.2.2 Launch a search from HTTP browser

In a browser enter the path to albSearcher:

```
http://AMIhost/cgi-bin/alb/albSearcher
```

You will need to identify (Lotus login / password); then you can enter a query in the field, submit and wait for your results. To access the documents, you might need to authenticate again.

4 Index