



How to Configure Aleph – Primo Interoperability

Versions 18, 20, and later



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Document released: June 2015

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Introduction

Aleph offers features that can be used by various external discovery tools such as Primo. The objective of this document is to describe in detail how to configure Aleph to work with Primo.

Aleph – Primo interoperability also requires configuring Primo to work with Aleph. For more information, see the Primo documentation.

The following features are described in this document:

- Configuring the Aleph OPAC to Work with Primo
- Publishing Mechanism

Configuring the Aleph OPAC to Work with Primo

In recent years, discovery tools such as the Ex Libris Primo discovery tool have become popular, enabling patrons to see resources available outside the scope of traditional ILS holdings, including journal articles, resources available at nearby institutions, and interactive forums.

At the same time, the bibliographic data and services that the ILS manages are crucial for the effective use of libraries. These trends imply that the ILS needs to become a platform that supports appropriate interfaces for discovery applications living on top of it. The Aleph RESTful API creates a hierarchy of resources that are exportable and enables client discovery tools to build a suite of interfaces for the library's patrons on top of the Aleph API. This enables the implementation of a single interface that efficiently handles both the discovery and the fulfillment actions.

The Aleph RESTful API is based on the technical recommendations of the Digital Library Federation's ILS Discovery Interface Task Group (ILS-DI).

Primo can be configured to use Aleph's RESTful API in order to display material and support fulfillment actions inside Primo. In other words, Primo can be set to use Aleph's RESTful API in order to support the following key OPAC activities via Primo's interface:

- Display complete library holding records and items
- Request material
- Patron Library Card functionality

For more details about Aleph's RESTful API refer to EL Commons at www.exlibrisgroup.org.

Perform the configurations described in the following sections in Aleph in order for the Aleph OPAC to work with Primo:

Text Messages

API-specific text messages are located in the `aleph/error_<lng>` directory. The file names correspond with the following services:

- `dlf_renewloan`
- `dlf_getpatroninfo`
- `dlf_cancelhold`
- `dlf_getpatronstatus`
- `dlf_getrecords`
- `dlf_requestitem`
- `dlf_getservices`
- `dlf_requesttitle`
- `dlf_global`

If localization is needed, copy these files from the `aleph/error_eng` directory to your local `alephe/error_<lng>` directory, and translate them.

The following are the error codes:

0	ok
1	The supplied institution ID is not valid
2	The patron ID is invalid
3	Loan does not belong to the requested patron
4	Cash charge does not belong to the requested patron
5	Request does not belong to the requested patron
6	Loan does not exist
7	Cash charge does not exist
8	Request does not exist
9	Patron is not permitted to update address information
13	Request cancellation failed
19	Record does not exist
21	Group does not exist
23	Missing mandatory field(s) in address
25	Failed to create request
26	Holding does not exist
27	Item does not exist
28	Renew failed
29	Invalid input XML

Manipulating Database Information

Similar to X-Services, the API response may be configured using `trn` and `tag` files.

TRN files convert raw data exported by DLF services into a textual description. For example, item collection is displayed as `General` instead of the code `GEN`.

These files are located in the `aleph/dlf_<lng>` (for example, `aleph/dlf_eng`), and they correspond with the functions described above:

- `dlf-renewloan.tag\dlf-renewloan.trn`
- `dlf-getpatroninfo.tag\dlf-getpatroninfo.trn`
- `dlf-cancelhold.tag\dlf-cancelhold.trn`
- `dlf-getpatronstatus.tag\dlf-getpatronstatus.trn`
- `dlf-getrecords.tag\dlf-getrecords.trn`
- `dlf_requestitem.tag\dlf_requestitem.trn`
- `dlf- getservices.tag\dlf- getservices.trn`
- `dlf_requesttitle.tag\dlf_requesttitle.trn`
- `dlf-global.tag\dlf-global.trn`

If localization is needed, copy these files from the `aleph/dlf_eng` directory to your local u-tree `alephe/dlf_<lng>` directory, and change them according to your needs.

Note that when manipulating the API export, you must take into account the effect on client systems.

JBoss / Tomcat Configuration

The API is activated through the JBoss / Tomcat server. Use `util w/3/7/9` to run the JBoss / Tomcat server and `util w/2/7/1` to stop the JBoss / Tomcat server.

To start the JBoss / Tomcat server automatically, add the following to `alephe/aleph_startup`:

```
#####  
#           J BOSS  
#####  
cd $aleph_dev/ng/aleph/home/system/bin  
bash jboss_startup.sh  
echo " "  
echo "All done "
```

The `/alephe/jboss_conf/main.properties` file includes required configurations for the JBoss / Tomcat server. This file is automatically created during installation.

In order to configure JBoss / Tomcat after upgrading from the old Aleph version, perform the following steps:

- 1 Stop JBoss / Tomcat using `util/w/2/7/1`.
- 2 Configure the `$aleph_dev/ng/aleph/home/profile/global.properties` file with the customer's ports update
`$alephe_root/jboss_conf/global.properties` as well.
- 3 Run `$aleph_dev/ng/aleph/home/system/bin/set_globals.sh`
Start JBoss / Tomcat using `util/w/3/7/9`.

Note: Aleph 18, 20, and 21 use the JBoss server. In version 22, the JBoss server was replaced by the Tomcat Web server and servlet container. In the start and stop utilities (`util/w`) it is called the Web Services Server. The configuration has not changed.

Title Hold Request

To make title hold requests, configure the `tab100` variable in `CONSORTIAL-HOLD-REQUEST` in the `alephe/tab` directory.

If your library uses the title level hold request, then set `CONSORTIAL-HOLD-REQUEST` to Y. If it does not, set `CONSORTIAL-HOLD-REQUEST` to N.

ILL Request

In order to use ILL requests from PRIMO in a separate set of values for the "level of service" list, the following entries should be added to in `pc_tab_exp_field.lng`.

Add the `LEVEL-OF-SERVICE-P` lines to `./[ILL library]/tab/pc_tab_exp_field.lng`:

<code>LEVEL-OF-SERVICE-P</code>	<code>L When convenient</code>	<code><</code>
<code>LEVEL-OF-SERVICE-P</code>	<code>L When convenient</code>	<code>L</code>
<code>LEVEL-OF-SERVICE-P</code>	<code>L Normal (Local)</code>	<code>(</code>
<code>LEVEL-OF-SERVICE-P</code>	<code>L Normal (Extended)</code>	<code>{</code>
<code>LEVEL-OF-SERVICE-P</code>	<code>L Normal (Full)</code>	<code>[</code>
<code>LEVEL-OF-SERVICE-P</code>	<code>L Priority (Local)</code>	<code> </code>
<code>LEVEL-OF-SERVICE-P</code>	<code>L Priority (Extended)</code>	<code>]</code>
<code>LEVEL-OF-SERVICE-P</code>	<code>L Rush (Local)</code>	<code>}</code>
<code>LEVEL-OF-SERVICE-P</code>	<code>L Rush (Extended)</code>	<code>)</code>
<code>LEVEL-OF-SERVICE-P</code>	<code>L Express (Local)</code>	<code>></code>
<code>LEVEL-OF-SERVICE-P</code>	<code>L Express (Local)</code>	<code>G</code>

ILL Copyright Signing

To set up the library's ILL copyright signing policy, configure the `tab100` variable in `COPYRIGHT-SIGN` in the ILL library.

Note: Other than what is specified above, the normal Aleph system configurations also impact the API returned information.

Note: In version 18, the old ILL and Web ILL are not supported in the API.

Publishing Mechanism

The publishing platform extracts records of population sets from bibliographic or authority libraries and puts them into a repository. These records can be used by various systems. The repository is constantly updated. Retrieval of records from the repository can be done to an external system such as Primo.

For more details about Aleph's Publishing Mechanism, refer to *Aleph Publishing Mechanism*.

The following is the required configuration in Aleph, in order to support Publishing for Primo:

Tab_publish

For Primo, the publishing mechanism is setup in the Bibliographic library.

Here is an example of the `tab_publish` setup:

!	1	2	3	4	5
!!!!!!!!!!!!!!!!!!!!!!!!!!!!-!!!!!!!!!!!!!!!!!!!!!!!!!!!!-!-!!!!!!-!!!!!!!!!!!!!!!!!!!!!!					
PRIMO-FULL		PRM01_PAC	N PRM1	MARC_XML	
PRIMO-AVAIL		PRM01_PAC	N PRM2	MARC_XML	

Expand Routines

For Primo, it is important to include the expand routines for availability (`expand_doc_bib_avail`, `expand_doc_bib_avail_hol`) and cross-references (`expand_doc_bib_accref_1` or "`expand_doc_bib_accref`" with the "`ADDITIONAL-INFO`" parameter).

In Aleph 18, use `expand_doc_bib_accref_1`, because Primo needs to be able to distinguish between preferred and non-preferred terms.

If you use Aleph 20 and later and Primo 4.3 or later, use “expand_doc_bib_accref” with the “ADDITIONAL-INFO” parameter to add authority information to the record. This is, required for the Primo Browse functionality.

In addition, if you need fields from the holdings records, for example, 856 fields, include an expand that adds the HOL record to the BIB.

If you plan to implement both a regular pipe and an availability pipe, use the following hardcoded sets:

- **PRIMO-FULL** – Include the bibliographic record and all related expanded data (authority, holdings, and availability).
- **PRIMO-AVAIL** – Include only availability information.

Note that you require 12KB of disk space per record for the PRIMO-FULL set and 9KB per record for the PRIMO-AVAIL set.

Add the following expands to `tab_expand` for PRIMO-FULL:

- `expand_doc_bib_avail`
(To retrieve availability information by collection (in addition to sublibrary), set the following parameter in column 3 of `tab_expand`: `COLLECTION=Y`.)
In Aleph 22 and later, the `expand_doc_bib_avail` routine consults the `./bib_lib/tab/ava_location_priority` configuration table. The `AVA$$p` is created with a number that represents the location priority. The `ava_location_priority` lists sublibraries and collections by their priority (the items at the top of the list have higher priority). If there is no match with the `ava_location_priority` table, no subfield `p` is created. For more information, see the `expand_doc_bib_avail` entry in the **Expand Routines** section of the *Aleph 22 System Librarians Guide - Indexing*.
- `expand_doc_bib_avail_hol`
To retrieve availability information first by holdings record and only then by items sublibrary, in Aleph 22.1.2 and later, the `expand_doc_bib_avail_hol` routine consults the `./bib_lib/tab/ava_location_priority` configuration table. The `AVA$$p` is created with a number that represents the location priority. The `ava_location_priority` lists sublibraries and collections by their priority (the items at the top of the list have higher priority). If there is no match with the `ava_location_priority` table, no subfield `p` is created. For more information, see the `expand_doc_bib_avail` entry in the **Expand Routines** section of the *Aleph 22 System Librarians Guide - Indexing*.
- `expand_doc_bib_accref_1` OR `expand_doc_bib_accref`

If you have Aleph 20 or later and also have Primo 4.3 or later and update your Aleph normalization rules to fully support the Primo Browse functionality (including cross-references) use `expand_doc_bib_accref` with “ADDITIONAL_INFO” in column 3. This expand includes information Primo uses to display cross-references in the author and subject browse lists.

If you have Aleph 18 and/or have not installed Primo 4.3 and updated your rules, use `expand_doc_bib_accref_1` to add non-preferred terms in special fields. This way they can be added for search only in Primo and are not displayed at the front end.

- `expand_doc_bib_hol`

If you need the HOL record, use `expand_doc_bib_hol`. The complete HOL record is added, but you can remove the control fields (007 control field cannot be removed as it can contain useful information and has the same format as that of the BIB). This can be done by using Column 3 in the `tab_expand` table as shown in the example below.

Add the following expands for PRIMO-AVAIL:

`expand_doc_bib_avail`

`expand_doc_del_fields` – To delete all fields except for the availability field.

For example (Aleph 20 and later):

```

tab_expand:
!!!!!!!!!!!!-!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!-!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!>
PRM1      expand_doc_bib_avail

PRM1      expand_doc_bib_accref      ADDITIONAL-INFO
PRM1      expand_doc_bib_hol        -001,002,003,004,005,006,008
!
PRM2      expand_doc_bib_avail      COLLECTION=Y
PRM2      expand_doc_del_fields     AVA##
  
```

Tab_fix

The following setup is recommended to prevent the updating of Z00P due to a change in the 005 field (which is updated whenever the BIB record is saved in the cataloging client):

```

! 1          2          3
!!!!!!!!!!!!-!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!-
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!>
PRM1  fix_doc_do_file_08          del_005
The parameter file (del_005) should be located in the library's import
directory under the tab directory.
! 2 3 4 5 6 7          8          9
!-!!!!!!-!!-!!-!!!!-!!!!-!!!!!!-!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!-
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
1 005          DELETE-FIELD
  
```

Setup for MAB Records Extract

The following is a setup example for publishing a MAB library.

\$data_tab/tab_publish

```
!           1           2           3  4           5
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
PRIMO-FULL                                PRIMO MAB_XML
PRIMO-ONGOING                            PRIMO MAB_XML
```

\$data_tab/tab_expand

```
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!>
PRIMO      expand_doc_sysno
PRIMO      expand_doc_mab_recursive          EXPAND-SON=PM-FAMILY,EXPAND-FATHER=PM-FAMILY, FIXDOC-SON=, FIXDOC-FATHER=
PRIMO      expand_doc_bib_avail
```

```
PM-FAMILY  expand_doc_mab_aut_ref          100##,4,196##,I-SF=9a,I-CODE=IDN, FIX-AUT=PMREF, PEF=100##,CROSS=101##,CROSS-DOC=101, TAG-MAX=99999
PM-FAMILY  expand_doc_mab_aut_ref          800##,6,824##,I-SF=9a,I-CODE=IDN, FIX-AUT=PMREF, PEF=800##,CROSS=801##,CROSS-DOC=801, TAG-MAX=99999
PM-FAMILY  expand_doc_mab_aut_ref          200##,4,296##,I-SF=9a,I-CODE=IDN, FIX-AUT=PMREF, PEF=200##,CROSS=201##,CROSS-DOC=201, TAG-MAX=99999
PM-FAMILY  expand_doc_mab_aut_ref          802##,6,826##,I-SF=9a,I-CODE=IDN, FIX-AUT=PMREF, PEF=802##,CROSS=803##,CROSS-DOC=803, TAG-MAX=99999
PM-FAMILY  expand_doc_mab_aut_ref          700##, , , I-SF=aa,I-CODE=NNS, FIX-AUT=PMREF, PEF=700##,CROSS=701##,CROSS-DOC=701, TAG-MAX=99999
PM-FAMILY  expand_doc_mab_aut_ref          902##,5,947##,I-SF=9a,I-CODE=IDN, FIX-AUT=PMREF, PEF=902##,CROSS=952##,CROSS-DOC=952, TAG-MAX=99999
```

Expand_doc_mab_recursive is called up from \$data_tab/tab_expand (BIB library) by using the expand menu PRIMO. The new expand can be configured in the following way (tab_expand, col. 3), each entry has to be separated by a comma:

- **EXPAND-SON** – Expand menu which is used for expanding information from the current record (=son)
- **EXPAND-FATHER**– Expand menu which is used for expanding information from the father record into the son
- **FIXDOC-SON** – Fix routine which is used for the current record (=son)
- **FIXDOC-FATHER** – Fix routine which is used for the father record

Expand_doc_mab_aut_ref takes the preferred term and cross-references for authorities from the authority record into the BIB record. This includes classifications (700) and subjects (9xx). Expand_doc_mab_aut_ref can be configured in the following way (tab_expand, col. 3). Each entry is separated by comma:

- First source field BIB record that contains the preferred term
- Increment value (optional)
- Last source field BIB record which contains preferred term (optional)
- I-SF = <Subfield BIB record which should be used to identify the corresponding AUT record><Subfield AUT record which contain the preferred term>,>
- I-CODE= Direct index which should be used to identify the AUT record,
- FIX-AUT= Name of the fix routine which is used to transform the relevant fields within the AUT records into a format that is similar to the BIB fields (tab_fix, col.1, special description see below)
- PREF= Field in the AUT record which contains the preferred term after the fix procedure called by FIX-AUT
- CROSS= Field in the AUT record which contains the cross references after the fix procedure called by FIX-AUT
- CROSS-DOC= Destination field in the BIB record for cross references
- TAG-MAX= Max. no. of preferred terms and cross references per authority record to take over into the BIB record.

The fix routines that are called from “expand_doc_mab_aut_ref” (FIX-AUT=) have to be defined in ALEPH table \$data_tab/tab_fix (AUT library). The fix routine is needed to transform the relevant fields (preferred term and cross references) within the AUT record into a format that is similar to the BIB fields. This is described below.

Col. 3 contains program arguments; in this case “tab_fix_convit_ref_pm” is a configuration file which contains the definitions about the source fields and destination fields (see below).

\$data_tab/tab_fix and corresponding tab_fix_convit_ref_pm

```
! 1                2                3
!!!!-!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!>
PMREF fix_doc_convit                FILE=tab_fix_convit_ref_pm
```

Add the tab_fix_convit_ref_pm table to the authority files. The tab_fix_convit_ref_pm table must exist in each authority library, in the tab directory.

The following entries are taken by default:

./lib10/tab/tab_fix_convit_ref_pm

```
! 1  2  3  4                5
!!!!-!-!!!!-!-!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!>
800  a 100  a
800a a 100  a

800b a 101  a
800c a 101  a
820# a 101  a edit_field  SEL-I=-:v:
830_ a 101  a
```

./lib11/tab/tab_fix_convit_ref_pm

```
! 1  2  3  4                5
!!!!-!-!!!!-!-!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!>
800_ a 200  a
801b a 201  a
803_ a 201  a
810_ a 201  a edit_field  SEL-I=-:v:
811b a 201  a
812_ a 201  a
813b a 201  a
814_ a 201  a
815b a 201  a
816_ a 201  a
817b a 201  a
818_ a 201  a
819b a 201  a
820_ a 201  a
821b a 201  a
822_ a 201  a
```

823b a 201 a
824_ a 201 a
825b a 201 a
826_ a 201 a
827b a 201 a
828_ a 201 a
829b a 201 a
830_ a 201 a
831b a 201 a
832_ a 201 a
833b a 201 a
834_ a 201 a
835b a 201 a
836_ a 201 a
837b a 201 a
838_ a 201 a
839b a 201 a
840_ a 201 a
841b a 201 a
842_ a 201 a
843b a 201 a
844_ a 201 a
845b a 201 a
846_ a 201 a
847b a 201 a
848_ a 201 a
849b s 201 a

./lib12/tab/tab_fix_convit_ref_pm

! 1 2 3 4 5

!!!!-!-!!!!-!-!!>

800_ a 902 a
801_ a 902 a
802_ a 902 a
803_ a 902 a
804_ a 902 a
805_ a 902 a
820_ a 952 a
821_ a 952 a
822_ a 952 a

823_ a 952 a

824_ a 952 a

825_ a 952 a

830_ a 952 a

./lib13/tab/tab_fix_convit_ref_pm

! 1 2 3 4 5

!!!!!!-!!-!!!!!!-!!-!!>

800_ a 700 a

830_ a 701 a