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Web address: http://www.exlibrisgroup.com
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<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
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<td>6.1.2</td>
<td>Import Records and Digital Objects (adam-02)</td>
<td>21</td>
</tr>
<tr>
<td>6.1.3</td>
<td>Export Records (adam-04)</td>
<td>22</td>
</tr>
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<td>22</td>
</tr>
<tr>
<td>6.2.1</td>
<td>Change Object Location (adam-03)</td>
<td>22</td>
</tr>
<tr>
<td>6.2.2</td>
<td>Create Thumbnail or Full Text (adam-05)</td>
<td>23</td>
</tr>
<tr>
<td>6.2.3</td>
<td>Technical Report (adam-06)</td>
<td>23</td>
</tr>
<tr>
<td>6.2.4</td>
<td>Usage Report (adam-07)</td>
<td>24</td>
</tr>
<tr>
<td>6.2.5</td>
<td>Create Digital Objects Upload File from DigiTool Export (adam-08)</td>
<td>24</td>
</tr>
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<td>25</td>
</tr>
<tr>
<td>6.2.7</td>
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<td>26</td>
</tr>
<tr>
<td>6.2.8</td>
<td>Update Full Text Index (manage-91)</td>
<td>27</td>
</tr>
<tr>
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</tr>
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<td>7.1</td>
<td>Z403</td>
<td>28</td>
</tr>
<tr>
<td>7.2</td>
<td>Z91</td>
<td>29</td>
</tr>
<tr>
<td>7.3</td>
<td>Z56</td>
<td>29</td>
</tr>
<tr>
<td>8</td>
<td>ADAM SCAN JOBS</td>
<td>29</td>
</tr>
<tr>
<td>9</td>
<td>CREATE THUMBNAILS</td>
<td>31</td>
</tr>
</tbody>
</table>
1 General Setup

1.1 Oracle Text

For fulltext indexing of objects (z91), the component ‘Oracle text’, also referred to as context, and the Oracle user “ctxsys” are needed.

Normally, ‘Oracle text’ will be installed automatically. If the instance was aborted, ‘Oracle text’ has to be installed later.

The following command will check if ‘Oracle text’ is available on your system:

```
$ORACLE_HOME/ctx/bin/ctxhx
```

Output:

/exlibris/app/oracle/product/920/ctx/bin/ctxhx - Converts the input file to plain text or html file.

Usage: /exlibris/app/oracle/product/920/ctx/bin/ctxhx InputFile OutputFile

[FallbackCharacterSet]
[OutputCharacterSet]
[H | T]
[Meta | Nometa]
[TimeOut]
[Heuristic | Fixed]]]]

Where: "InputFile" is the file to be converted to HTML or TEXT.
"OutputFile" is where to place the converted file.
"FallbackCharacterSet" is the character set of InputFile which is assumed to be plain-text when the format is not supported. Default fallback character set is ASCII8.
"OutputCharacterSet" is the character set of OutputFile. Default character set is ISO8859-1.
"H | T" is to define the output format as HTML or plain text. Default output format is HTML.
"Meta | Nometa" is to enable/disable meta data extraction. Default is Nometa.
"TimeOut" is the polling interval in integral seconds to determine whether to terminate by force. Supported range is 0..42949672. Default is 0 to disable time-out.
"Heuristic | Fixed" is the type of time-out. Default is Heuristic.

1.2 Storage Directories for Objects (tab_z403_directory.<lng>)

Every digital object has to be stored in a directory in the file system of the ALEPH server unless you link to an object on a remote server by entering a URL.

This directory must include the following subdirectories:

- View
- Index
- Thumbnail
- Backup

The table tab_z403_directory.<lng> defines the storage directories for objects on the ALEPH server. The table may be placed in the BIB library’s tab directory. If so, it is possible to store the objects in different subdirectories, if more than one BIB library is active on the same ALEPH installation. The table tab_z403_directory.<lng> may also be placed in the directory $alephe_tab if storing related to a specific BIB library is not needed.
All of the storage directories which are defined in tab_z403_directory.<lng> have to be created manually on the server.

The maximum number of files per directory is defined by the parameter max_no_storage_files in $aleph_root/aleph_start file. The following is an example of how to set this parameter:

```
setenv max_no_storage_files 1000
```

The default value (if the variable is not defined) is 1000.

ADAM automatically creates new sub-directories under the defined storage directory, if the maximum number of files is reached. The directory names are numeric (starting with 1). The first 1000 objects are automatically stored in directory /1. Subsequent objects are stored in directory /2 and so on.

See the following example:

```
1       2                     3                                4
!!!!!-!!!!!!!!!!!!![..]-!!!!!!!!!!!!!!!!!!![..]-!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!![..]
ALEPH VIEW  Zentraler Speicher  $aleph_dev/demo_objects/usm01/view
ALEPH INDEX Index (Allgemein)  $aleph_dev/demo_objects/usm01/index
ALEPH THUMBNAIL Thumbnail (Allgemein)  $aleph_dev/demo_objects/usm01/thumbnail
ALEPH BACKUP  Backup (Allgemein)  $aleph_dev/demo_objects/usm01/backup
MAB50 VIEW  Primaerer Speicher  $aleph_dev/demo_objects/mab50/view
MAB50 THUMBNAIL Thumbnails  $aleph_dev/demo_objects/mab50/thumbnail
MAB50 INDEX  Index  $aleph_dev/demo_objects/mab50/index
MEDUC VIEW  MEDUC Speicher  $aleph_dev/demo_objects/mab50/meduc/view
MEDUC THUMBNAIL MEDUC Thumbnails  $aleph_dev/demo_objects/mab50/meduc/thumbnail
MEDUC INDEX  MEDUC Index  $aleph_dev/demo_objects/mab50/meduc/index
```
Key to the table:
Column 1:  1) Sublibrary code, e.g. MEDUC. Storage directories for objects, which are assigned to a specific sublibrary
          2) Code of the ADM library, e.g. USM50. Storage directories for objects, which are assigned to the ADM library
          ALEPH storage directories for objects where the field “Cat. sublibrary” is empty
Column 2:  Usage type of the object.
          Valid options: INDEX, VIEW, THUMBNAIL, BACKUP *)
Column 3:  Description of the storage directory, appears in the pull down list in the GUI
Column 4:  Pathname to the storage directory

Usage type of objects:

BACKUP: When loading objects with the service adan Adam_02, copies may remain in the specified directory. These objects have the usage type BACKUP.

INDEX: An object was automatically built by ADAM when performing the Indexing function.

VIEW: Usage type of all objects that are displayed in the OPAC.

THUMBNAIL: An object was automatically built by ADAM when performing the Thumbnail function.

1.3 File Types of Objects (tab_z403_extension.<lng>)

The table $alephe_tab/tab_z403_extension.<lng> includes definitions for file types of objects. Depending on the file extension, some parameters must be determined, e.g. the icon that represents the object in the OPAC or the permission to create thumbnails or to perform a full text indexing of an object.

Example:

```
<p>| | | | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>asf</td>
<td>asf</td>
<td>f-tn-movie.jpg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>avi</td>
<td>avi</td>
<td>f-tn-movie.jpg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>bmp</td>
<td>bmp</td>
<td>f-tn-image.jpg</td>
<td>Y 100k convert</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>djv</td>
<td>djv</td>
<td>f-tn-image.jpg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>djvu</td>
<td>djvu</td>
<td>f-tn-image.jpg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>doc</td>
<td>doc</td>
<td>f-tn-doc.jpg</td>
<td>Y 100k gen</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ead</td>
<td>ead</td>
<td>f-tn-text.jpg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>gif</td>
<td>gif</td>
<td>f-tn-image.jpg</td>
<td>Y 100k convert</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>html</td>
<td>html</td>
<td>f-tn-link.jpg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ip2</td>
<td>ip2</td>
<td>f-tn-image.jpg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ipg</td>
<td>ipg</td>
<td>f-tn-image.jpg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>jpg</td>
<td>jpg</td>
<td>f-tn-image.jpg</td>
<td>Y 100k convert</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mid</td>
<td>mid</td>
<td>f-tn-sound.jpg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mp3</td>
<td>mp3</td>
<td>f-tn-sound.jpg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mpg</td>
<td>mpg</td>
<td>f-tn-movie.jpg</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mpeg</td>
<td>mpeg</td>
<td>f-tn-movie.jpg</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>pdf</td>
<td>pdf</td>
<td>f-tn-pdf.jpg</td>
<td>gen</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ppt</td>
<td>ppt</td>
<td>f-tn-ppt.gif</td>
<td>Y 100k</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ram</td>
<td>ram</td>
<td>f-tn-sound.jpg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
```
### Structure of the table:

**Column 1:** Object’s file extension (max. 5 characters)
**Column 2:** File type’s description (max. 20 characters)
**Column 3:** File name of the icon used in the OPAC. The icons must be located in `$alephe_root/www_f_<lng>/icon` They will be displayed in the brief list and the full view in the OPAC. The maximum number of icons being displayed in brief list and full view depends on the value of the variable “www_short_max_no_ext_links” in `$alephe_root/www_server.conf`. If no specific icon is stated, a standard icon will be used, which is defined in the last line of the table (##### in Column 1)
**Column 4:** Defines if a new browser window is opened when calling an object. Default value is Y.
**Column 5:** Immediate display of the object. Value is Y or N. Defines if an object is immediately displayed in the GUI when the ALEPH browser is in use. This definition depends on the object’s size. (see column 6)
**Column 6:** Object size (only applies in conjunction with column 5) Defines from which object size the immediate display in the GUI will be suppressed. The size may be stated in kilobytes (K), megabytes (MB) or gigabytes (GB).
**Column 7:** Program that is used for creating thumbnails. Valid value: convert
If you want to create thumbnails from objects, the value ‘convert’ must be set in Column 7 for those objects. If this column is left empty, the Thumbnail button in the Object List is deactivated.
**Column 8:** Program that is used for Fulltext indexing. Valid value: gen
The entry ‘gen’ in Column 8 must be set for all objects for which a fulltext indexing should be performed. If this column is left empty, the Indexing button in the Object List is deactivated.
**Column 9:** Viewer
If you want to use an external viewer for displaying objects, the pathname to the viewer’s executable file must be entered here. If this column is left empty, the default plugin of the browser will be used.

<table>
<thead>
<tr>
<th>Object’s file extension</th>
<th>File type’s description</th>
<th>Icon name</th>
<th>Browser window open</th>
<th>Immediate display</th>
<th>Object size</th>
<th>Thumbnail creation</th>
<th>Fulltext indexing</th>
<th>Viewer</th>
</tr>
</thead>
<tbody>
<tr>
<td>rtf rtf</td>
<td>f-tn-doc.jpg</td>
<td>gen</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sid sid</td>
<td>f-tn-image.jpg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>tif tif</td>
<td>f-tn-image.jpg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>txt txt</td>
<td>f-tn-text.jpg</td>
<td>N 100k</td>
<td>txt</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>url url</td>
<td>f-tn-link.jpg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>wav wav</td>
<td>f-tn-sound.jpg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>wmv wmv</td>
<td>f-tn-sound.jpg</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>xls xsl</td>
<td>f-tn-xcel.jpg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>xml xml</td>
<td>f-tn-XML.jpg</td>
<td>Y 100k</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>#####</td>
<td>f-tn-unknown.jpg</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1.4 Create Objects (pc_tab_exp_field.<lng>)

The table pc_tab_exp_field.<lng> contains selective lists for fields of the Object Form. This table is located in tab-directory of your ADM library (lib50/tab). The following values must be filled in:

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>OBJECT-USAGE-TYPE</td>
<td>L View</td>
<td>VIEW</td>
<td></td>
</tr>
<tr>
<td>OBJECT-USAGE-TYPE</td>
<td>L Thumbnail</td>
<td>THUMB</td>
<td></td>
</tr>
<tr>
<td>OBJECT-USAGE-TYPE</td>
<td>L Indexing Text</td>
<td>INDEX</td>
<td></td>
</tr>
<tr>
<td>OBJECT-CHAR-SET</td>
<td>L ISO Latin</td>
<td>iso8859-1</td>
<td></td>
</tr>
<tr>
<td>OBJECT-CHAR-SET</td>
<td>L Cyrillic 1251</td>
<td>windows1251</td>
<td></td>
</tr>
<tr>
<td>OBJECT-CHAR-SET</td>
<td>L Cyrillic 8859</td>
<td>iso8859-5</td>
<td></td>
</tr>
<tr>
<td>OBJECT-CHAR-SET</td>
<td>L Hebrew</td>
<td>iso8859-8</td>
<td></td>
</tr>
<tr>
<td>OBJECT-RESOLUTION</td>
<td>L High Resolution</td>
<td>high</td>
<td></td>
</tr>
<tr>
<td>OBJECT-RESOLUTION</td>
<td>L Low Resolution</td>
<td>low</td>
<td></td>
</tr>
<tr>
<td>OBJECT-RESOLUTION</td>
<td>L Medium Resolution</td>
<td>medium</td>
<td></td>
</tr>
<tr>
<td>OBJECT-COPYRIGHT-OWN</td>
<td>L Public</td>
<td>PUBLIC</td>
<td></td>
</tr>
<tr>
<td>OBJECT-COPYRIGHT-OWN</td>
<td>L Local</td>
<td>LOCAL</td>
<td></td>
</tr>
<tr>
<td>OBJECT-COPYRIGHT-TYP</td>
<td>L Registered</td>
<td>REGISTERED</td>
<td></td>
</tr>
<tr>
<td>OBJECT-COPYRIGHT-TYP</td>
<td>L Copyrighted</td>
<td>COPYRIGHTED</td>
<td></td>
</tr>
<tr>
<td>OBJECT-COPYRIGHT-TYP</td>
<td>L Licensed</td>
<td>LICENSED</td>
<td></td>
</tr>
<tr>
<td>OBJECT-COPYRIGHT-TYP</td>
<td>L Public Domain</td>
<td>PUBLIC</td>
<td></td>
</tr>
<tr>
<td>OBJECT-COPYRIGHT-TYP</td>
<td>L Contractual</td>
<td>CONTRACT</td>
<td></td>
</tr>
<tr>
<td>OBJECT-COPYRIGHT-TYP</td>
<td>L Donated</td>
<td>DONATED</td>
<td></td>
</tr>
<tr>
<td>OBJECT-COPY-NOTICE-T</td>
<td>L Free for all</td>
<td>FREE</td>
<td></td>
</tr>
</tbody>
</table>

Key to the table:

- **Column 1:** Internal code for GUI field
- **Column 2:** Always "L".
- **Column 3:** Description which is displayed in the dropdown list
- **Column 4:** Code for the entry in the dropdown list. Only internal codes can be used.

The internal codes represent the following fields:

- **OBJECT-USAGE-TYP**
  The entries define the dropdown list for the object’s Usage Type. Note that the usage type is connected to system functionality. Valid options are VIEW; THUMB; and INDEX.

- **OBJECT-CHAR-SET**
  The entries define the dropdown list for the field ‘Character set’ (Technical Data Tab), which is used for full text indexing. Definitions in table ./alephe/unicode/tab_character_conversion_line have to be defined for each character set which is in use. These lines define the required character conversion.

See the following example:

```
iso8859-1     ### # line_sb2line_utf 8859_1_to_unicode
```

The following character sets are supported by the indexing routines:
- ISO8859-1
- ISO8859-2
- ISO8859-3
- ISO8859-4
- ISO8859-5
- ISO8859-6
- ISO8859-7
- ISO8859-8
- ISO8859-9
- Gb2312
- Big5
- Shiftjis
- Windows1250
- Windows1251
- Windows1252
- Windows1253
- Windows1254
- Windows1255
- Windows1256
- Windows1257
- Koreanhangul
- Windows874#
- Unicode

- OBJECT-RESOLUTION
  The entries are used to define the dropdown list which contains the resolution for image objects in tab "Technical Data".

- OBJECT-COPYRIGHT-OWNER
  This option is used for the dropdown list Copyright Owner in the Copyright tab

- OBJECT-COPYRIGHT-TYP
  This option is used for the dropdown list Copyright Type in the Copyright tab.

- OBJECT-COPY-NOTICE-T
  This option defines the dropdown list for Copyright Notice type in the Copyright tab. Note that the code in column 4 of the table corresponds with the suffix to the file media-permission in $alephe_root/www_f_<lng>

### 1.5 ADAM-SUPPORT Setup in tab100

The ADAM-SUPPORT switch of tab100 is used to define whether ADAM objects should be replicated as physical digital objects or not.

- Relevant values: Y (default) or N.
- N – If a local system does not have a full ADAM license, it is recommended to set ADAM-SUPPORT=N in order to receive the links to the objects as part of the bibliographic record instead of physical digital objects.
- Y – Local libraries that have a full ADAM license should set: ADAM-SUPPORT=Y (default value).

The ADAM-SUPPORT switch can be defined locally per library (for example, at ./xxx50/tab/tab100) or on a global level at /alephe/tab/tab100.

### 2 Displaying Objects in the ALEPH Client

#### 2.1 Display in the Record Manager

Objects are linked to a record in the bibliographic library (lib01). In the Record Manager (lower part of the left frame) of the Cataloging module, the nodes for each object are displayed. The display of these nodes is similar to the display of items. The display of objects may be under the BIB record or under ADM record.
This is defined by the variable `item_object_tree_style` in the file `$alephe_root/pc_server_defaults`. The following values are valid:

```bash
setenv item_object_tree_style 1
```

The objects displayed are related to the ADM record.

```bash
setenv item_object_tree_style 2
```

The objects displayed are related to the ADM record, if the stated sublibrary in the field ‘Cat. Sublibrary’ is assigned to the ADM library or if the field is left empty.

```bash
setenv item_object_tree_style 3
```

The objects displayed are related to bibliographic record (option 4), and to the ADM record (option 2).

```bash
setenv item_object_tree_style 4
```

The objects are displayed related to the BIB record.

### 2.2 Display of the Objects List

The display of the Objects List is defined in `pc_tab_col.<lng>`, which is located in the tab-directory of your BIB library (lib01).
2.3 Display of Object Details

Some windows in the GUI are generated from HTML files. Those HTML files are located in the directory `pc_display_<lng>` in the ADM library. The display of the object details is defined by the file “object-expand”.

```
<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Object Title</td>
<td>Cover</td>
</tr>
<tr>
<td>File Name</td>
<td>cover1.png</td>
</tr>
<tr>
<td>Storage Directory</td>
<td>teleph_dev/demo_objects/emap01/view/1</td>
</tr>
<tr>
<td>Usage Type</td>
<td>View</td>
</tr>
<tr>
<td>Object Extension</td>
<td>.jpg</td>
</tr>
<tr>
<td>File Size (Bytes)</td>
<td>20150</td>
</tr>
<tr>
<td>Cat. Sublibrary</td>
<td>Character Set</td>
</tr>
</tbody>
</table>
```
3 Displaying Objects in the OPAC

3.1 apache_media

For displaying objects in the OPAC, the directory apache_media must be created. In addition, you have to define the variable “setenv APACHE_MEDIA” in file $alephe_root/aleph_start. This directory contains temporary files and should be cleared regularly, for example, by using [Util X/6].

```
aleph_start
setenv APACHE_MEDIA $(ALEPH_MOUNT)/a$(ALEPH_VERSION)_$ALEPH_COPY/apache_media
```

Create a softlink (apache)

Create a softlink in the directory $httpd_root/htdocs/exlibris/aleph/a18_1 that links to the directory ‘apache_media’. The command is:

```
ln -s <target directory as defined in aleph_start> <source directory>
```

See the following example:

```
surprise-a18(1) >>pwd
/exlibris/aleph/a18_1/alephe/apache/htdocs/exlibris/aleph/a18_1
surprise-a18(1) >>ls -l
total 6
drwxrwxr-x 6 aleph exlibris 512 Nov 20 02:07 aleph/
lwxrwxrwx 1 aleph exlibris 34 Nov 20 02:07 apache_media ->
/exlibris/aleph/a18_1/apache_media/
lwxrwxrwx 1 aleph exlibris 25 Nov 20 02:07 tmp ->
/exlibris/aleph/a18_1/tmp/
```

3.2 tab_buf_z403 and tab_expand

For displaying objects in the OPAC, define the following line in table ./[BIB_library]/tab/tab_buf_z403.

```
! 1                   2                       3
!!!!!!!!!!!!-!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!-!!!!!!!!!!!!!!!>
!!!!!!!!!!!!!!!!! get_buf_z403_media             VIEW
```

In addition, further entries in this table are necessary for displaying the fields 655 (electronic address, MAB) and 856 etc. (MARC) which contain URLs.

For MAB environment:

```
!!!!!!!!!!!!!!!!! get_buf_z403_bib 655#1,,D,
```

For USM environment:

```
!!!!!!!!!!!!!!!!! get_buf_z403_bib 856##,,y,*,Y,
!!!!!!!!!!!!!!!!! get_buf_z403_bib 856##,,y,*,D,
!!!!!!!!!!!!!!!!! get_buf_z403_bib 505##,,u,*,U,
!!!!!!!!!!!!!!!!! get_buf_z403_bib 520##,,u,*,D,
```
In a MAB environment, the table ./[BIB_library]/tab/tab_expand must contain the following definitions for displaying objects:

```
BUF-Z403   expand_doc_mab
```

### 3.3 Brief list OPAC (www_tab_short.<lng>)

Two new columns must be defined through ./[BIB_library]/tab/www_tab_short.<lng> for displaying thumbnails and icons for objects in the brief list of the OPAC.

```
1 2 3 4 5 6 7 8 9 10 11 12 13
...-!!!-[...]-!!!-[...]-!!!-[...]
7 L Photo 00 00 0040 S # TN
8 L Media 00 00 0040 S # TN
```

Note: It might be necessary to activate the additional columns through the files short-a-head and short-a-body in $alephe_root/www_f_<lng>.

### 3.4 Full View in the OPAC (edit_doc_999.<lng>)

The table ./[BIB_library]/tab/edit_doc_999.<lng> must contain the following line for displaying objects in the Full view:

```
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
...-!!!-[...]-!!!-[...]-!!!-[...]
## MED## D LDigital Object Y M E
```

### 3.5 Extended Object Information (tab_z403_info.<lng>)

In the Full view of a bibliographic record, each object which is linked to the BIB is displayed with an icon and the title of the object. Basic information will be displayed if the icon is highlighted with the mouse.
The table Salephe_tab/tab_z403_info.<lng> determines which information from the object’s metadata is displayed.

See the following example:

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>z403-title</td>
<td>Title:^</td>
<td></td>
</tr>
<tr>
<td>z403-f-filename</td>
<td>Filename:^</td>
<td></td>
</tr>
<tr>
<td>z403-object-extension</td>
<td>File Extension:^</td>
<td></td>
</tr>
<tr>
<td>z403-original-filename</td>
<td>Original Filename:^</td>
<td></td>
</tr>
<tr>
<td>z403-object-size</td>
<td>SIZE</td>
<td>Object Size:^</td>
</tr>
<tr>
<td>z403-note-1</td>
<td>File type:^</td>
<td></td>
</tr>
<tr>
<td>z403-update-date</td>
<td>DATE</td>
<td>Last Update:^</td>
</tr>
</tbody>
</table>

Key to the table:

- **Column 1:** Field of z403 record that shall be displayed
- **Column 2:** Object type.
  This column defines whether the type of the object is to be converted into a formatted display.
  Values:
  - DATE – for date fields
  - SIZE – for the object size
- **Column 3:** Prefix for the display.

### 3.6 Options for Displaying Thumbnails (tab100)

The parameter THUMBNAIL-LINK defines whether the thumbnail can be used as a link for displaying the object in the Full view. It is set in ./[BIB_library]/tab/tab100 located in the tab-directory of your BIB library (lib01). Valid values are 1 or 2 (default: 1).

THUMBNAIL-LINK=1
If a thumbnail is linked to an object, the object will be displayed by clicking on the thumbnail. If no object is linked, the object will be displayed in the Full view.
THUMBNAIL-LINK=2
Thumbnails cannot be used for displaying objects.
4 Copyright Notes in OPAC

You may determine if a copyright window will be displayed before users can access objects.

The related HTML file is $alephe_root/www_f_<_lng>/media-permission.

You may design different pages for Copyright Notices by copying the file “media-permission” and adding specific suffixes, e. g. media-permission-free.

The field Copyright Notice Type in the GUI (Copyright Tab) defines which notice will be displayed. The field is connected to the table ./[ADM_library]/tab/pc_tab_exp_field.<lng>. The internal code is “OBJECT-COPY-NOTICE-T“:

```
! 1 2 3 4
!!!!!!!!!!!!!!!!!!!!--!-!!!!!!!!!!!!!!!!!!!!!!!!!!!![...]--!!!!!!!!!!!!!!!!!!!!!!!![...]

OBJECT-COPY-NOTICE-T L Free FREE
```

The entry in Column 4 must be identical with the suffix of the file “media-permission”.
5 Fulltext Search

5.1 Set Up the Fulltext Index (tab00.<lng>)

The fulltext index in ADAM is managed by the index codes TXT and BASE. Add the following lines to the keyword indices in table ./[BIB_library]/tab/tab00.<lng>:

```
<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
</table>

- TXT
- BASE
```

The size of full text indexing for files given by the URL is limited to 500KB. You may increase the size by adding the following parameter to $alephe_root/pc_server_defaults:

```
setenv max_url_file_size 999999999
```

Note that the BASE line is necessary for the ADAM full text index. The base is added in addition to the search term.

5.2 Integrate the Fulltext Index for Web and OPAC Searching

5.2.1 Fulltext Search in the GUI (pc_tab_sear.<lng>)

To use the fulltext search in the GUI, the index code TXT must be added to the table ./[BIB_library]/tab/pc_tab_sear.<lng> in section FI.

```
<table>
<thead>
<tr>
<th>FI</th>
<th>BIB01</th>
<th>L Full text</th>
<th>TXT</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
<td>![ ]</td>
</tr>
</tbody>
</table>
```

5.2.2 Search in the OPAC (find-code-include et al.)

The index code, TXT, must also be added to the search in the OPAC. You must add the TXT code to the other search types that are defined in the find-code-include file (in the $alephe_root/www_f_<lng> directory):

```
<option value=IDN $$FXX-S"IDN">ID</option>
<option value=TXT $$FXX-S"TXT">Full text</option>
```

5.3 Character Set

ADAM-INDEX-CHAR-SET

This value defines which character set is chosen as a default when creating indexes on text objects if no other value is entered in tab “Technical Data” of the object forms. The value for ADAM-INDEX-CHAR-SET in tab100 may be up to 20 characters. The default character set that is ISO 8859-1 (ISO-Latin).
6 Services

Detailed instructions how to run these services can be found in the GUI online help.

6.1 Services for Import and Export

ALEPH offers batch-services to import and export digital objects and their corresponding metadata. While descriptive metadata (bibliographic) is stored as part of the bibliographic record (z00), the technical metadata is stored in its own Oracle table, z403.

Both import and export are based on XML-Files that contain specific sections for descriptive metadata and technical metadata.

To upload objects into the system, it is usually necessary to run two services (adam-01 and adam-02). Both are part of the services menu in the Cataloging module.

- **adam-01: Create Digital Objects Upload File**
  Accumulates descriptive and technical metadata into XML-File based on template.

- **adam-02: Import records and Digital Objects**
  Loads the XML-File, which has been created by using adam-01, into the database.
6.1.1 Create Digital Objects Upload File (adam-01)

This service is used to create an XML-file which is required to upload files into the system that do not have descriptive metadata (bibliographic records) or technical metadata (z403). The XML-File created by this service contains descriptive and technical metadata generated by using a template (z403_template.xml) that may be edited by the user.

The XML-file created by this service may be taken to load objects and metadata into the system using service adam-02. An example of an XML template that can be edited by the user can be found in ./[BIB_library]/tab.

The XML-File contains different sections for descriptive `<record>` and technical metadata `<z403>`.

The following is an example for the XML-file

```xml
<?xml version="1.0" encoding="UTF-8"?>
<file>
<record xmlns="http://www.ddb.de/professionell/mabxml/mabxml-1.xsd">
<leader>00798nM2.0120002411111h</leader>
<datafield tag="100" ind1=" ">
    <subfield code="a">Verfasser</subfield>
</datafield>
<datafield tag="331" ind1=" ">
    <subfield code="a">Titel</subfield>
</datafield>
</record>
<z403>
    <z403-doc-number></z403-doc-number>
    <z403-sequence></z403-sequence>
    <z403-derived-from-sequence></z403-derived-from-sequence>
    <z403-title></z403-title>
    <z403-f-directory></z403-f-directory>
    <z403-f-filename></z403-f-filename>
    <z403-original-file-name></z403-original-file-name>
    <z403-object-extension></z403-object-extension>
    <z403-object-size></z403-object-size>
    <z403-u-path></z403-u-path>
    <z403-usage-type>VIEW</z403-usage-type>
    [...]
</z403>
</file>
```
As a result of service adam-01, another XML file is generated that contains the descriptive and technical metadata and a relative path to the digital objects. This XML file has the same name as the directory it is in plus the file extension “.xml”. For example, if the directory that contains the objects and the template is named createxml, the XML result of adam-01 will be createxml.xml. It can be used for the actual upload with the adam-02 service.

Note that the XML file will contain the digital object’s file name as the title if no explicit title is specified in the <record> section of the template.

The standard is that per each object one descriptive record will be created. Uploading multiple objects with just one descriptive record can be done by editing the XML file. Limit the <record> section to only one appearance within the XML file by deleting further <record> sectors.

6.1.2 Import Records and Digital Objects (adam-02)

This service takes the XML file generated with adam-02 or any other XML file with appropriate format and content and runs the upload into the system. This service creates records in z00 (bibliographic) and z403 (technical metadata) according to the definitions in the XML file.

Note that the XML file to be loaded is required to have the same name of the directory it is in plus the file extension “.XML”, otherwise it will not be loaded.

It is possible to upload digital objects to existing bibliographic records without changing the descriptive metadata (bibliographic). For this purpose, edit the XML file generated with
p_adam_01 or delivered in an appropriate format and leave all field tags in \textit{<record>}
sectorempty and add the following line to the \textit{<record>}Sector in the template.

\begin{verbatim}
<?xml version="1.0" encoding="UTF-8"?>
<file>
<record xmlns="http://www.ddb.de/professionell/mabxml/mabxml-1.xsd">
  \<controlfield tag="SYS">NNNNNNNNN</controlfield>
</record>
\end{verbatim}

\textit{NNNNNNNNN} is a variable for the record’s system number. For example
\textit{<controlfield tag="SYS">000050018</controlfield>}
will upload objects to bibliographic record with system no. 000050018.

Note that if the system-number does not exist in the catalog, no object will be uploaded.

\subsection*{6.1.3 Export Records (adam-04)}
This service exports Z00 (descriptive) and Z403 (technical metadata) Oracle records in the
defined XML format which is similar to the XML-format that is used for import. In addition,
the service allows exporting not only the metadata but also the objects itself.

\begin{figure}
\centering
\includegraphics[width=\textwidth]{Export_Records(adam-04) - MAB01}
\caption{Export Records (adam-04) - MAB01}
\end{figure}

You can limit this service on a range of records contained in an input file created by service p-
\textit{pret-01}. Note that the output directory will automatically be created as subdirectory to the
library’s export directory.

\section*{6.2 Other Services}
\subsection*{6.2.1 Change Object Location (adam-03)}
Digital objects are stored in a defined storage directory on the server. If you want to move
objects from one directory to another directory when, for example, adding another disk to the
server, you can use this batch server to transfer the objects to a new destination directory.
Enter the source directory that contains the objects that should be transferred, the destination directory that is designed to be the new storage directory for the objects, and the library on which you wish to run the service.

6.2.2 Create Thumbnail or Full Text (adam-05)

Thumbnails for image objects and full text for text objects can either be created by using the functions in the objects lists or by using this service. Especially when working with a huge amount of new records, it may be reasonable to create thumbnail and full text with the batch service instead of updating the objects one by one.

To run this service you can define a range of records or use an input file that may be created by ret-01.

6.2.3 Technical Report (adam-06)

This batch service is used to create a statistical report. It counts all Z403 records and prints a summary.
The technical report includes the following information:

- Total number of objects
- Number of objects per usage type
- Number of objects per ADM
- Total Storage
- Storage per directory
- Storage per extension

### 6.2.4 Usage Report (adam-07)

This service is designed for monitoring of user accesses. It generates a detailed breakdown of accesses sorted by various criteria. You can limit this report on a range of date.

![Usage Report (adam-07) - MAB01](image)

### 6.2.5 Create Digital Objects Upload File from DigiTool Export (adam-08)

This service can be used to convert exported DigiTool data (digital entities) into a format which can be handled by adam-02 service. The objects and XML files have to be transferred to the ADAM import directory in order to be available for adam-08. It is only possible to convert data of usage type "VIEW".

![Create Digital Objects Upload File from DigiTool Export (adam-08) - MAB01](image)
6.2.6 Retrieval of ADAM Records (Z403) (adam-10)

This service enables you to retrieve z403 records based on contents of specific z403 fields. You can also retrieve records which have no digital objects linked or duplicate z403 records. The service produces an output file which contains Z403-REC-KEYs. This file may be used as input file for service p_adam_11 and also as an additional filter for a new run of p_adam_10 himself.

The table pc_tab_exp_field.<lng> contains selective lists for fields of the service. The following values can be user-defined:

!!
!! For P-ADAM-10-SORT you can use (= Z403-......)
!! REC-KEY, P-FILIE-NAME, OPEN-DATE, UPDATE-DATE, EXPIRY-DATE
!! and all values of COL.4 of P-ADAM-10-FIELD
!! in any combinations to define a set of sort-keys
!!
P-ADAM-10-SORT L Record Key REC-KEY
P-ADAM-10-SORT L Storage directory | File Name F-DIRECTORY|F-
FILIE
P-ADAM-10-SORT L Cataloger | Usage type | Object title CATALOGER|USAGE-
TYPE|TITLE
P-ADAM-10-USAGE L VIEW VIEW
P-ADAM-10-USAGE L INDEX INDEX

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Key to the table:

Column 1: Internal field code
Column 2: ALPHA
Always "L".
Column 3: Description which is displayed as value in the dropdown list
Column 4: Code for the entry in the dropdown list. Only internal codes can be used!

The several internal codes represent the following fields:

P-ADAM-10-SORT
The entries define the dropdown list for the sort type

P-ADAM-10-USAGE
The entries define the dropdown list for the different object types.

P-ADAM-10-FIELD
The entries define the dropdown list for the different fields.

6.2.7 Deletion of ADAM records (Z403) (adam-11)
This service enables you to delete z403 records and their corresponding digital objects that are stored in the local file system. If the input file contains z403_rec_keys from records that have z403_usage_type=VIEW, the corresponding thumbnails and index files will be also deleted. The input file can be generated with p-adam-10.
6.2.8 Update Full Text Index (manage-91)

This service updates the Full Text Index of the database. This procedure locks the ALEPH system and should only be run when the library is closed.

There are two options on how to run this service:

- **Rebuild entire Full Text index** - rebuilds the entire Full Text index, deleting and rebuilding the tables.
- **Update Full Text index** - updates the Full Text index without deleting the tables.
7 Setup of Additional Oracle Tables

For managing digital objects in ALEPH, three additional Oracle tables have to be set up. The tables are called z403, z91 and z56.

7.1 Z403

The technical metadata of the digital objects are handled by the z403 table. The z403 is created in the BIB library.

The following is the structure of the z403 table.

<table>
<thead>
<tr>
<th>Name</th>
<th>Null?</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>2403_REC_KEY</td>
<td>NOT NULL</td>
<td>CHAR(15)</td>
</tr>
<tr>
<td>2403_DERIVED_FROM_SEQUENCE</td>
<td></td>
<td>NUMBER(6)</td>
</tr>
<tr>
<td>2403 TITLE</td>
<td></td>
<td>VARCHAR2(500)</td>
</tr>
<tr>
<td>2403_F_DIRECTORY</td>
<td></td>
<td>VARCHAR2(100)</td>
</tr>
<tr>
<td>2403_F_FILENAME</td>
<td></td>
<td>VARCHAR2(100)</td>
</tr>
<tr>
<td>2403_ORIGINAL_FILE_NAME</td>
<td></td>
<td>VARCHAR2(200)</td>
</tr>
<tr>
<td>2403_OBJECT_EXTENSION</td>
<td></td>
<td>CHAR(5)</td>
</tr>
<tr>
<td>2403_OBJECT_SIZE</td>
<td></td>
<td>NUMBER(9)</td>
</tr>
<tr>
<td>2403_U_PATH</td>
<td></td>
<td>VARCHAR2(2000)</td>
</tr>
<tr>
<td>2403_USAGE_TYPE</td>
<td></td>
<td>VARCHAR2(20)</td>
</tr>
<tr>
<td>2403_SUB_LIBRARY</td>
<td></td>
<td>CHAR(5)</td>
</tr>
<tr>
<td>2403_NOTE_1</td>
<td></td>
<td>VARCHAR2(500)</td>
</tr>
<tr>
<td>2403_NOTE_2</td>
<td></td>
<td>VARCHAR2(500)</td>
</tr>
<tr>
<td>2403_NOTE_3</td>
<td></td>
<td>VARCHAR2(500)</td>
</tr>
<tr>
<td>2403_NOTE_4</td>
<td></td>
<td>VARCHAR2(2000)</td>
</tr>
<tr>
<td>2403_NOTE_5</td>
<td></td>
<td>VARCHAR2(2000)</td>
</tr>
<tr>
<td>2403_OPEN_DATE</td>
<td></td>
<td>NUMBER(8)</td>
</tr>
<tr>
<td>2403_UPDATE_DATE</td>
<td></td>
<td>NUMBER(8)</td>
</tr>
<tr>
<td>2403_CATALOGER</td>
<td></td>
<td>CHAR(10)</td>
</tr>
<tr>
<td>2403_CHARACTER_SET</td>
<td></td>
<td>VARCHAR2(100)</td>
</tr>
<tr>
<td>2403_COLOR_SETTING</td>
<td></td>
<td>VARCHAR2(100)</td>
</tr>
<tr>
<td>2403_RESOLUTION</td>
<td></td>
<td>VARCHAR2(100)</td>
</tr>
<tr>
<td>2403_DIMENSIONS</td>
<td></td>
<td>VARCHAR2(100)</td>
</tr>
<tr>
<td>2403_COMPRESSION_RATIO</td>
<td></td>
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</tr>
<tr>
<td>2403_CREATION_DATE</td>
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<tr>
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<tr>
<td>2403_COPYRIGHT_CONTACT</td>
<td></td>
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</tr>
<tr>
<td>2403_COPYRIGHT_OWNER</td>
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<td>VARCHAR2(2000)</td>
</tr>
<tr>
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</tr>
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<tr>
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<tr>
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<td>NUMBER(8)</td>
</tr>
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<td>2403_GUEST</td>
<td></td>
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</tr>
<tr>
<td>2403_IP_ADDRESS</td>
<td></td>
<td>VARCHAR2(200)</td>
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<td>2403_COURSE</td>
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<tr>
<td>2403_USER_STATUS</td>
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<td>VARCHAR2(100)</td>
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<td>2403_RESTRICT_SUB_LIBRARY</td>
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</tr>
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<td>2403_NO_OF_COPIES</td>
<td></td>
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</tr>
<tr>
<td>2403_VIEW_TIME</td>
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<td>NUMBER(3)</td>
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<tr>
<td>2403_ITEM_LIBRARY</td>
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<tr>
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<td>VARCHAR2(20)</td>
</tr>
<tr>
<td>2403_ENUMERATION_C</td>
<td></td>
<td>VARCHAR2(20)</td>
</tr>
<tr>
<td>2403_CHRONOLOGICAL_I</td>
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<td>VARCHAR2(20)</td>
</tr>
</tbody>
</table>
7.2 Z91

The Z91 table is also created in the BIB library, as well as in all other bases where the indexing process UE-01 is running. This table contains the indices of the fulltext indexing of text-based objects like MS Word or PDF files.

<table>
<thead>
<tr>
<th>Name</th>
<th>Null?</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z91_REC_KEY</td>
<td>NOT NULL</td>
<td>CHAR(9)</td>
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<tr>
<td>Z91_FLAG</td>
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<td>CHAR(1)</td>
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<tr>
<td>Z91_FILE_NAME</td>
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<td>VARCHAR2(256)</td>
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</tbody>
</table>

7.3 Z56

The Z56 table is created in the vir01 library and limits access for the object by allowing only a certain number of simultaneous accesses of digital objects in the OPAC.

If an object is opened in the OPAC, a session will be registered and any further session will be compared to the entry in the field, Z403_NO_OF_COPIES. If the defined limit is exceeded, the patron cannot open the object. A session will be automatically terminated after 10 min., if it is not terminated by the patron before that.

<table>
<thead>
<tr>
<th>Name</th>
<th>Null?</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z56_REC_KEY</td>
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<td>Z56_SESSION_ID</td>
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<td>CHAR(50)</td>
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<tr>
<td>Z56_TIME</td>
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<td>Z56_CLIENT_ADDRESS</td>
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<td>VARCHAR2(20)</td>
</tr>
<tr>
<td>Z56_CLIENT_TYPE</td>
<td></td>
<td>CHAR(1)</td>
</tr>
</tbody>
</table>

8 ADAM scan jobs

Note:
Using the Scan Interface is subject to purchasing a special license.

The following configurations are required in order to implement the ADAM Scan Jobs functionality:

- tab100

To activate the ALEPH Scan Interface, add the following parameter to the tab100 table of the BIB library:

CREATE-SCAN-JOB=Y

- pc_tab_exp_field.lng

The selection menus for scan parameters have to be added to the pc_tab_exp_field.lng table of the BIB library. For example:

```
! 1 2 3 4
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
OBJECT-RESOLUTION L High Resolution high
```
To display the tag "SCJ" in the record's full view, a definition for SCJ tag has to be added to the edit_doc_999.lng table of the BIB library. For example:

### SCJ
- D LScan Job
- Y E
- pc_display_lng/scan-job-expand

Scan Job Details are displayed in a separate window which can be opened from the Search Tab's Full Record display, by double-clicking the tag SCJ. The display is based on XML format. Definitions are in the form "scan-job-expand".

- **tab_expand**

Information about the scan job must not be provided in internal format, but rather in external format, for example to replace the codes of the sublibrary into normal text. The new expand routine "expand_doc_bib_scj" must be used to create an external field (e.g. 076) which contains the following subfields:

$$a$$ Owner of the scan job (normal text)
$$b$$ Order Number
$$c$$ Object type
$$d$$ Color
$$e$$ Resolution

The "expand_doc_bib_scj" routine must be defined in the tab_expand table of the BIB library, for expand menu "WWW-X". The parameter CODE= can be used to define the external field which will contain the scan job details. For example:

1

!!!-!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

WWW-X expand_doc_bib_scj CODE=076

6. Using the Scan Interface is subject to the following staff permission:

Object Control|Create Scan Job
9 Create Thumbnails

Thumbnails are created in the GUI by the ImageMagick software (which is OpenSource). This software is included in the Aleph Installation Kit.