



The X Factor

The Aleph X Server:
What it does and How to use it

Do I have an X Server?



- Point your browser at `http://aleph.server/X?op=explain`
 - If you get a list of bases and index codes, you have an X Server
 - If you get a list of possible X Server commands, you have an X Server
- For Aleph 15.x and above
 - Look in your license file for a line like:
ALEPH-X Y/N

What can the X Server do?

- explain
 - Basic documentation about X Server functions
- find
 - Search an Aleph base
- present
 - Present results from a previous 'find' function
- bor_info
 - Show a borrowers record including loans, fines and holds

What can the X Server do?



- renew
 - Renew an item
- hold_cancel
 - Cancel a hold request
- hold
 - Make a hold request
- item_data
 - Show item information including sublibrary, collection, status and due date

Semi-documented features

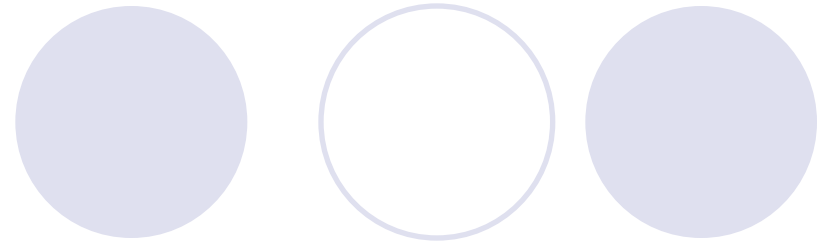
- bor_authenticate (14.?)
 - Authenticate using Aleph ID and Verification
 - `http://aleph.server/X?op=bor_authenticate&bor_library=roy50&bor_id=<aleph_id&verification=<verification>`
- circ_status (15.2.7)
 - Details of items attached to a bibliographic record (similar to item_data, but doesn't include ADM and Sequence numbers, and has some codes translated)
 - `http://aleph.server/X?op=circ_status&library=<bib library>&sys_no=<nine digit system number>`

Semi-documented features



- Restricting X Server access by IP Address (15.2.6)
 - \$alephe_tab/server_ip_allowed
 - 'X' as 'Server type'

Using the X Server



- Simple 'search' script
 - Need to use two X server functions:
 - Find
 - Present
 - First use 'Find' to submit the search and get a set number
 - Need to process xml result
 - Use 'Present' to retrieve records 1-n of the set
 - Apply xslt to style and present results in an appropriate format

X Server in action



- XOPAC Demonstration (in progress)
 - <http://library.rhul.ac.uk/cgi-bin/x-server-demo.cgi?function=menu>
- Reading Lists (Live service)
 - http://library.rhul.ac.uk/reading-lists/reading-list.cgi?search_term=dt1070&style=solar
- Library Account (uPortal channel) (Live service)
 - <http://portal.rhul.ac.uk>
- Reference in webpage
 - <http://library.rhul.ac.uk/test-ref.htm>
- Authentication (MetaLib integration)
 - http://libtest.rhul.ac.uk/cgi-bin/metalib_login



Over to you...

- It's a shame the X-Server doesn't...
 - Have documentation!
 - Return ILL results for users
 - Supply admin based data?
- We could do ...
 - Enhance a list of sys numbers with full MARC
 -

X-Server Functions: find

Call 'find'

<http://library.rhul.ac.uk/X?op=find&base=roy01&request=wrд=test>

N.B.

- Used by SFX to do Aleph 'pre-check'
- Used with 'present' by MetaLib for Aleph cross-searching

Response

```
<?xml version="1.0" ?>
<find>
<base>ROY01</base>
<request>wrд = ( test )</request>
<set_number>000444</set_number>
<no_entries>000106</no_entries>
<no_records>000106</no_records>
</find>
```



X-Server Functions: present

Call 'present'

[http://library.rhul.ac.uk/X?
op=present&set_no=000444&set_entry=000000
001&format=marc&char_set=none](http://library.rhul.ac.uk/X?op=present&set_no=000444&set_entry=000000001&format=marc&char_set=none)

N.B.

- Number strings are fixed length
- set_entry can be a range
- the char_set variable is not documented
- possibly other 'format' values, but I've only found 'marc'
- Used with 'present' by MetaLib for Aleph cross-searching

Response (see next slide)

```
<?xml version="1.0" ?>
<record-present>
<set_number>000444</set_number>
<format>marc</format>
<char_set>none</char_set>
<record>
<record-header>
<set_entry>000000001</set_entry>
</record-header>
<doc_number>000328143</doc_number>
<metadata>
<oai_marc status="" type="n" level="a" ctrlType="m" charEnc="" encLvl="" catForm="" lrRqd="a" xmlns="http://
www.openarchives.org/OAI/oai_marc" xmlns:xsi="http://www.w3.org/2000/10/XMLSchema-instance" xsi:
schemaLocation="http://www.openarchives.org/OAI/oai_marc http://www.openarchives.org/OAI/
oai_marc.xsd">
<fixfield id="FMT">BK</fixfield>
<fixfield id="LDR">^^^^^nam^a22^^^^^^a^4500</fixfield>
<fixfield id="008">^^^^^^s2000^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^^000^^^eng^d</fixfield>
<varfield id="100" i1="" i2="">
<subfield label="a">Ex Libris</subfield>
</varfield>
<varfield id="245" i1="" i2="">
<subfield label="a">Test</subfield>
</varfield>
<varfield id="CAT" i1="" i2="">
<subfield label="a">EXLIBRIS</subfield>
<subfield label="b">20</subfield>
<subfield label="c">20040112</subfield>
<subfield label="l">ROY01</subfield>
<subfield label="h">1423</subfield>
</varfield>
</oai_marc>
</metadata>
</record>
</record-present>
```



X-Server Functions: bor_info

Call 'bor_info'

[http://library.rhul.ac.uk/X?](http://library.rhul.ac.uk/X?op=bor_info&bor_id=N2485&bor_library=roy50)

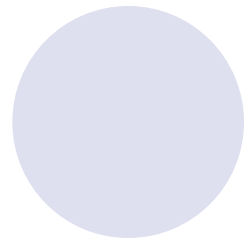
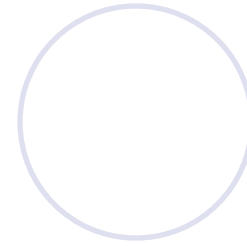
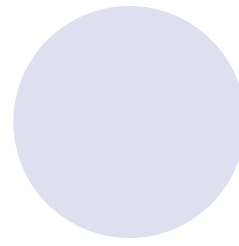
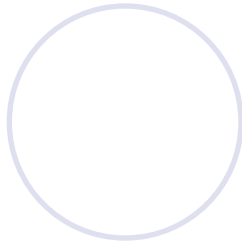
[op=bor_info&bor_id=N2485&bor_library=roy50](http://library.rhul.ac.uk/X?op=bor_info&bor_id=N2485&bor_library=roy50)

Response (see next slide)

N.B.

- Holds and Fines data are not correct

```
<?xml version="1.0" ?>
-<bor-info>
  <d>N2485</d>
  <name>STEPHENS, Owen</name>
  <address>Mr Owen Stephens</address>
  <address>Library</address>
  <address />
  <address />
  <address />
-<item->
  <d>000108709000010</d>
  <sub-library>BEDFD</sub-library>
  <due-date>20041016</due-date>
  <status>A</status>
  <title>Oracle design /</title>
  <author>Ensor, Dave</author>
</item->
-<item->
  <d>000292739000010</d>
  <sub-library>BEDFD</sub-library>
  <due-date>20041016</due-date>
  <status>A</status>
  <title>Oracle SQL*Plus :</title>
  <author>Gennick, Jonathan.</author>
</item->
-<item->
  <d>000065414000010</d>
  <sub-library>FNDRS</sub-library>
  <due-date>20041016</due-date>
  <status>A</status>
  <title>Collected poems /</title>
  <author>Nicholson, Norman, 1914-1987</author>
</item->
-<fine>
  <fine>000000000000.02</fine>
  <status>W</status>
  <title>Collected poems /</title>
  <author>Nicholson, Norman, 1914-1987</author>
</fine>
-<fine>
  <fine>000000000000.02</fine>
  <status>W</status>
  <title>Collected poems /</title>
  <author>Nicholson, Norman, 1914-1987</author>
</fine>
</bor-info>
```



X-Server Functions: renew

Call 'renew'

```
http://library.rhul.ac.uk/X?  
  op=renew&item_id=000108709000010&item_library=roy  
  50
```

Response

```
<?xml version="1.0" ?>  
  <renew>  
    <due-date-error>Due date cannot be extended</due-date-error>  
  </renew>
```

OR

```
<?xml version="1.0" ?>  
  <renew>ok</renew>
```

N.B.

- No check done on borrower record (fines, delinquencies etc.)
- item_id in this case is ADM and Item Sequence (i.e. Z30_REC_KEY)

X-Server Functions: hold_cancel

Call 'hold_cancel'

```
http://library.rhul.ac.uk/X?  
  op=hold_cancel&item_id=000108709000010000  
  1&item_library=roy50
```

Response

```
<?xml version="1.0" ?>  
<hold-cancel>ok</hold-cancel>
```

N.B.

- item_id in this case is the ADM, Item Sequence and Hold Sequence (i.e. Z37_REC_KEY)



X-Server Functions: hold

Call 'hold'

```
http://library.rhul.ac.uk/X?  
  op=hold&bor_id=000000001&item_id=00010870  
  9000010&item_library=roy50
```

Response

```
<?xml version="1.0" ?>  
<hold>ok</hold>
```

N.B.

- item_id in this case is the ADM and Item Sequence (i.e. Z30_REC_KEY)
- No check done as to whether hold is 'allowed'

X-Server Functions: item_data

Call 'item_data'


[http://library.rhul.ac.uk/X?](http://library.rhul.ac.uk/X?op=item_data&sys_no=000111041&bib_library=roy01)

[op=item_data&sys_no=000111041&bib_library=roy01](http://library.rhul.ac.uk/X?op=item_data&sys_no=000111041&bib_library=roy01)

N.B.

- sys_no is the BIB Number
- Due dates do not display correctly in the response

Response (see next slide)



```
<?xml version="1.0" ?>
- <item-data>
  <id>000111041000010</id>
  <sub-library>BEDFD</sub-library>
  <collection>MAIN</collection>
  <copy-status>01</copy-status>
  <due-date>XXXX</due-date>
  <id>000111041000020</id>
  <sub-library>BEDFD</sub-library>
  <collection>MAIN</collection>
  <copy-status>01</copy-status>
  <due-date>XXXX</due-date>
</item-data>
```

X-Server Functions: circ_status

Call 'circ_status'

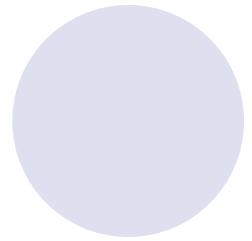
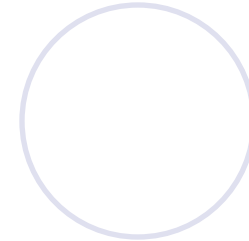
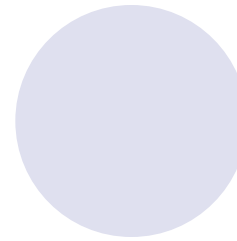
[http://library.rhul.ac.uk/X?
op=circ_status&sys_no=000111041&library=roy
01](http://library.rhul.ac.uk/X?op=circ_status&sys_no=000111041&library=roy01)

N.B.

- sys_no is the BIB Number
- library is the bib library
- Unlike 'item_display' the Z30_REC_KEY is not included in the response
- Problem with 'No of Requests' data
- Needed to add new error code for 'On Order' material

Response (see next slide)

```
<?xml version="1.0" ?>
<circ-status>
<item-data>
<z30-description />
<loan-status>Normal</loan-status>
<due-date>05/12/04</due-date>
<due-hour>21:00</due-hour>
<sub-lib>Bedford</sub-lib>
<collection>Main</collection>
<location>025.52 COR</location>
<pages />
<no-requests />
<location-2 />
<barcode>2601035302</barcode>
<opac-note />
</item-data>
<item-data>
<z30-description />
<loan-status>Normal</loan-status>
<due-date>On shelf</due-date>
<due-hour />
<sub-lib>Bedford</sub-lib>
<collection>Main</collection>
<location>025.52 COR</location>
<pages />
<no-requests />
<location-2 />
<barcode>2601105780</barcode>
<opac-note />
</item-data>
</circ-status>
```



X-Server Functions: bor_authenticate

Call 'bor_authenticate'

[http://library.rhul.ac.uk/X?](http://library.rhul.ac.uk/X?op=bor_authenticate&bor_library=roy50&bor_id=026025445X&verification=1276)

[op=bor_authenticate&bor_library=roy50&bor_id=026025445X&verification=1276](http://library.rhul.ac.uk/X?op=bor_authenticate&bor_library=roy50&bor_id=026025445X&verification=1276)

N.B.

- bor_id can be any Z308 ID type allowed to use WWW authentication (as defined in col. 6 of tab_bor_id.ing)
- Used by MetaLib when using ALEPH-X as Authentication method

Response (see next slide)



```
<?xml version = "1.0"?>
<bor_authenticate>
  <name>Beckham, David</name>
  <title>Mr</title>
  <global_delinq_1>00</global_delinq_1>
  <global_delinq_2>00</global_delinq_2>
  <global_delinq_3>00</global_delinq_3>
  <address_1>Mr David Beckham</address_1>
  <address_2>11 Sandringham Court</address_2>
  <address_3>26 Arragon Road</address_3>
  <address_4>Twickenham</address_4>
  <address_5>Middx.</address_5>
  <zip>TW13N0</zip>
  <email_address></email_address>
  <telephone_1>01784443331</telephone_1>
  <telephone_2></telephone_2>

  <begin_date>20020214</begin_date>
  <expiry_date>20991231</expiry_date>
  <bor_status>01</bor_status>
  <local_delinq_1>00</local_delinq_1>
  <local_delinq_2>00</local_delinq_2>
  <local_delinq_3>00</local_delinq_3>
</bor_authenticate>
```